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THE LANDSCAPE OF STARTUP CORPORATE GOVERNANCE IN THE FOUNDER-FRIENDLY ERA

JENNIFER S. FAN*

In corporate governance scholarship, there is an important debate about the nature and roles of the members of the board of directors in venture capital-backed private companies. The impact of a newly emerged, founder-centric model has been underappreciated, while the role of the independent director as tiebreaker or swing vote is vastly overstated. The reality is that corporate governance in these companies is a norm-driven, consensus-building process that rarely spills out into open conflict.

This is the first empirical study of startup corporate governance post-Great Recession and during the pandemic. Using survey and interview methodologies, this Article makes four primary contributions to the existing literature on corporate governance in venture capital-backed companies. First, during the last period of economic growth after the Great Recession, a founder-centric model of corporate governance emerged. This has had significant implications for venture capitalists on boards, how they choose to monitor the companies they invest in, and how boards are structured. Second, independent directors are typically not tiebreakers or swing votes as current scholarship assumes; in fact, they play a secondary role to founders and investors who serve on the board of directors. Although conflicts inevitably occur, the underlying modus operandi is geared toward consensus building, and it is

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rare for the board to have a non-unanimous vote. Third, although fiduciary duties and contractual mechanisms still loom large in corporate governance, most of the work is done informally with best practices and the growth-at-all-costs model framing much of what is done regarding corporate governance. Corporate governance measures are primarily prioritized during times of economic downturns and immediately prior to initial public offerings and acquisitions. Lastly, even with the increased focus on diversity, equity, and inclusion efforts in the larger national conversation about public companies, these discussions are still in their nascent stages in venture capital-backed private companies; it is in this area where corporate governance efforts need to be reimagined.

Introduction

Other than the certificate of incorporation of a venture capital ("VC")-backed private company (also referred to as a startup),[1] there is very little primary source documentation that scholars can access to determine how such companies structure their boards and the role and nature of the different board members. However, there is a group of individuals who have a front row seat to what transpires in board meetings and significant legal knowledge and understanding of corporate governance in the private company setting: the lawyers who represent VC-backed private companies. They have the inside knowledge on what transpires behind closed doors (or via Zoom, as the case may be during our new remote reality). To better understand the corporate governance dynamics at play within high technology ("high-tech") startups, the author conducted a survey of and interviewed lawyers with deep experience in the startup world. Collectively, these lawyers have sat in on thousands of board meetings. Their observations helped to shed light on corporate governance practices within startups. Although the lawyers did not agree on everything, there were a few areas in which the lawyers coalesced that have implications for the study of corporate governance.

The findings from the survey and interviews provide novel empirical evidence that startup corporate governance is animated by a founder-centric model that emerged after the Great Recession and is largely driven by a consensus-building process.[2] This model and process have implications for board dynamics and the amount of influence wielded by the three different types of directors: the founder-management director,

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1. *See* Jens Frankenreiter et al., *Cleaning Corporate Governance*, 170 U. Pa. L. Rev. 1 (2021). The author also notes the high cost of certificates of incorporation. *Id.*

2. Other empirical studies on VC financings took place pre-Great Recession and were primarily focused on VC contracting. *See, e.g.*, Steven N. Kaplan & Per Strömberg, *Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts*, 70 Rev. Econ. Stud. 281 (2003) (describing contracts between VCs and investors); D. Gordon Smith, *The Exit Structure of Venture Capital*, 53 UCLA L. Rev. 315, 324–27 (2005) (examining corporate charters of VC-backed firms). Several empirical studies utilize interviews in the startup realm. *See* Abraham J.B. Cable, *Does* Trados *Matter?*, 45 J. Corp. L. 311 (2020); Abraham J.B. Cable, *When Does Big Law Work?*, 102 Marq. L. Rev. 875 (2019).

the investor director, and the independent director, each of which is described in more detail below. Furthermore, the survey and interviews challenge certain assumptions about foundational principles in the field of corporate governance related to VC-backed private companies, particularly regarding the importance and role of the independent directors. In addition, the survey and interviews make clear that the norm setting that gives startups the flexibility to create their own timeline for when to implement corporate governance measures is essential to the development of startups as they mature. The fluidity of the corporate framework and governance challenges that Elizabeth Pollman describes in her recent work[3] is the key to why a norm-based corporate governance structure rather than a prescribed set of rules that are implemented at certain stages of a company's lifecycle is preferable. These measures are prioritized by startups not only during initial public offerings ("IPOs") and acquisitions,[4] but also economic downturns, as evidenced by what occurred during COVID-19.[5] If individual companies are doing poorly during an economic boon, investors no longer put in the time and energy into them that they otherwise might if they are doing well. As a result, corporate governance measures are not prioritized for a company that does not have a chance of survival. The pandemic provided a unique opportunity to understand how corporate governance changes during an economic downturn. Finally, when the author interviewed lawyers about whether diversity, equity, and inclusion ("DEI") issues were discussed or prioritized during a time when Black Lives Matter protests were occurring across the United States, it became clear that important issues in the social landscape, such as diversifying boards, did not necessarily translate into a priority for most startups. Instead, the focus was either on the growth of the economy during good times or survival of the startup during an economic downturn.

This Article closely examines corporate governance practices in VC-backed private companies, how they evolve over the life cycle of these companies, and when such practices are pri-

3. Elizabeth Pollman, *Startup Governance*, 168 U. PA. L. REV. 155, 199 (2019).

4. *Id.* at 209–16.

5. *See infra* Section III.B.3.c.

oritized. Part I gives a brief overview of corporate governance and how it applies in the startup context. In particular, it discusses the normative/narrative framework[6] and how best practices play a large role in determining corporate governance behavior. Part II explains the different roles that founders (who become the "founder-management directors"), VC investors (who become the "investor directors"), and independent directors play on the board and, more specifically, in the corporate governance practices of VC-backed private companies. In addition, it illustrates the impact of startups staying private longer and the growth-at-all-costs model on corporate governance in startups. Using survey and interview methodologies, Part III highlights four key findings. First, a founder-centric model of governance emerged after the Great Recession. Second, independent directors do not play the role of tiebreaker or swing vote as assumed in corporate law scholarship; in fact, the board is driven by a consensus building process. Third, although corporate governance is generally framed using best practices, corporate governance is valued, implemented, and sustained differently in good versus bad economic times. During good economic times, corporate governance practices are influenced by a growth-at-all-cost mindset. In contrast, during economic downturns, corporate governance becomes increasingly important. Fourth, DEI initiatives under the corporate governance umbrella are in their nascent stages and generally not prioritized. Instead, the focus is on the startup's growth or survival. Finally, Part IV provides a playbook on how to improve the corporate governance framework in light of the founder-friendly reality.

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6. In describing how corporate law works, Professor Edward Rock described a normative/narrative model of the Delaware Court of Chancery in the context of management buyouts. Edward B. Rock, *Saints and Sinners: How Does Delaware Corporate Law Work*, 44 UCLA L. Rev. 1009 (1997). The author uses Professor Rock's framework in the private company context to illustrate why the use of norms or "best practices" over bright-line rules gives startups flexibility in the corporate governance context. "[S]tandards work very differently than rules, . . . standards are typically generated and articulated through a distinctively narrative process, leading to a set of stories that is typically not reducible to a rule." *Id.* at 1013–16.

I.
CORPORATE GOVERNANCE

This Part begins by giving an overview of corporate governance. It then briefly discusses how corporate governance matters differ in the VC context and how the normative/narrative framework (defined below) can be helpful in contextualizing the evolution of corporate governance in the private company context.

A. *Corporate Governance Generally*

Many scholars point to Adolf A. Berle and Gardiner Means' 1932 publication of *The Modern Corporation and Private Property* as the seminal work in understanding corporate law.[7] It "delineated the separation of ownership and control in the modern corporation and the problems that separation caused."[8] The separation of ownership and control they describe, as well as the related agency costs associated with it, remain critical to the understanding of corporate governance today. The term "corporate governance" was popularized in the 1980s.[9]

> 'Corporate governance' is a broad concept that the legal literature has given a narrow definition. Scholars discuss it most often in the context of specific regulatory reforms or in terms of charter provisions and other easily observable structural characteristics on which regressions can be run. But corporate governance may refer more broadly to any aspect of the system of incentives and constraints operating within a firm.[10]

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7. ADOLF A. BERLE & GARDINER C. MEANS, THE MODERN CORPORATION & PRIVATE PROPERTY (1932); Harwell Wells, *The Birth of Corporate Governance*, 33 SEATTLE U. L. REV. 1247, 1247 (2010) ("*The Modern Corporation* is said to be the 'ur-text [or original text] of modern corporate governance' . . . .").

8. Wells, *supra* note 7.

9. *Id.* at 1252 n.16. The term corporate governance was also synonymous with the movement to reform corporate rules and norms with the aim of providing stockholders greater legal protections. *See, e.g.*, Daniel R. Fischel, *The Corporate Governance Movement*, 35 VAND. L. REV. 1259, 1259–60 (1982).

10. Tom Baker & Sean J. Griffith, *Predicting Corporate Governance Risk: Evidence from the Directors' and Officers' Liability Insurance Market*, 74 U. CHI. L. REV. 487, 516 (2007).

Often, the term is used in the public company context and "is a response to the agency problems created by the separation of ownership and control, namely the powerless shareholders and the autonomous management."[11] Hillary Sale describes good corporate governance as "allow[ing] for a balance between what officers and directors do and what shareholders desire. The term implies that managers have the proper incentives to work on behalf of shareholders and that shareholders are properly informed about the activities of managers."[12] Leaders in the business world have described corporate governance as something that "exists to serve corporate purposes by providing a structure within which stockholders, directors and management can pursue most effectively the objectives of the corporation."[13] The understanding of corporate governance this Article relies on is derived from the Delaware Supreme Court case *M.M. Cos., Inc. v. Liquid Audio, Inc.*, which states that "[t]he most fundamental principles of corporate governance are a function of the allocation of power within a corporation between its stockholders and its board."[14]

B. *Corporate Governance in the Venture Capital Context*

Corporate governance in the VC context differs from what has been described above. In the VC-backed private company context, the stockholders are not powerless, and the lines between ownership and control are blurred because majority common stockholders are often times part of management and majority series preferred stockholders typically have a designated seat on the board pursuant to a contract.[15] The founders of the company not only own a significant share of the company, but they also are in control, holding multiple roles

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11. *See* Wells, *supra* note 7, at 1252.

12. Hillary Sale, *Delaware's Good Faith*, 89 CORNELL L. REV. 456, 460 (2004). As Stephen Bainbridge said, "the central problem of corporate governance" is the separation of ownership and control. STEPHEN BAINBRIDGE, THE NEW CORPORATE GOVERNANCE IN THEORY AND PRACTICE 6 (2008).

13. BUS. ROUNDTABLE, STATEMENT ON CORPORATE GOVERNANCE 2–3 (1997).

14. M.M. Cos., Inc. v. Liquid Audio, Inc., 813 A.2d 1118, 1126 (Del. 2003).

15. *See Model Legal Documents*, NAT'L VENTURE CAP. ASS'N, https://nvca.org/model-legal-documents/ (last visited Nov. 27, 2021) (follow "Voting Agreement" hyperlink).

such as CEO and director. As Elizabeth Pollman observed, "[l]ongstanding theories of corporate ownership and governance do not capture the special features of startups."[16]

As private companies stay private longer and employ thousands—instead of hundreds—of people, this lack of separation becomes more problematic if one person (the founder and major stockholder) has an outsized vote in decisions that impact the company. Also, independent directors do not play the moderating influence that the conventional wisdom in corporate governance scholarship assumes. As this Article will discuss in Part III below, founders may have a myopic view that could lead to the demise of the company if other viewpoints of non-founder-management directors are not considered. This is not the case of the powerless stockholder and autonomous management, but rather the opposite: a powerful stockholder often serves as the CEO and can control the narrative of the company.

C. *The Normative/Narrative Framework*

The normative/narrative theory of corporate law was initially applied in the context of management buyouts of public companies.[17] This Article argues that this theory provides a helpful construct from which to view the evolution of the standards of conduct relating to corporate governance in VC-backed private companies, many of which are high tech companies.

VC-backed private company corporate governance has three layers: the fiduciary duties of care and loyalty as explained in Delaware case law;[18] the contractual agreements to

16. Pollman, *supra* note 3, at 155 (illustrating that vertical and horizontal tensions arise because of the overlapping governance roles among founders, investors, executives, and employees).

17. *See* Rock, *supra* note 6, at 1017. Professor Rock notes, "Delaware opinions can be understood as providing a set of parables—instructive tales—of good managers and bad managers, of good lawyers and bad lawyers, that, in combination, fill out the normative job description of these critical players." *Id.* at 1016.

18. *See, e.g.*, Mills Acquisition Co. v. Macmillan, Inc., 559 A.2d 1261, 1280 (Del. 1989) ("[D]irectors owe fiduciary duties of care and loyalty to the corporation and its shareholders."); *In re* Trados Inc. S'holder Litig., 73 A.3d 17 (Del. Ch. 2013).

which the parties agree to in VC financings;[19] and a best practices framework which is not governed by rules but by standards.[20] The duties of care and loyalty serve as guiding principles for directors and become increasingly important as the company matures. The court cases that discuss these duties become part of a lawyer's toolkit that she can use going forward in advising clients about choices regarding corporate governance. The contractual mechanisms are bargained-for arrangements between sophisticated parties that help determine the composition of the board, block rights for certain stockholders (typically, holders of preferred stock), and valuation, among other things.[21] Finally, it is the best practices framework that informs a great deal of corporate governance practices in startups as discussed in Part III below. As this Article shows, it is the narrative constructed from the best practices framework that form the norms under which corporate governance in VC-backed private companies operate.

II.
Board Roles, the Impact of Startups Staying Private Longer, and the Growth-At-All-Costs Mindset on Corporate Governance

The board is responsible for hiring and firing the CEO, guiding the business's long-term strategic direction, approving certain corporate actions (e.g., major acquisitions, financings, etc.), maintaining compliance and good corporate governance, serving as a coach to the CEO, and helping the company network.[22] However, "the role of the board is not to run the company or dictate the strategy."[23] The dynamic of the board and how corporate governance is implemented is influenced by the players on the board: the founder or management directors ("founder-management directors"), the investor direc-

19. *See generally* Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 Stan. L. Rev. 1067, 1069 (2003); Jennifer S. Fan, *Catching Disruption: Regulating Corporate Venture Capital*, 2018 Colum. Bus. L. Rev. 341 (2018).

20. Fan, *supra* note 19.

21. *Cf.* Gilson, *supra* note 19, at 1069.

22. Scott Kupor, Secrets of Sand Hill Road 202–09 (2019).

23. *Id.* at 207.

tors, and the independent directors.[24] In order to provide the appropriate context for the findings from the survey and interviews that are discussed in Part III, this Part of the Article will discuss the characteristics of each of the individuals that typically comprise the board of directors. This Part will also explain how startups staying private longer and the growth-at-all-costs mindset impact corporate governance.

A. *The Board of Directors*

1. *Founders and Management*

The first directors of a startup come from the founding team. The founders are the heart and soul of a startup. Although VCs have a great deal of power, the startup would not be what it is without the vision of the founders. Zohar Goshen and Assaf Hamdani characterize the subjective value an entrepreneur attaches to her concept as the entrepreneur's idiosyncratic vision.[25] These scholars argue "that controlling shareholders hold a control block to increase the pie's size (pursue idiosyncratic vision) rather than to dictate the pie's distribution (consume private benefits). . . . [W]hen the entrepreneur's idiosyncratic vision is ultimately realized, the benefits will be distributed pro rata to all investors."[26] Under this framework, control matters for both entrepreneurs and investors in the public company setting, as illustrated by the tension between idiosyncratic vision and asymmetric information, differences of opinion, and agency costs.[27] "The controlling owner values permanent and uncontestable control because it allows her the freedom of action that is often necessary to realize her idiosyncratic vision. At the same time, the controller-

24. Other scholars have analyzed the role of directors on startup boards. *See* Brian J. Broughman, *The Role of Independent Directors in Startup Firms*, 2010 UTAH L. REV. 461, 464 (discussing the role of the independent director as tiebreaker); Jesse M. Fried & Mira Ganor, *Agency Costs of Venture Capitalist Control in Startups*, 81 N.Y.U. L. REV. 967, 972 (2006) (finding that the boards of VC-backed corporations are typically controlled by preferred shareholders, not common shareholders).

25. Zohar Goshen & Assaf Hamdani, *Corporate Control and Idiosyncratic Vision*, 125 YALE L.J. 560, 560 (2016).

26. *Id.*

27. *Id.* at 583.

entrepreneur's large equity stake limits investors' exposure to management agency costs."[28]

Therefore, in an environment where funds are plentiful and valuations are high because multiple VC firms and non-traditional investors[29] are interested in investing (and have a fear of missing out), the founders are able to negotiate for founder-friendly terms. It is in these situations that the vertical and horizontal tensions become even more pronounced.[30] The increasingly complex financial and governance structures in late-stage startups[31] also exacerbate the issue.

When founders raise money, the essential elements to a pitch to the VCs are market sizing, team, product, go-to-market strategy, and a plan for the next fundraising round.[32] When selecting which startup to invest in, however, VCs view the team as the most important factor.[33] Research on the decision-making processes of VCs confirm the team's importance.[34] Business-related factors rank a distant second in the minds of VCs when it comes to evaluating the success or fail-

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28. *Id.* at 569.

29. Non-traditional investors include corporate venture capital ("CVC"), mutual funds, private equity, sovereign wealth funds, among others. The author analyzes these investors and their impact on the VC ecosystem in a future article. Note that the term "tourist VCs" is also commonly used to describe non-traditional investors. *See, e.g.*, Gary Rivlin, *So You Want to Be a Venture Capitalist*, N.Y. TIMES (May 22, 2005), https://www.nytimes.com/2005/05/22/business/yourmoney/so-you-want-to-be-a-venture-capitalist.html. *See also* PITCHBOOK, PITCHBOOK 2019 VENTURE CAPITAL OUTLOOK 5 (2018).

30. Robert P. Bartlett, III, *Venture Capital, Agency Costs, and the False Dichotomy of the Corporation*, 54 UCLA L. REV. 37, 42, 61 (2006).

31. Pollman, *supra* note 3, at 209–10.

32. KUPOR, *supra* note 22, at 127–39.

33. Ninety-six percent of respondents said the team was the most important factor for the success of the startup; it was ninety-two percent for failures. Paul Gompers et al., *How Do Venture Capitalists Make Decisions?* 7 (Eur. Corp. Governance Inst., Working Paper No. 477, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2801385. Surprisingly, VCs don't mention themselves as a factor in the success or failure of the company. *Id.*

34. "In selecting investments, VCs place the greatest importance on the management/founding team. The management team was mentioned most frequently both as an important factor (by 95% of VC firms) and as the more important factor (by 47% of VC firms)." *Id.* at 6.

ure of a startup.[35] Logically, the focus on the founders makes sense. "When the 'business' is nothing more than a very small collection of individuals—in some cases only one or two founders—with an idea, much of the VCs' evaluation will focus on the team."[36] Put differently, what VCs look for is the founder-market fit which "speaks to the unique characteristics of this founding team to pursue the instant opportunity."[37] In addition to the founder(s), the VCs also look at the product.[38] Lastly, they look at market size—the bigger the better.[39] In emphasizing the importance of the team to this degree, the VCs also cede some degree of control to the founder-management director. They are more likely to defer to a management director who is also the founder of the company.[40] This is especially true of the rock star founder—a larger than life entrepreneur—described in Part III below.

2. *Venture Capital Investors*

The second group of directors in a startup are drawn from the VCs who invest in such companies. Venture capital is often thought of as "a high-touch form of financing used primarily by young, innovative, and risky companies."[41] The general partners of VC firms, who make the decisions about which of these startups to invest in, raise money for their various funds from limited partners. The limited partners who make such investments are university endowments, foundations, cor-

35. Although business-related factors were noted as important "with business model at 83%, product at 74%[,] market at 68%, and industry at 31%," they "were rated as most important by only 37% of firms." *Id.*

36. KUPOR, *supra* note 22, at 43.

37. *Id.* at 45.

38. *Id.* at 48–49. The author notes that early-stage VCs ask, "Will this product solve a fundamental need in the market (whether or not that need is known currently to customers) such that customers will pay real money to purchase it?" Furthermore, VCs often say "that they like founders who have strong opinions but ones that are weakly held, that is, the ability to incorporate compelling market data and allow it to evolve your product thinking." *Id.*

39. *Id.* at 51 ("VCs must invest in big market opportunities.").

40. *See* discussion *infra* Section III.B.1.

41. Will Gornall & Ilya A. Strebulaev, *The Economic Impact of Venture Capital: Evidence from Public Companies* 1 (Stan. U. Graduate Sch. of Bus., Working Paper No. 3362, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2681841.

porate and state pension funds, family offices, sovereign wealth funds, insurance companies, and funds of funds.[42]

The lucky few startups that receive VC funds are called VC-backed companies. It is these VC-backed companies that have wrought enormous changes on our society[43] and have given rise to an age in which corporate purpose is intertwined with this group of companies.[44]

Although less than 0.25 percent of startups receive VC financing, they account for approximately 50 percent of all "true" IPOs.[45] Public companies that were VC-backed comprised 40 percent of all IPOs in 2018, representing a fifteen-year high.[46] In 2020, VC-backed companies comprised a little less than 22% of all IPOs.[47]

Venture capital is also important from an economic perspective. Although the VC industry invests approximately 0.4 percent of the U.S. gross domestic product, its impact is substantially greater than that.[48] According to a 2015 study, VC-backed companies have invested billions in research and de-

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42. KUPOR, *supra* note 22, at 54–56. Family offices "are investment managers who are investing on behalf of very-high-net-worth families." *Id.* at 55. Sovereign wealth funds "are organizations that manage the economic reserves of a country . . . to benefit current or future generations of their citizens." *Id.* Funds of funds "are private firms that raise money from their own LPs and then invest in venture capital or other financial managers." *Id.* at 56.

43. Ilya A. Strebulaev & Will Gornall, *How Much Does Venture Capital Drive the U.S. Economy?*, INSIGHTS BY STAN. BUS. (Oct. 21, 2015), https://www.gsb.stanford.edu/insights/how-much-does-venture-capital-drive-us-economy.

44. *See, e.g.*, Jennifer S. Fan, *Woke Capital: The Role of Corporations in Social Movements*, 9 HARV. L. BUS. REV. 441, 464–66 (2019) (discussing private company opposition to the Muslim Ban).

45. Steven N. Kaplan & Josh Lerner, *It Ain't Broke: The Past, Present, and Future of Venture Capital*, 22 J. APPLIED CORP. FIN. 36, 37 (2010). "The median firm closes about 4 deals per year. . . . [F]or each deal in which a VC firm eventually invests or closes, the firm considers roughly 100 potential opportunities." Gompers et al., *supra* note 33, at 16.

46. NVCA & PITCHBOOK, NVCA 2019 YEARBOOK 6 (2019); *See also* Gornall & Strebulaev, *supra* note 41, at 5 (finding that VC-backed public companies represented one-fifth of market capitalization as of 2014). VC funds have generally outperformed the public markets net of fees, on average. *See* Robert S. Harris, Tim Jenkinson & Steven N. Kaplan, *Private Equity Performance: What Do We Know?*, 69 J. FIN. 1851, 1865 (2014).

47. NVCA & PITCHBOOK, NVCA 2021 YEARBOOK 37 (2021).

48. KUPOR, *supra* note 22, at 40–41.

velopment ("R&D") and comprise 44 percent of all R&D spending of U.S. public companies.[49] They have also accounted for 42 percent of all IPOs in the United States over a forty-year period (1974-2014).[50] Once public, these same companies created 63 percent of the total market capitalization of public companies that formed between 1974 and 2014.[51] Approximately $778 billion of new capital went into the private markets in 2018.[52] Also, funding rounds over $1 billion in VC financings comprised 25 percent of all VC deal volume.[53] In 2021, VC firms invested more than $329 billion into deals—their highest level ever.[54]

But what makes VC financings and, by extension, the VCs that accompany such money so special as a source of funding? Their influence is not limited to the amount of money that they bring to the startups, which are also called portfolio companies. Venture capitalists monitor and add value to their portfolio companies in a variety of ways. Based on a survey of nearly 900 VCs, business scholars found that VCs provided the following services to startups post-investment: "strategic guidance (87%), connecting investors (72%), connecting customers (69%), operational guidance (65%), hiring board members (58%), and hiring employees (46%)."[55] Additionally, VCs

49. Gornall & Strebulaev, *supra* note 41, at 8.

50. *Id.* at 5. The reason 1974 was chosen as the beginning of the study instead of 1979 (the year the "prudent man rule" passed, opening up VC investments to pension funds; prior to that, it was primarily family offices, university endowments, and philanthropic foundations) was to capture one or two significant companies, such as Apple, which otherwise would not have been included in the study. *Id.* at n.6.

51. *Id.*

52. McKinsey & Co., Private Markets Come of Age 4 (2019), https://www.mckinsey.com/~/media/mckinsey/industries/private equity and principal investors/our insights/private markets come of age/private-markets-come-of-age-mckinsey-global-private-markets-review-2019-vf.ashx.

53. *Id.* at 19.

54. PitchBook et al., Venture Monitor: Q4 2021 3 (2021). 2021 set new annual records for VC-backed companies at all stages of fundraising in terms of the total money invested and the total number of deals. *Id.*

55. Gompers et al., *supra* note 33, at 6. Venture capitalists are critical in hiring outside managers and directors. Paul A. Gompers, Vladimir Mukharlyamov & Yuhai Xuan, *The Cost of Friendship*, 119 J. Fin. Econ. 626, 638 (2016). They also have substantial influence over the board structure. Josh Lerner, *Venture Capitalists and the Oversight of Private Firms*, 50 J. Fin. 301, 302 (1995).

are not passive investors; in fact, they are the exact opposite. The time they spend on their portfolio companies demonstrates their commitment, which goes far beyond a monetary one. "Over 25% [of VCs] interact multiple times per week and an additional one-third interact once a week, indic[a]ting that 60% of VCs report interacting at least once per week with their portfolio companies."[56] On average, this is equivalent to eighteen hours per week.[57] In sum, VCs add value to their startups in myriad ways that are not related to money.[58]

In return for their money, expertise, and time, VCs expect certain things from a contractual perspective since they are paying a premium for their preferred stock when compared to the holders of common stock. Specifically, VCs negotiate contract terms such as cash flow, control, and liquidation rights in their investments.[59] When VCs structure their investments, they "indicated that they were relatively inflexible on pro-rata investment rights, liquidation preferences, anti-dilution protection, vesting, valuation and board control. They were more flexible on the option pool, participation rights, investment amount, redemption rights, and particularly dividends."[60] As an example, in a large-scale survey to VCs, scholars found that "[p]ro rata rights, which give investors the right to participate in the next round of funding, are used in 81% of investments. Participation rights that allow VC investors to combine upside and downside protection . . . are used on average 53% of the time."[61]

If a company is incorporated in Delaware (as most startups are),[62] the default voting for corporate actions is based on Delaware law. The protective provisions can be thought of as an additional layer on top of that which "grant[s] the preferred shareholders (generally the VCs) additional say in vari-

56. Gompers et al., *supra* note 33, at 27.

57. *Id.* at 33 (The survey found that "VCs spend the single largest amount of time working with their portfolio companies, 18 hours a week.").

58. *Id.*

59. *Id.* at 24.

60. *Id.* at 6.

61. *Id.* at 24.

62. KUPOR, *supra* note 22, at 174 (noting that "most startups are incorporated in Delaware because it has the most well-developed set of laws and legal opinions on corporate governance and shareholder rights").

ous corporate matters."[63] In other words, they provide "protection against an erosion of the economic value" with each subsequent round of financing.[64] "In general, you want to avoid smaller minority investors in later rounds having greater governance control than they have economic interests."[65]

In the VC context there are two classes of shares: common stock and preferred stock.[66] Founders and employees receive common stock and options to purchase common stock, respectively; preferred stock is issued to investors.[67] There are typically many rounds of preferred stock financings, and each round after the seed round is assigned a letter (e.g., Series A, Series B, Series C, etc.).[68] With each of these rounds comes an opportunity for corporate governance to evolve, but this evolution is influenced by board members (the founder-management director, the investor director, and the independent director).[69] Furthermore, the stage of the company and the growth-at-all-costs mentality also impact how corporate governance measures are implemented.[70]

Venture capitalists are dual fiduciaries when they serve on a board of a private company, because "there are times when the [general partner's] economic interest—as a holder of preferred shares with different rights and privileges—may diverge from those of the common shareholder."[71] The dual fiduciary context can be difficult, because VCs serve as fiduciaries to the limited partners who invest in their VC fund as well as board members required to act in the best interest of the common stockholders; balancing the two, sometimes competing, interests can be challenging.[72] As a dual fiduciary, a director of a

63. *Id.*

64. *Id.* at 177.

65. *Id.* at 174.

66. Brad Feld & Jason Mendelson, Venture Deals 38 (3d ed. 2016).

67. *Id.*

68. *Id.*; Constance E. Bagley & Craig E. Dauchy, The Entrepreneur's Guide to Law and Strategy 455 (5th ed. 2018).

69. *See infra* Section III.B.1.

70. *See infra* notes 414–17 and accompanying text.

71. Kupor, *supra* note 22, at 202.

72. *In re* Trados Inc. S'holder Litig., 73 A.3d 17, 41 (Del. Ch. 2013) (holding "it will be the duty of the board . . . to prefer the interests of the common stock . . . to the interests created by the special rights . . . of preferred stock." (internal citations omitted)). *See also* Cede & Co. v. Technicolor, Inc., 634 A.2d 345, 360 (Del. 1993) (holding "directors are charged

startup who is either a principal or employee of a fund may have a conflict if the decision has an impact on such fund.[73]

3. *Independent Directors*

The third category of directors is the independent director. Attracting qualified, independent board members for startups can prove difficult.[74] In lieu of the cash compensation one might expect for public company board members, startup board members are compensated in equity and identified through business and personal relationships.[75] However, courts may find that, as a result of these relationships, the directors are not independent, which means that if there is a transaction that involves self-dealing, the transaction would be subject to an entire fairness review instead of the business judgment rule.[76]

Scholars have argued that independent directors are the swing votes in decisions made by the board.[77] The findings in

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with an unyielding fiduciary duty to protect the interests of the corporation and to act in the best interests of its shareholders").

73. *See In re* Trados Inc., 73 A.3d at 46–47.

74. *See* Steven E. Bochner & Amy L. Simmerman, *The Venture Capital Board Member's Survival Guide: Handling Conflicts Effectively While Wearing Two Hats*, 41 DEL. J. CORP. L. 1, 9 (2016).

75. FELD & MENDELSON, *supra* note 66, at 69–70; *see also* Olav Sorenson & Toby E. Stuart, *Syndication Networks and the Spatial Distribution of Venture Capital Investments*, 106 AM. J. SOC. 1546, 1584–85 (2001).

76. *Cede & Co.*, 634 A.2d at 361, 371 (holding "[u]nder the entire fairness standard of judicial review, the defendant directors must establish to the *court's* satisfaction that the transaction was the product of both fair dealing *and* fair price"); *see also* Aronson v. Lewis, 473 A.2d 805, 812 (Del. 1984) (holding the business judgment rule is a presumption that in making a business decision, the corporation's directors acted on an informed basis, in good faith, and in honest belief that action taken was in the best interests of the company).

77. Broughman, *supra* note 24, at 464. Brian Broughman refers to this arrangement as "'ID-arbitration' to emphasize the independent director's position as quasi-arbitrator." *Id.* He argues that if there are disputes between the entrepreneur (CEO/founder) and VC (investor), the independent director can settle the dispute and avoid a deadlock that may otherwise leave the other two parties open to unilateral actions by a controlling party. *Id.* "Adding an independent director to the board allows a new alternative [avoiding opportunistic behavior from VC or entrepreneur control]: control of the board can be shared with an independent director acting as the tie-breaking vote." *Id.* at 464. "Independent directors . . . typically occupy a tie-breaking seat on the board." *Id.* at 508.

Part III below, however, offer a vastly different view of the independent director—one in which such directors play a secondary role and are, in fact, not the swing vote.[78]

Independence becomes important where a conflict of interest arises. Under Delaware law, whether a director has a conflict is a fact-specific question;[79] she is not conflicted out merely because her appointment was made by a particular class or series of stock or a particular stockholder.[80] The Delaware courts have also looked at facts that help to determine whether a director is independent in other contexts, such as a close family relationship between a director and another party,[81] a long friendship intertwined with business dealings,[82] or special benefits that a director may receive.[83]

4. *Staying Private Longer and Growth-At-All-Costs*

Corporate governance issues are also impacted by how long a startup stays private. The number of unicorns[84] has

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78. *See* discussion *infra* Section III.B.2.

79. Beam *ex rel.* Martha Stewart Living Omnimedia, Inc. v. Stewart, 845 A.2d 1040, 1049–50 (Del. 2004) ("Independence is a fact-specific determination made in the context of a particular case. The court must make that determination by answering the inquiries: independent from whom and independent for what purpose?"); Calesa Assocs., L.P. v. Am. Capital, Ltd., No. 10557-VCG, 2016 WL 770251, at *11 (Del. Ch. 2016).

80. *See In re* KKR Fin. Holdings LLC S'holder Litig., 101 A.3d 980, 996 (Del. Ch. 2014). "Delaware law does not contain bright-line tests for determining independence but instead engages in a case-by-case fact specific inquiry based on well-pled factual allegations." *Id.*

81. *See* Chaffin v. GNI Grp., Inc., No. Civ.A. 16211-NC, 1999 WL 721569, at *5 (Del. Ch. 1999) (determining that the director lacked independence because of his son).

82. *See* Del. Cnty. Emps. Ret. Fund v. Sanchez, 124 A.3d 1017, 1022–23 (Del. 2015) (finding that fifty-year long friendship impacted certain business dealings).

83. *See In re* Trados Inc. S'holder Litig., 73 A.3d 17, 45–46 (Del. Ch. 2013) (considering a situation where a member of management was to share in a management incentive plan); *Calesa Assocs., L.P.*, 2016 WL 770251, at *12 (finding that ongoing employment played a role in determining the lack of independence).

84. Unicorns are private companies valued at $1 billion or more. Jennifer S. Fan, *Regulating Unicorns: Disclosure and the New Private Economy*, 57 B.C. L. Rev. 583, 583 (2016). The way that unicorns are valued varies. Valuations "reflect[ ] the current state of business as valued within the current state of the financing world." Kupor, *supra* note 22, at 118. Fred Wilson, a well-known VC from Union Ventures, observes that "valuations in the private

risen dramatically—as of February 2022, there were 1,000 unicorns worldwide with a total cumulative valuation of approximately $3,308 billion.[85] Accompanying the rise of unicorns was a corresponding decrease in IPOs. In 1997 there were 8,491 publicly listed companies in the United States; in 2017 there were 4,496.[86] However, recently more unicorns have

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markets, particularly the late-stage private markets, can sometimes be irrational." Fred Wilson, *The Great Public Market Reckoning*, AVC (Sept. 29, 2019), https://avc.com/2019/09/the-great-public-market-reckoning. Also, instead of relying on net present value or discounted cash flow techniques, VCs "rely on multiples of invested capital and internal rates of return." Gompers et al., *supra* note 33, at 36. But this way of valuing a company has its flaws and valuations of private companies still remain a "black box." Will Gornall & Ilya A. Strebulaev, *Squaring Venture Capital Valuations with Reality*, 135 J. FIN. ECON. 120, 121 (2020). In many cases, the post-money valuation becomes a proxy for the relative success (or failure) of a company. *Id.* However, some scholars point out that because unicorns rely on preferred stock terms to measure firm value, they may be unreliable in determining fair value. Robert P. Bartlett, III, *A Founder's Guide to Unicorn Creation: How Liquidation Preferences in M&A Transactions Affect Start-up Valuation*, *in* RESEARCH HANDBOOK ON MERGERS AND ACQUISITIONS 123, 124 (Claire A. Hill & Steven Davidoff Solomon eds., 2016). Two business scholars, Will Gornall and Ilya A. Strebulaev, also make a compelling case for why calculating the fair valuation of the company in that way is inaccurate. *See* Gornall & Strebulaev, *supra* note 41, at 121–22. Although equating post-money valuation to a fair valuation of a company works for public companies that typically have one class of share (e.g., common stock), the same formula does not work for private companies that have different shares with different terms. *Id.*

85. *The Complete List of Unicorn Companies*, CB INSIGHTS, https://www.cbinsights.com/research-unicorn-companies (last visited Feb. 8, 2022).

86. *America's Public Markets Are Perking Up. Can it Last?*, THE ECONOMIST (Mar. 17, 2018), https://www.economist.com/finance-and-economics/2018/03/17/americas-public-markets-are-perking-up-can-it-last. IPOs may be experiencing a turnaround. *Id.* There was a sharp uptick in the number of IPOs in 2021. *See* EY, 2021 EY GLOBAL TRENDS REPORT 5 (2021) ("With 2,388 deals raising US$453.3b, 2021 became the most active year for IPOs in the past 20 years. . . . Year-over-year (YOY), global IPO activity was up 64% and 67% by deal numbers and proceeds, respectively."). *See also* Dan Primack, *Top of the Morning*, AXIOS PRO RATA (June 28, 2021), https://www.axios.com/newsletters/axios-pro-rata-372981eb-a35c-4282-b18a-b1efee36d0ae.html ?utm_source=Newsletter&utm_medium=email&utm_campaign=newsletter_axiosprorata&stream=top ("Q2 2021 is expected to go down as the busiest quarter for U.S. IPOs since 2000, while June 2021 will be the busiest month since that same year."). *But cf.* Echo Wang, *Analysis: U.S. IPO Slowdown Slams Door on Tech Unicorns Looking to Cash Out*, REUTERS (Feb. 3, 2022, 9:26 AM), https://www.reuters.com/technology/us-ipo-slowdown-slams-door-tech-unicorns-looking-cash-out-2022-02-03/ (noting a recent slowdown in U.S. IPOs).

gone public—whether this trend continues remains to be seen.[87]

Companies stay private longer because of the funds available in the private markets; in fact, the average amount of time it takes a U.S. private company in the technology sector to go public has risen from an average of four years in 1999 to eleven years in 2014.[88] The lengthier timeline to a liquidity event means that limited partners take a longer time to realize returns and employees and investors will seek liquidity through the secondary market.[89] A company can also be forced to go public under Securities and Exchange Commission ("SEC") rules if it exceeds the number of stockholders allowed as a private company.[90]

However, it is not only due to the amount of money in the private markets that private companies remain private longer. Many theories have been offered for why it now takes a longer time for a private company to go public (i.e., have an IPO). First, going public costs too much money.[91] Second, efficiency rules, such as the Regulation Alternative Trading System and Decimalization and Regulation National Market System, "disproportionately affected the trading dynamics for companies

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87. *See, e.g.*, Paul R. La Monica, *Unicorns Are off to a Hot Start in 2021. Many More Are on the Way*, CNN BUSINESS (July 12, 2021, 11:32 AM), https://www.cnn.com/2021/07/12/investing/ipos-spacs-direct-listings/index.html.

88. Begum Erdogan et al., *Grow Fast or Die Slow: Why Unicorns Are Staying Private*, MCKINSEY & COMPANY (May 11, 2016), https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/grow-fast-or-die-slow-why-unicorns-are-staying-private.

89. Elizabeth Pollman, *Information Issues on Wall Street 2.0*, 161 U. PA. L. REV. 179, 186, 193–95 (2012).

90. Erdogan et al., *supra* note 88. The threshold is now 2,000 investors; prior to that it was 500. *Id.* Under the new threshold, however, it is unlikely that private companies would ever find themselves in the position to go public because of the way that shareholders are counted. There are now discussions underway to "consider whether to recalibrate the way issuers must count shareholders of record under Section 12(g) (and Rule 12g5-1) in order to hew more closely to the intent of Congress and the [SEC] in requiring issuers to count shareholders to begin with." Allison Herren Lee, Comm'r, U.S. Sec. & Exch. Comm'n, Remarks at The SEC Speaks in 2021, Going Dark: The Growth of Private Markets and the Impact on Investors and the Economy (Oct. 12, 2021), https://www.sec.gov/news/speech/lee-sec-speaks-2021-10-12.

91. See, for example, Sarbanes-Oxley Act of 2002, Pub. L. No. 107–204, 116 Stat. 745, which increased the number of financial disclosures that needed to be made by a company going public.

that have smaller capitalizations and therefore lower trading volume."[92] Third, most large mutual funds tend to concentrate in "large-cap highly liquid stocks, because they need to be able to put large amounts of money to work in individual stocks," and smaller capitalization stocks do not scale as well.[93] Fourth, there is more capital available from corporate venture capital ("CVC"),[94] mutual funds,[95] sovereign wealth funds,[96] family funds,[97] private equity,[98] and others that allow private companies to stay private longer.[99] Lastly, the increasing number of activist investors may also explain the decreasing number of IPOs.[100]

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92. KUPOR, *supra* note 22, at 107.

93. *Id.* at 108.

94. CVC is "equity investments in external startups made by corporations or investment entities designated by corporations." Fan, *supra* note 19, at 341. For an overview of CVC, see *id.*

95. *The Investors Fueling the Mega-Round Phenomenon*, CB INSIGHTS (May 16, 2016), https://www.cbinsights.com/research/hedge-mutual-funds-investing-big-deals-tech-startups/; *see also* Sungjoung Kwon, Michelle Lowry & Yiming Qian, *Mutual Fund Investments in Private Firms*, 136 J. FIN. ECON. 407 (2020). Historically, mutual funds have focused their investments in public companies, "but that has shifted over the past few years as investors sought more exposure to private firms that were waiting longer to go public." Kevin Dugan, *Fidelity Executive Who Backed Uber, WeWork, to Depart*, THE INFO. (Nov. 18, 2019, 2:31 PM), https://www.theinformation.com/articles/fidelity-executive-who-backed-uber-wework-to-depart?eu=FB1687babca518909f13&utm_content=article-4060&utm_campaign=article_email&utm_source=sg&utm_medium=email.

96. *See* Paulina Pielichata, *Sovereign Wealth Funds Increase Venture Capital Deals in 2018*, PENSIONS & INVS. (May 23, 2019, 1:00 AM), https://www.pionline.com/article/20190523/ONLINE/190529930/sovereign-wealth-funds-increase-venture-capital-deals-in-2018.

97. *See* Interview with Lawyer #6 (on file with author); *see also* KUPOR, *supra* note 22, at 55.

98. *See* Harris et al., *supra* note 46, at 1–2, 25*; see generally* Interview with Lawyer #18 (on file with author) (describing private equity as having a controlling interest on the board and in ownership and stating that they are often LLCs who have opted out of fiduciary duties that corporations are subject to and they ask for more onerous control provisions).

99. *See* KUPOR, *supra* note 22, at 108. *See also supra* note 29 (discussing non-traditional investors).

100. *Id.* Special purpose acquisition companies (SPACs) became a popular alternative to IPOs beginning in October 2019; however, the market for SPACs has cooled significantly as regulators scrutinize SPACs and the VC markets continue to be a rich funding source. Berber Jin, *As SPAC Market Unravels, Startups Seek Alternatives*, THE INFO. (May 12, 2021 6:01 AM), https://www.theinformation.com/articles/as-spac-market-unravels-startups-seekal-

The fact that the goals of non-VC firms are not necessarily aligned with VC firms also creates issues.[101] As an example, in the corporate VC context, the goals are both strategic and monetary; in the VC firms, the aim is to maximize the return of the limited partners who invested in the funds managed by the VC firms.[102] As a result, the private ordering that is meant to serve as a checks-and-balances mechanism for the different constituencies in VC financings changes in significant ways.[103] This change in private ordering also means that the economic and control levers that undergird VC financings do not work as more traditional players have come to expect. One particularly telling example was the announcement of SoftBank's $100 billion Vision Fund; the landscape of VC shifted with the infusion of that money.[104] Valuations climbed to dizzying heights[105] only to come back down to reality when companies went public.[106]

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ternatives#:~:text=after%20the%20coronavirus%20pandemic%20jump,to%20visit%20pharmacies%20in%20person; *see also* Catherine Thorbecke, *What to Know About the SPACs Craze and Why It's Concerning Economists*, ABC NEWS (Mar. 30, 2021, 5:01 AM), https://abcnews.go.com/Business/spacs-craze-economists/story?id=76747045.

101. *See* Fan, *supra* note 19, at 343, 417.

102. *Id.* at 343 n.6.

103. *Id.* at 358.

104. *SoftBank Group Corp. to Establish SoftBank Vision Fund*, SOFTBANK GRP. CORP. (Oct. 14, 2016), https://group.softbank/en/news/press/20161014; *see also* Raymond Zhong, *SoftBank Unveils New Tech Fund to Expand Its Sprawling Portfolio*, N.Y. TIMES (July 26, 2019), https://www.nytimes.com/2019/07/26/technology/softbank-vision-fund-2.html ("SoftBank's aggressive approach . . . has helped upend the venture capital market, and has even changed the way entrepreneurs build new tech companies.").

105. *See* Erin Griffith, *$100 Million Was Once Big Money for a Start-Up. Now, It's Common*, N.Y. TIMES (Aug. 14, 2018), https://www.nytimes.com/2018/08/14/technology/venture-capital-mega-round.html?module=inline.

106. In fact, many private companies experienced down rounds upon going public because they were overvalued as private companies. *See, e.g.*, David Trainer, *The Unicorn Bubble Is Bursting*, FORBES (Oct. 7, 2019, 9:21 AM), https://www.forbes.com/sites/greatspeculations/2019/10/07/the-unicorn-bubble-is-bursting/#80bf79f88198. The Second Vision Fund came later, but with less fanfare. *See Launch of SoftBank Vision 2 Fund*, SOFTBANK GRP. CORP. (July 26, 2019), https://group.softbank/en/news/press/20190726. In part, SoftBank's recent, highly public investment failures have contributed to its inability to raise money from limited partners for its second Vision Fund. The second Vision Fund has not reached its initial fundraising goal of $108 billion. Instead, SoftBank is entirely funding the endeavor and has so far invested $30 billion in the second Vision Fund. *See* James Thorne, *SoftBank*

Second, private companies are not valued by standard metrics that most other companies are valued by. Instead, investors ascribe a numerical value of the firm based on the founder(s) and potential of the company.[107]

As companies stay private longer and are not subject to the rules and regulations that accompany becoming a public company (one of the "disciplining mechanisms" that forces companies to strengthen their corporate governance measures), the evolution of corporate governance practices to better suit a more mature company may not occur; instead, there may be stasis with respect to corporate governance matters.

In sum, the founders, investors, and independent directors who comprise the board each bring a unique set of skills and characteristics that influences startup corporate governance in different ways. The survey and interview data presented in Part III will provide more information about the role of each of these board members in corporate governance. Additionally, the ramifications that startups staying private longer and operating in a growth-at-all-costs mindset present will be discussed in greater detail in Part III. Findings about best practices in corporate governance in good versus bad economic times and the impact of DEI issues on corporate governance will also be covered below.

III.
Key Findings From Survey and Interviews

Using survey and interview methodologies, Part III highlights four key findings. First, a founder-centric model of governance animated by a growth-at-all-costs mindset emerged after the Great Recession. Second, independent directors do not play the role of tiebreaker or swing vote as assumed in corporate law scholarship; in fact, the board is driven by a consensus building process. Third, although corporate governance is generally framed using best practices, corporate governance is valued, implemented, and sustained differently in good versus

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Goes It Alone on Vision Fund 2 as Portfolio Profits Leap, Pitchbook (May 12, 2021), https://pitchbook.com/news/articles/softbank-earnings-vision-fund-2-fundraising.

107. *See* Feld & Mendelson, *supra* note 66, at 43–44 (discussing different factors which VCs typically consider when deciding how to value a potential investment).

bad economic times. During good economic times, a growth-at-all-costs mindset influences the decision-making process and who has decision-making power. In contrast, during bad economic times, such as COVID-19, the backdrop here, boards prioritize the implementation of corporate governance and faithfully follow good corporate governance practices as a general matter. Lastly, although there may be discussions about DEI initiatives under the corporate governance umbrella, there is very little action. Companies are more focused on growth or survival; DEI issues are a secondary consideration, if they are considered at all. Most of the prior legal scholarship in this area do not use surveys, although several studies employ interviews. This Article provides the first empirical analysis of corporate governance in startups post-Great Recession and how the pandemic impacted said corporate governance.

A. *Survey and Interview Design*

Before delving into the findings from the survey and interviews, this Part provides more details on the survey and interview design that provide the basis of the Article's empirical findings. In consultation with the University of Washington statistics department, the author developed an exploratory survey to provide some insight into what the lawyers who routinely work with such startups and investors are doing at the frontlines of corporate governance in VC-backed companies.[108] This Article focuses on lawyers, because they are the intermediaries between founders and directors and understand corporate governance from a legal perspective in a way that investors and founders do not.[109] The author approached partners at various law firms to distribute the survey within their emerging companies (or equivalent) practices.[110] Some partners distributed the survey to their entire practice groups and others distributed it to a select few that they thought would be responsive. The survey was open from November 21,

108. *See* Jennifer S. Fan, Survey: Corporate Governance in Venture Capital-Backed Private Companies (2020) (unpublished survey) (on file with author) [hereinafter Corporate Governance Survey].

109. While interviewing founders and investors would have added more context, the focus of this Article is from the perspective of the lawyers who have the legal background and VC deal experience to provide a nuanced legal perspective of how corporate governance works in startups.

110. The author also had one in-house counsel respond.

2019, to February 14, 2020. Ultimately, twenty-eight lawyers responded out of 130 for a yield rate of 21.5 percent.[111]

Over 67 percent of the survey respondents had been in practice for twelve or more years; 17.9 percent had been practicing law eight to eleven years. The remaining 14.3 percent had practiced law four to seven years.[112]

Approximately 79 percent of the respondents were partners and nearly 18 percent were associates.[113] They practice in cities all across the United States: Atlanta, Austin, Boston, Chicago, Los Angeles, Palo Alto, Redwood City, Reston, San Francisco, and Seattle.[114] The largest number of respondents came from California (39.3 percent), with Washington State respondents coming in second at 25 percent.[115] Given the dispersed geographical nature of the respondents and small number of responses, no broad generalizations can be made about the findings. However, the exploratory survey does give some interesting insights that likely require further consideration and study.

The respondents generally had deep experience in VC deals, with 75 percent having done one hundred or more deals and 14.3 percent having done between fifty to ninety-nine deals.[116] All of the respondents had experience representing both investors and the companies that receive VC funds.[117]

Using a combination of a Likert scale[118] and a ranking system, the author asked the respondents to answer twenty-

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111. The yield rate was calculated by dividing the number of responses received (numerator) by the numbers that the lawyers gave the author regarding who they circulated the survey to; some were approximations.

112. Corporate Governance Survey, *supra* note 108.

113. *Id.* The remaining percentage of respondents were former or current in-house counsel at VC-backed private companies. *Id.*

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.*

118. The Likert scale is one of the most widely used forms of attitude measurements in survey research. The Likert scale is typically a five-point scale which is used to measure an individual's level of agreement with a particular statement. *See* ENCYCLOPEDIA OF SURVEY RESEARCH METHODS 427 (Paul J. Lavrakas ed., 2008). The respondents were asked to choose "Strongly Agree," "Agree," "Neutral," "Disagree," or "Strongly Disagree" in response to different statements. Corporate Governance Survey, *supra* note 108.

three corporate governance questions. The results of the survey are included in the analysis of the role of the board in corporate governance below.

Next, in order to delve deeper into some of the preliminary findings of the survey described above, the author used a semi-structured interview format to conduct an exploratory study of thirty-one lawyers.[119] The purpose of the exploratory study is to create a "grounded theory" with the expectation that further research will be pursued in the future to confirm the hypotheses offered here.[120] In the exploratory stage, researchers "confirm . . . their emergent generalizations rather than an ensemble of priori predictions."[121] There are methodological advantages to an exploratory study in this context (lawyers' perspectives on corporate governance in VC-backed startups), which outweigh the potential concerns about sample size.[122]

According to the Oxford Handbook on Qualitative Research, the purpose of semi-structured interviews is to produce descriptions of the interviewees' lives in order to interpret the meaning of the described phenomena.[123] Unlike the structured interview, "semi[-]structured interviews can make better use of the knowledge-producing potentials of dialogues by allowing much more leeway for following up on whatever angles are deemed important by the interviewee."[124] There is no preset interview guide. In contrast to the unstructured interview, the interviewer in the semi-structured format "has a greater say in focusing the conversation on issues that he or she deems important in relation to the research project."[125] One re-

119. *See* ROBERT A. STEBBINS, EXPLORATORY RESEARCH IN THE SOCIAL SCIENCES 27 (2001) (arguing that to ensure adequate numbers for the data analysis, a good working number to aim for is thirty people per group, process, activity, or situation studied). Some legal scholars have used fewer interview subjects than the recommended amount. *See, e.g.*, Cable, *supra* note 2, at 325.

120. *See* STEBBINS, *supra* note 119, at 6 (noting that exploratory studies emphasize development of theory from data).

121. *Id.* at 7.

122. *See* Cable, *supra* note 2, at 891.

123. Svend Brinkmann, *Unstructured and Semi-Structured Interviewing*, *in* THE OXFORD HANDBOOK OF QUALITATIVE RESEARCH 277, 286–87 (Patricia Leavy ed., 2014).

124. *Id.* at 286.

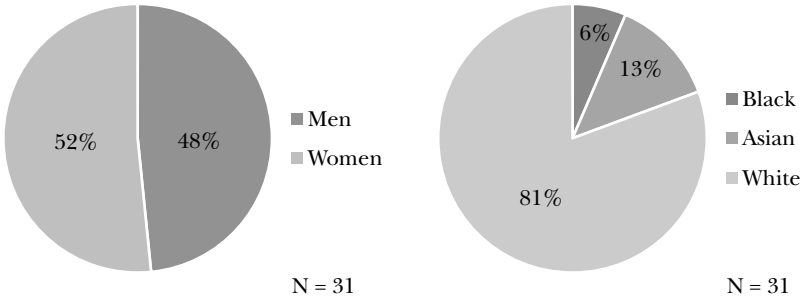
125. *Id.*

searcher describes semi-structured interviewing as the "standard form of qualitative interviewing today."[126]

Sample sizes in exploratory studies may be smaller than in confirmatory research.[127] Robert Stebbins also notes that statistical tests used in confirmatory research to prove validity and reliability are inappropriate formulas to apply to exploratory studies.[128] Accordingly, this Article does not apply statistical reliability or validity tests to the survey data.

The author used personal and professional networks to locate interview subjects. Using the "snowball" sampling technique, interviewees were asked for referrals to other lawyers in the target firms and advice on what other firms should be included that were not on the author's original list.[129]

FIGURE 1: INTERVIEWEE DEMOGRAPHICS



When the survey was conducted, COVID-19[130] was not dominating our daily lives. As the pandemic worsened, however, so did our economy.[131] The survey gave the author a

126. *Id.* at 297.

127. Cable, *supra* note 2, at 889–90 (citing STEBBINS, *supra* note 119, at 30–41). Cable conducted nineteen interviews, reasoning that he felt he had reached a point of "theoretical saturation"—where no additional categorizations can be found by collecting additional data. *Cf.* STEBBINS, *supra* note 119, at 27 (asserting that thirty is the ideal number).

128. STEBBINS, *supra* note 119, at 30.

129. Cable, *supra* note 2, at 890.

130. *See generally Listings of WHO's Response to COVID-19*, WORLD HEALTH ORG. (June 29, 2020), https://www.who.int/news-room/detail/29-06-2020-covidtimeline.

131. David J. Lynch, *IMF Says Global Economic Collapse Caused by Coronavirus Will Be Even Worse than Feared*, WASH. POST (June 24, 2020), https://

macro-level understanding of corporate governance during good economic times, but the interviews provided deeper insight on the mechanics of corporate governance during both times of prosperity and market downturns. The interviews were conducted in April, May, June, July, August, and September 2020, primarily with firm lawyers who were partners or senior associates in the Bay Area (e.g., San Francisco and Silicon Valley) and Seattle that worked for law firms well-known for their expertise in VC financings and work with high-tech startups. The author also interviewed three former or current general counsels of VC-backed private companies. Sixteen of the interviewees were women and fifteen were men; six identified themselves as minorities.[132] See Figure 1 for a demographic breakdown of interviewees. The author chose the Bay Area and Seattle because they are both epicenters of high-tech activity. Although this sample size appears small, the number of lawyers who work in this specialized area is limited to "entrepreneurial hot spots."[133] This Part looks at how lawyers define corporate governance, how boards are structured, how board meetings are conducted, how boards vote, how board composition evolves over time, the particular role of each type of director, the impact of economic conditions on corporate governance practices, and whether the preliminary survey results aligned with what was discussed during the interviews. The interviews support the viewpoint that a founder-centric model has emerged, which has impacted board dynamics. Furthermore, they reveal that boards operate using a consensus-driven process. After the Great Recession, boards leveraged a norm-based system of corporate governance to adapt to an environment where private companies remain private longer and a growth-at-all-costs mindset pervades. The interviews also controvert the theory that independent directors play a tiebreaker role; in fact, the reality is that they exert far less influence than

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www.washingtonpost.com/business/2020/06/24/imf-global-economy-coronavirus/.

132. Four of the interviewees identified as Asian; two were Black.

133. Abraham J.B. Cable, *Startup Lawyers at the Outskirts*, 50 WILLAMETTE L. REV. 163, 165 (2014). *See also* Cable, *supra* note 2, at 891 (describing its use of a smaller sample size consisting of a distinct type of participants it was seeking). *See generally* FELD & MENDELSON, *supra* note 66, at 14–15 (noting the importance of lawyers experienced in VC financings to the success of a deal).

prior legal scholarship purports. Although the study is small and cannot make broad claims, the lawyers coalesced around a few key corporate governance points, each of which could be a future area of study.

B. *Four Key Findings From Survey and Interviews*

The four key findings discussed in this Part are based on what happens (or does not happen) in the boardroom and the dynamics among the different board members. Therefore, to better contextualize the findings, a brief description of what transpires both in and outside of the boardroom, and the personalities involved, follows.

In an early-stage startup, there may be no meetings; instead, most things are passed by consent.[134] The legal issues that lawyers focus on with their clients often include equity grants and classifying individuals as employees or consultants, to cite a few examples.[135] Lawyers also may help founders (who are typically also the founder-management directors) frame certain discussions with the board. As an example, lawyers may assist founders in presenting information about options and benchmarking their value.[136]

When companies hold board meetings, they present metrics that are indicators of the health of the business, such as whether marketing is generating enough leads for its product.[137] The CEO runs the meeting and gives high level highlights and challenges related to sales, revenues, marketing, customer success, and then engineering and products.[138] Law-

134. Interview with Lawyer #21 (on file with author); Interview with Lawyer #3 (on file with author) (noting that companies frequently use unanimous written consents if there is no regularly scheduled meeting that is imminent).

135. Interview with Lawyer #3, *supra* note 134.

136. *Id.*

137. Interview with Lawyer #30 (on file with author).

138. *Id.* (noting that 99% of the time, the very first segment is sales and sales pipeline (e.g., what do sales and revenues look like in the current quarter), the next segment is marketing (e.g., extending pre-sales to get qualified leads to salespeople), then customer success, and finally engineering and products).

yers also help to guide first-time CEOs on how to run board meetings.[139]

The cadence of board meetings is determined by the founder-management directors.[140] It is common practice for outside counsel to attend these meetings for free.[141] One lawyer characterized board meetings as "investor check-in calls" and the means by which corporate governance is done.[142]

Well-functioning boards are ones who work together over a number of years, trust each other, and discuss matters.[143] In fact, the fate of management and investors is intertwined.[144] In order to raise more money, they need to present a unified front.[145] This, in part, explains why board meetings follow a consensus-driven process.[146] "[T]he role each member will play depends on personality and backgrounds."[147]

The interviewees were mixed in their responses to the question regarding which directors are the best monitors; this was similar to the results in the survey. The disparity in answers is likely because there is a wide variety of directors and each one serves a different role. As one lawyer observed, the different directors "balance each other" and monitor different

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139. Interview with Lawyer #6, *supra* note 97 (noting that lawyers advise their clients to use a particular formula each time they present, have meaningful data, and have specific asks of the board).

140. Interview with Lawyer #28 (on file with author).

141. Interview with Lawyer #10 (on file with author) (noting that by attending board meetings for no charge, the lawyers can be up to date about what the company is doing and may bring law firm business opportunities later on in the form of potential transactions); Interview with Lawyer #3, *supra* note 134 (concurring that attending board meetings is a business opportunity and helps lawyers build relationships with board members).

142. Interview with Lawyer #2 (on file with author).

143. Interview with Lawyer #26 (on file with author) (noting that if trust falls apart then everything is conflicting, nothing is getting done, and there are side arguments, disagreements, and people wanting to get out of the situation).

144. *Id.*; *see also* Interview with Lawyer #15 (on file with author) (observing the unavoidable fact that founder-management directors and investor directors have their own interests, and although these interests are conflicted, the conflict is not due to a question of character or integrity).

145. *See* Interview with Lawyer #26, *supra* note 143 (noting that the company needs to find additional investors to support them and that doing so has a galvanizing effect on the management and existing investors).

146. Interview with Lawyer #3, *supra* note 134.

147. Interview with Lawyer #26, *supra* note 143.

things.[148] Those who said VC investor directors were the best monitors[149] stated that this was because they want to monitor their investments and have the most experience on boards.[150] In particular, lawyers pointed out that VCs were able to identify conflicts of interest, who should be on different committees, and who ought to be independent directors or new recruits to the board.[151] Ultimately, who the best monitor was depended on the circumstances.[152] For example, in a growth-at-all-costs culture, the company and board may lose sight of governance, and monitoring is given a lower priority.[153]

Some held the view that founders were too close to the business and lacked a broader perspective to be the best monitors.[154] Startups get more introspection from independent directors.[155]

Different directors also have different motivations that may affect how they monitor a company.[156] For example, founder-management directors may be satisfied with a 2x return whereas a VC investor director wants a 10x return.[157] This difference in expectation could impact how they view certain board issues, such as an acquisition.

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148. Interview with Lawyer #12 (on file with author).

149. Interview with Lawyer #10, *supra* note 141.

150. *Id.*

151. *Id.* (explaining that, for example, VC investor directors will raise issues if the company has a strategic investor who also does a deal with the company thereby becoming a customer or partner of the company).

152. Interview with Lawyer #14 (on file with author) (suggesting that the best monitor against WeWork-type malfeasance should be the investor director because they are economically incentivized to counter balance; however, if the investor director is "drinking the Kool-Aid then [they] may ride [the] 'ridiculous wave' depending on economics").

153. Interview with Lawyer #12, *supra* note 148 ("People cut corners for a reason.").

154. Interview with Lawyer #29 (on file with author) (citing the need for founders to be optimistic all the time, but acknowledging that some founders were self-reflective).

155. *Id.*

156. The different types of directors have different functions that they fulfill: the investor director is focused on preserving its portfolio, the founder-management director is focused on preserving the company, and the independent director serves as an advisor. Interview with Lawyer #25 (on file with author).

157. Interview with Lawyer #12, *supra* note 148.

1. *The Emergence of the Founder-Centric Board Post-Great Recession*

The first key finding from the survey and interviews is that a founder-centric board emerged post-Great Recession. The importance of founders to a startup is reflected in the terms that highly sought-after founders can negotiate.[158] One example of founders' outsized influence can be found in the board composition itself. The lawyers interviewed by and large agreed that in the period before the Great Recession the board composition of a startup looked quite different than in the period following it. If a startup raised institutional money, the board typically had three board members: a representative of the preferred stock (usually the lead investor), a representative of the common stock (typically designated as the CEO, who may be the founder), and one that was mutually designated (an independent director who was mutually agreed upon by the holders of common stock and preferred stock).[159] In the next round, the company would have two common stock designated directors, two preferred stock designated directors, and one mutually designated director.[160] In later rounds, there would be a shift to balance the board.[161]

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158. Scott Galloway, New York University Professor of Marketing, stated, "Founders are now assigned this Christ-like association." David Gelles, *C.E.O.s Are Not Here to Save Us*, N.Y. TIMES (Sept. 28, 2019), https://www.nytimes.com/2019/09/28/business/wework-juul-ebay-ceo.html. Oftentimes, the founders are also part of management (e.g., CEOs). Promising startups are often courted by a number of VCs and other investors. The hot market gives the founders of such companies significant leverage. *See* Tomio Geron, *The 10-Year Power Shift in VC Land*, PROTOCOL: PROTOCOL PIPELINE (Jan. 30, 2021), https://www.protocol.com/newsletters/pipeline/venture-capital-power-shift?rebelltitem=2#rebelltitem2.

159. Interview with Lawyer #14, *supra* note 152; Interview with Lawyer #15, *supra* note 144 (noting that life science companies still have this board composition at the beginning; founders have less power, VCs comprise majority of the board by Series B or C, there is more willingness to bring in outside directors because it is a regulated industry, and there are also more rounds and more investors).

160. Interview with Lawyer #14, *supra* note 152.

161. *Id.* The lawyer also noted there is an exception for the balancing of the board if it is a "rocket ship company." *Id. See also* Interview with Lawyer #15, *supra* note 144 (noting that from the end of the Great Recession to December 31, 2019, the trends were: 1) greater power to founders; 2) more instances where common stock, i.e., founder-management directors, had a bigger percentage of the board seats and held those board seats for a longer

The advent of founder-friendly terms post-Great Recession was accompanied by a change in the board structure that favored founders. Scholarship on corporate governance in startups pre-Great Recession emphasized the diminishing roles of the VC director and the founder director (with a few notable exceptions) as the startup grew.[162] However, post-Great Recession boards in the early stages sometimes had two (or even three) management or founder directors at the seed stage.[163] Then, when institutional investors joined in Series A, the board would be comprised of two founders and one investor.[164] The next round (Series B) is when a second large investor comes in.[165] At this point, the startup has two representatives of common stock (a CEO and founder), two representatives of investors, and one seat for an independent member that is typically left vacant until someone can be identified.[166] Whether the company has an industry expert depends on the stage of the company.[167] By the time a company reaches the Series B (or Series C) round, control is typically split between founder-management directors and investor directors.[168] In future rounds, if companies have Series C and D rounds, then there are three investor directors, two independent directors,

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term during the growth of the company; and 3) mutually agreed upon board members, i.e., independent directors, who were chosen by the common stock and agreed upon by other directors); Interview with Lawyer #26, *supra* note 143 (noting changes in board composition in later series).

162. *See* Bartlett, *supra* note 30, at 37–45 (analyzing VC investment contracts and finding that startups must balance vertical agency problems between investors and managers as well as horizontal agency problems among VC investors); *see also* Brian Broughman, *Investor Opportunism and Governance in Venture Capital*, *in* VENTURE CAPITAL: INVESTMENT STRATEGIES, STRUCTURES, AND POLICIES 347, 347 (Douglas J. Cumming ed., 2010) (discussing VCs who use their control rights in startups opportunistically).

163. *See* Interview with Lawyer #10, *supra* note 141. Recently, some founders have even insisted upon a "'common-controlled' board, meaning that there are more board members representing the common shareholders than other classes of shareholders." KUPOR, *supra* note 22, at 172.

164. Interview with Lawyer #26, *supra* note 143.

165. *Id.*

166. *Id.* (noting that the board composition becomes less prescriptive after this stage).

167. Interview with Lawyer #12, *supra* note 148.

168. *Id.* Interview with Lawyer #11 (on file with author) (noting that Series B is an "inflection point" where the company is stockpiling money and a more balanced board emerges).

and two founder-management directors.[169] At some point, the Series A investor director may leave the board if she does not maintain her VC fund's percentage interest in the company.[170] Typically, there is no more than one independent member until the company ramps up.[171] For example, at the Series D stage, the company may want an additional independent director for optics or connections.[172] If there are non-traditional investors, such as a mutual fund or CVC, they may get a board observer seat.[173]

Seven directors is generally the maximum size of the board.[174] Companies do not want more than seven directors; five or six directors is optimal.[175] In the lead-up to IPOs the true independent directors are recruited.[176] The VC investor directors will then remain until the company goes public, particularly if they have a significant stake, and all their shares are distributed to their limited partners.[177] Others may leave the board before the company goes public because they do not want the liability or responsibility.[178]

In addition to boards, some high-tech companies have advisory boards filled with customers to both get their insight and reward them with equity.[179] There may also be board observers who do not have fiduciary duties but have all the influ-

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169. Interview with Lawyer #26, *supra* note 143. Lawyer #15 offers a slight variation on the board composition: at the time the company is founded there are two founder directors; one seed director is elected at seed round, one director is elected at Series A (that "XYZ fund selects" per voting agreement signed at the time of financing), another director is elected at Series B (every other board seat after that "is a fight"), and one or two additional seats are mutually agreed upon or identified by common stock and reasonably acceptable to preferred stock or with the approval of a specific fund. Interview with Lawyer #15, *supra* note 144.

170. *See* Interview with Lawyer #10, *supra* note 141.

171. Interview with Lawyer #12, *supra* note 148.

172. *Id.*

173. *See* Interview with Lawyer #26, *supra* note 143; Interview with Lawyer #5 (on file with author) (noting that family funds, angels, and CVC funds typically secure board observer seats).

174. Interview with Lawyer #21, *supra* note 134.

175. Interview with Lawyer #15, *supra* note 144 (stating that seven directors is a good number to go public).

176. Interview with Lawyer #10, *supra* note 141.

177. *Id.*

178. *Id.*

179. Interview with Lawyer #15, *supra* note 144.

ence of a director.[180] In addition to the board structure, companies will have "real" audit and compensation committees as they mature.[181]

In early-stage companies, it is rare for management to not also be founders.[182] Therefore, the board seats in this category may be more accurately described as founder-management directors. In board meetings, founder-management directors will do most of the talking; the other directors will provide feedback or react.[183]

Founder-management directors can be a "mixed bag."[184] They may be sensitive to the needs of the common stockholders but not attuned to corporate governance issues; instead, they are more focused on their personal circumstances as common stockholders.[185] They also may not have the requisite experience in operating a company.[186] The length of time founder-management directors remain on boards is often dictated by investor directors.[187]

Founder-management directors are more connected to their employees and company; they know how their employees will react to things and are generally loyal to them.[188] They

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180. *Id.* The lawyer also remarked that if a new investor comes in and does not get a board seat, it is common to give them board observer rights. *Id.*

181. Interview with Lawyer #10, *supra* note 141. The lawyer also observed that VCs will even have suggestions about who to recruit to these committees. *Id.*

182. Interview with Lawyer #6, *supra* note 97. The lawyer also noted that if a member of management is on the board, but is not the founder, she is most likely the CEO. *Id.*

183. Interview with Lawyer #18, *supra* note 98.

184. Interview with Lawyer #13 (on file with author).

185. *Id.*

186. Interview with Lawyer #31 (on file with author); *see also* Interview with Lawyer #22 (on file with author) (noting that often founders do not have a background in corporate governance and are not sure what to do, and therefore it is up to the other more experienced directors to introduce some system of controls and look out for compliance with various laws).

187. Interview with Lawyer #9 (on file with author). The lawyer also noted that overly large boards do not make sense for early-stage companies. *Id. See also* Interview with Lawyer #3, *supra* note 134 (observing that if investor directors want someone off the board, such as the CEO, independents will typically go along with them).

188. Interview with Lawyer #21, *supra* note 134. The lawyer also noted that investor directors see employees as cost centers. *Id.*

also have a deeper understanding of the company than anyone else on the board.[189]

Although founder-management directors know their business, employees, various teams, and where the business needs help,[190] they can also be myopic.[191] They do not have visibility into peer companies—whether with regard to human resources, recruiting, or other departments. Instead, they are "laser-focused" on their own companies.[192] Despite their "very narrow view," founder-management directors want to succeed and are the most committed of all the directors.[193]

If there are multiple founders who also happen to be board members there will likely be issues.[194] For example, there may be a professional disagreement that one of the founder directors has with the other board members regarding the course of the company.[195] If a founder leaves the company, it is highly negotiated whether they are allowed to stay on the board.[196]

There is a difference between those who are founder-management directors and those who are management directors. Particularly with respect to VC-backed companies, the founder's identity matters. There is a culture of belief around a founder and "directors can be hard pressed to push back on

189. *See id.* (observing that these "inside directors" know that, while metrics and revenues may show one thing, contact with customers may show how they are headed in a different direction).

190. Interview with Lawyer #17 (on file with author) (observing that founder-management directors are good at reporting to the board on business-related issues).

191. *Id.* (explaining that this narrow vision is due to the fact that they "only see what's happening at their [own] company"); Interview with Lawyer #15, *supra* note 144 (noting the "very narrow view" of these directors).

192. Interview with Lawyer #1 (on file with author). The lawyer also noted that founder-management directors don't have the privilege of seeing other companies, but are much more "deep in the weeds" and have a better understanding of what will be effective or not for their business. *Id.*

193. Interview with Lawyer #15, *supra* note 144.

194. *See* Interview with Lawyer #1, *supra* note 192.

195. *Id.* The lawyer also observed that the same characteristics that make good entrepreneurs may make them difficult people. *Id.*

196. Interview with Lawyer #6, *supra* note 97. The lawyer also noted that in the voting agreement, the formulation of key holders, like a founder who holds the majority of common stock, may maintain their seat on the board by tying it to a service component—they only remain on the board if they continue to serve in some capacity, such as officers or consultants. *Id.*

that person."[197] If the director is management and not a founder, she is held to a different standard and receives less deference.[198]

The founder-management directors have a vision and passion for the company; they are also the most optimistic about the company's outlook.[199] Founder-management directors set the agenda and drive the conversation;[200] the investor directors and independent directors provide feedback.[201] The roles of CEO, director, and de facto chairperson of the board are typically held by founder-management directors, even if they are not officially appointed.[202] At times, they may lack experience and knowledge of the board process.[203] Essentially, their role is a reporting one: they inform the board of the current situation at the company and make recommendations. In sum, the founder-management directors are "singularly responsible for how well [the] board functions."[204]

There is also a particular subspecies of founder-management director: the rock star founder director. Having a rock star founder on the board can also lead to a different social dynamic. The survey, taken by lawyers from various law firms with deep experience in the VC space, gives greater insight into the relationship between rock star founders and VCs. The respondents indicate a balance between VCs wanting to gain access to promising startups to increase their chances of getting an outsized return for their fund and placating the founder by allowing them to implement corporate governance measures at a slower pace than they otherwise might think is prudent.

Although rock star founders are not common, "when they crop up, VCs often enable the rock star by making governance an afterthought."[205] Other survey respondents observed the in-

197. Interview with Lawyer #31, *supra* note 186.

198. *Id.* (observing that the board places more pressure on the management director to lead in ways that the board wants, rather than deferring to her as they would a founder).

199. *See* Interview with Lawyer #4 (on file with author).

200. Interview with Lawyer #9, *supra* note 187.

201. Interview with Lawyer #18, *supra* note 98.

202. Interview with Lawyer #9, *supra* note 187.

203. *Id.* (describing individuals with managerial, but no board experience).

204. Interview with Lawyer #26, *supra* note 143.

205. Corporate Governance Survey, *supra* note 108.

creased leverage of rock star founders[206] and the willingness of investors to keep out corporate governance terms.[207] "[C]orporate governance is arguably more important when there is a rock star personality in play, because it's so easy for them to pull [the] wool over investors' eyes."[208] Two-thirds of the survey respondents agreed/strongly agreed with the following statement: "The problem is not with existing corporate governance mechanisms, but the fact that they are not implemented properly."[209] As one respondent observed, "[p]eople often take short cuts or avoid the hard discussions and then find themselves in an awkward spot."[210] One respondent took the view that "[i]f you want to throw crazy valuations at founders and not exercise meaningful control, that's your prerogative."[211] Underlying this response is the fact that VC deals are ultimately on an as-bargained-for basis. Some investors may choose to offer a high valuation and have fewer controls over the founders in order to be included in the deal. Given the premium placed on a "rock star founder," VCs may find themselves allowing the founder to engage in behavior that some might find objectionable for economic reasons. In other words, VCs may not speak out about bad behavior due to a competitive market where one does not want to get on the "bad side" of founders whose companies one wants to invest in.

2. *The Role of Independent Directors*

The second key finding from the survey and interviews is that independent directors are not the tie-breaking or swing vote. In fact, board votes are typically unanimous. In comparison to the other founder-management directors and investor directors, independent directors play a secondary role and rarely drive the conversation. The interviewees generally

206. *Id.* at Question 7 ("[R]ock stars can get many investors chasing them so the rock star has more leverage.").

207. One respondent replied, "A hot [c]ompany can use access to the deal to keep corporate governance related terms out of their financing documents since Investors value getting into the deal more than the potential governance concerns." *Id.*

208. *Id.*

209. *Id.* at Question 15.

210. *Id.*

211. *Id.*

agreed that it is extraordinarily rare to be in a boardroom where there is disagreement. "Almost everything is just decided by consensus."[212] Independents are "rarely [the] loudest voice in rooms"; they provide the outside perspective.[213] "Founders and investors are loud voices."[214] In practice, board votes are almost always unanimous and independent directors are not tiebreakers.[215] If an issue is especially contentious, even if the company has the vote to pass the matter, they still want to build consensus and not just have a simple majority.[216]

Independent directors come from myriad backgrounds. In the early stages of a company, independent directors tend to be friends of the founder or investor so they are not truly independent.[217] Some have industry expertise in a parallel business or may be C-level executives themselves.[218] Others are CEOs of companies and can provide an operator perspective that investor directors cannot.[219] They may also have past investor experience or may have retired as a partner from an

212. Interview with Lawyer #26, *supra* note 143. Interviews with nearly every lawyer confirmed that boards rarely come to a split vote.

213. *Id.*; *see also* Interview with Lawyer #18, *supra* note 98 (observing that independent directors in general are not loud, vocal leaders in the boardroom, but investor directors are the loud ones); Interview with Lawyer #4, *supra* note 199 (characterizing independent directors as quiet); Interview with Lawyer #24 (on file with author) (concurring that independent directors are collegial and respectful though they are influenced by the ecosystem around them).

214. Interview with Lawyer #26, *supra* note 143.

215. Interview with Lawyer #1, *supra* note 192 (stating that, in his many years of practice, he can count on one hand the number of times there has been a divided board vote, and often times they are driven by two founders, one of whom would ultimately be transitioned off the board); Interview with Lawyer #9, *supra* note 187; Interview with Lawyer #10, *supra* note 141; Interview with Lawyer #12, *supra* note 148; Interview with Lawyer #16 (on file with author); Interview with Lawyer #25, *supra* note 156; Interview with Lawyer #14, *supra* note 152 (noting 98–99% of board decisions are unanimous).

216. Interview with Lawyer #18, *supra* note 98. The lawyer also cited an example of a CEO renegotiating the terms of her employment agreement, where the negotiation continues until everyone on the board feels good about the renegotiated terms. *Id.*

217. *Id.*

218. Interview with Lawyer #28, *supra* note 140; Interview with Lawyer #1, *supra* note 192. Independent directors with industry experience in a parallel business are the "boots on the ground." Interview with Lawyer #28, *supra* note 140. *See also* Interview with Lawyer #25, *supra* note 156.

219. Interview with Lawyer #1, *supra* note 192.

accounting firm or law firm.[220] Often times, independent directors have operational experience[221] and can serve as mentors to management.[222] Independent directors understand employees and the common stockholder base better than investor directors do because of this experience.[223] They are also "versatile and tactical in decision making."[224] In particular, independent directors show their value in times of crisis.[225] For example, they can help with management issues (e.g., transitions) because of operational experience, availability, and time.[226] They serve as "insulator[s]" against disgruntled stockholders, not so much as tiebreakers; ultimately, they follow whoever has leverage.[227] Corporate governance decisions are subjective and nuanced; therefore, when issues are disputed, whoever's voice is the loudest is most likely to sway the independent director.[228] At their best, independent directors have the perspective of the startup's industry and what it takes to be successful; they will provide mentorship and advice to the founder-management directors.[229]

In the early stage of the company, it is difficult to identify independent board members because there is no incentive to become one. Instead, independent directors more commonly join startups in the Series B or Series C stage.[230] Optically, it looks good for a company to have an independent director;

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220. *Id.* Independent directors are more mature in terms of chronology—they are current in business or recently retired. *Id.* To identify independent directors, companies could put together a skills matrix to determine what other qualities could round out the board. Interview with Lawyer #31, *supra* note 186.

221. Interview with Lawyer #28, *supra* note 140.

222. Interview with Lawyer #15, *supra* note 144; Interview with Lawyer #22, *supra* note 186.

223. Interview with Lawyer #18, *supra* note 98.

224. *Id.* (noting that independent directors need to add value or they will no longer be on the board).

225. Interview with Lawyer #25, *supra* note 156.

226. *Id.*

227. Interview with Lawyer #14, *supra* note 152 (emphasizing that decisions are driven by management and VC investors; "independent directors are along for the ride").

228. *Id.*

229. Interview with Lawyer #17, *supra* note 190.

230. Interview with Lawyer #29, *supra* note 154 (noting that independent directors can be helpful as the company scales and that they bring an operational perspective); Interview with Lawyer #21, *supra* note 134 (confirming

however, while companies may create a seat early on, it may be left vacant.[231] In particular, the independent directors provide "[a] lot of value in Series B and C"[232] and are helpful for business connections.[233]

Independent directors have a different understanding of the industry compared to the others on the board.[234] They are there to ask the right questions and weigh in on their areas of expertise.[235] A good independent director is akin to a "super advisor" and identifies the way she can help; often the most helpful pieces seem to happen outside of the boardroom.[236] "Good independent directors [bring a] particular vein of experience that is otherwise missing from the board."[237] For example, assume that the company has a CEO who is a tech genius but has no marketing expertise. While a VC could help, an independent director with that experience could be brought in. The independent director then becomes not only a mentor, but also brings complementary expertise and an outside perspective.

Independent directors are selected because they have some prior relationship with another person on the board, such as the VC.[238] They can be appointed to the board in dif-

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that independent directors are brought in at a later stage in the company and bring another voice into the boardroom).

231. Interview with Lawyer #17, *supra* note 190 (observing that it can be hard to find someone who wants to take time for an early-stage company).

232. *Id.*

233. *Id.*

234. Interview with Lawyer #26, *supra* note 143. An independent director can be helpful to a startup if the industry component is critical—e.g., if selling into a particular vertical requires understanding of that vertical, and sometimes the only person who understands it is the independent director. *Id.*

235. *Id.* (observing that independent directors have limited power and "can't drive anything on front end or back end").

236. *Id.*

237. *Id.*

238. Interview with Lawyer #6, *supra* note 97; Interview with Lawyer #8 (on file with author) (analogizing independent directors to independent voters—very few of them are truly independent; they come in with a point of view and set of relationships and were likely chosen for those reasons); Interview with Lawyer #10, *supra* note 141 (noting that typically VCs recommend the independent directors). An independent director is brought on by a vote of the preferred stock and common stock separately or together. Interview with Lawyer #21, *supra* note 134. *But cf.* Interview with Lawyer #16, *supra*

ferent ways: a vote of the preferred stock and common stock, separately or together, or perhaps a vote from all other directors.[239] Ultimately, the role of the independent director depends on what she was brought on the board to do.[240]

When choosing independent board members, the most important consideration is industry experience in areas where the company strategically needs more guidance or perspective; secondarily, there are considerations around diversity, equity, and inclusion.[241] This group of directors is more likely to observe and reserve judgment instead of convincing other members of the board to vote in a particular way.[242] Put differently, the directors are trying to build consensus[243] and independent directors are not there as an arbitrator or a tie-breaking vote.[244] In fact, the lawyers interviewed generally agreed that independent directors will most likely not do something contrary to what investor directors or founder-management directors want.[245]

Pursuant to the survey data, it seems that independent directors do not typically play the function of neutral arbiter, but rather serve on the boards of startups because of their industry

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note 215 (opining that independent directors are more aligned with founders).

239. Interview with Lawyer #21, *supra* note 134; Interview with Lawyer #19 (on file with author) (giving examples of the different ways an independent director can be selected: she could be a non-affiliate, mutually agreed upon by other directors, or the CEO could nominate the director as long as the other investors approve).

240. Interview with Lawyer #22, *supra* note 186.

241. Interview with Lawyer #11, *supra* 168; Interview with Lawyer #12, *supra* note 148; Interview with Lawyer #16, *supra* note 215; Interview with Lawyer #19, *supra* note 239; Interview with Lawyer #23 (on file with author).

242. Interview with Lawyer #8, *supra* note 238 (explaining that they want to get along with as many board members as possible; in the end, however, they have very little stake in the company).

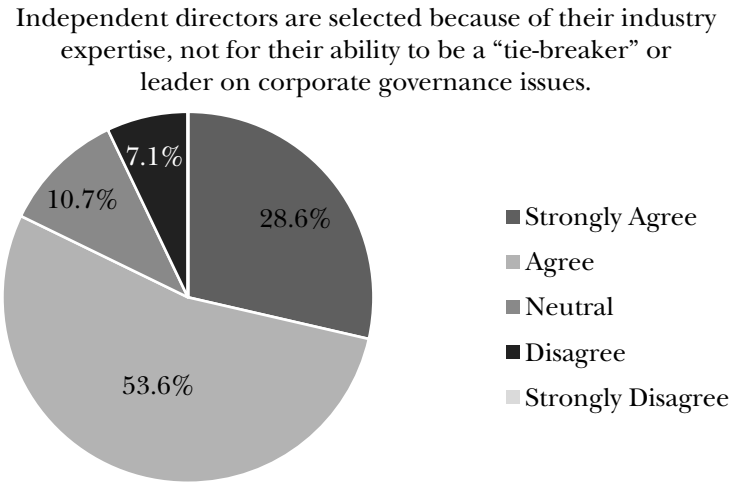
243. Interview with Lawyer #23, *supra* note 241 (explaining that the founder and VCs are trying to convince the independent director to align with their respective positions; independent directors are not the ones trying to convince the founders or VCs to come to a certain decision); Interview with Lawyer #8, *supra* note 238 (explaining that independent directors want to get along with as many people on the board as possible).

244. Interview with Lawyer #6, *supra* note 97 (explaining that independent directors are a neutral voice and potential ally; they do not drive the conversation and other directors attempt to get the independent director on their side in adverse situations); Interview with Lawyer #9, *supra* note 187.

245. *See generally* Interviews with Lawyers #1–31 (on file with author).

expertise or to ostensibly provide balance.[246] Over 82 percent of the respondents in the survey agreed/strongly agreed with the following statement: "Independent directors are selected because of their industry expertise, not for their ability to be a 'tie-breaker' or leader on corporate governance issues."[247]

FIGURE 2: SURVEY RESULTS



Furthermore, as noted above, there are rarely non-unanimous votes on boards where independent directors would need to act in this type of capacity.[248] Instead of the independent board member serving as neutral arbiter, all of the directors are working together to build consensus, and the investor director is there to help guide the conversation.[249]

Independent directors are not as personally invested the company as the other directors because they do not have the personal or financial ties to it in the way that founders or investors do.[250] They receive cash compensation and an option grant for their service; therefore, the limited personal stake may affect whether independent directors take on the role of

246. *See* Corporate Governance Survey, *supra* note 108, at Question 12.
247. *Id.*
248. *See supra* text accompanying note 215.
249. Interview with Lawyer #23, *supra* note 241; Interview with Lawyer #19, *supra* note 239.
250. *See* Interview with Lawyer #15, *supra* note 144.

director at all.[251] Independent directors also have the least power on the board and often are not well-versed in corporate governance.[252] Furthermore, this is not their only job. They often have full time jobs or are retired—this has an impact on their motivation and energy.[253] There are also certain independent directors that could in fact be detrimental to the company if they are selected to add stature or status to company. For example, sometimes celebrities or government officials do not understand what their job is, do not do the job, or can be "odd or unpredictable."[254]

In the private company realm, the role of the independent director is not clear-cut. There is "not good guidance about what that person is supposed to do or how they conduct themselves in this dynamic."[255] Setting aside fiduciary duties, one lawyer opined that not one case is transformative in determining how directors should act.[256] Instead, Delaware cases provide incremental guidance, and lawyers then consider those cases when providing guidance to their clients.

At the beginning of a company, there are very few contentious issues and not a lot of areas where independent directors need to weigh in.[257] However, during economic downturns, independent directors can play an important role in providing an outsider's perspective for an insider-led financing.[258] The

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251. Interview with Lawyer #25, *supra* note 156 (hinting that the compensation structure may not be lucrative enough to draw in an independent director); Interview with Lawyer #9, *supra* note 187 (noting independent directors transition from receiving equity exclusively to a combination of cash and equity compensation).

252. Interview with Lawyer #20 (on file with author). *But cf.* Interview with Lawyer #18, *supra* note 98 (noting that there are exceptions to this, particularly if the independent director has served on boards before).

253. Interview with Lawyer #14, *supra* note 152 (describing independent directors as slightly more disengaged and lacking bandwidth).

254. Interview with Lawyer #15, *supra* note 144 (citing experiences where such directors are as likely to fail as they are to succeed; government officials in particular can be hypersensitive to reputational concerns as a director).

255. Interview with Lawyer #13, *supra* note 184 (noting that it would be helpful to have a case on this topic to provide guidance on what independent directors were expected not to do).

256. *Id.*

257. Interview with Lawyer #18, *supra* note 98.

258. *Id.* (stating that another area where independent directors are important is in the sale of a company because they are examining the fairness of the deal for every stockholder).

most effective independent directors are those who have been operators because they know how to run companies.[259] Independent directors may also serve as a sounding board, but seldom are they the critical swing vote.[260]

3. *Best Practices Framework*

The third key finding from the survey and interviews is that, while a best practices framework is used to implement corporate governance infrastructure within a startup, such implementation is influenced by stage of growth and board dynamics. This becomes especially evident when contrasting how corporate governance is prioritized in good versus bad economic times. During good economic times, founders determine how quickly (or slowly) corporate governance measures are implemented. However, in economic downturns, investor directors play a disciplining function, similar to how a looming IPO or acquisition would incentivize startups to speed up the implementation of corporate governance practices.

a. Stage of Growth and Board Dynamics

The lawyers each emphasized the importance of process and decision-making around corporate governance when asked for a definition.[261] Access to information was also considered critical.[262] They noted the importance of the board ensuring that minority stockholders and common stock stockholders are protected.[263] The lawyers' comments were also

259. *Id.* (observing that those independent directors know how to manage real world issues that arise and understand employees and common stockholder base better than investor directors do).

260. *Id.* (noting that independent directors keep the other directors honest).

261. *E.g.*, Interview with Lawyer #30, *supra* note 137 (noting that the board is involved in the company's material decision making for things like strategic direction, responding to crises, and generally guiding a company through all of its significant events); Interview with Lawyer #13, *supra* note 184 (corporate governance "relates to everything around decision making at the intersection of board, management and stockholders").

262. Interview with Lawyer #9, *supra* note 187 (noting that access to information and process are the keys to governance).

263. Interview with Lawyer #18, *supra* note 98 (observing that those without power must be adequately protected); Interview with Lawyer #10, *supra* note 141 (describing corporate governance as "the things you need to do to

based on the assumption that the startup ecosystem is by and large comprised of good actors.[264]

The interviewees appeared to agree that a number of corporate governance structures can work.[265] The interviewees also by and large concurred that in private companies there is an evolution of corporate governance and that the pace of that evolution differs for each company.[266] The interviewees explained that, in part, the pace of the incorporation of corporate governance mechanisms may also be due to resource constraints, such as lack of time, money, or experience.[267] As the company matures, the general counsel and outside counsel, along with various directors, will make suggestions related to the corporate governance process.[268] One lawyer described corporate governance as "adherence to [a] pre-existing set of principles and policies" that involves the board, stockholders, and management.[269] However, there may be changing standards on best practices in corporate governance given relevant social issues. For example, anti-harassment covenants were added to the National Venture Capital Association's model Inves-

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make sure company is held accountable to stockholders, customers, community at large, and employees"; subscribes to stakeholder theory).

264. Interview with Lawyer #12, *supra* note 148. Although, even if there is a general belief of good actors, investors still conduct background checks on company founders. Interview with Lawyer #3, *supra* note 134.

265. *E.g.*, Interview with Lawyer #28, *supra* note 140; Interview with Lawyer #3, *supra* note 134 (observing that a corporate framework only works to the extent people make a good faith effort to follow the rules).

266. *E.g.*, Interview with Lawyer #2, *supra* note 142 (explaining that the board wants to solidify its company's infrastructure a few years before the IPO to professionalize the board); Interview with Lawyer #3, *supra* note 134.

267. Interview with Lawyer #4, *supra* note 199; Interview with Lawyer #19, *supra* note 239. Clients generally will implement corporate governance mechanisms when lawyers suggest it, but it may take some time because they're focused on other things at the company. Interview with Lawyer #4, *supra* note 199. Founder-management directors in particular fall into this category and experienced counsel can help these directors—typically first-time entrepreneurs—head off challenges at the outset regarding proper documentation and learning what requires board-level decisions. Interview with Lawyer #19, *supra* note 239.

268. Interview with Lawyer #2, *supra* note 142 (describing the corporate governance process as a "training wheel exercise").

269. Interview with Lawyer #12, *supra* note 148 (citing investment policy, budget, mission statement, etc.).

tors' Rights Agreement in the aftermath of the #MeToo movement.[270]

Theoretically and practically, management is focused on the operation of the business.[271] Management is supervised by the board, which is elected by stockholders.[272] The lawyers need to ensure that management is aware of what must and should be approved based on fiduciary duties of care and loyalty.[273] It is important for the board, with the help of counsel, to understand when the vote of stockholders is required.[274] Some of these votes are regulated by contract, while others are necessitated by the Delaware General Corporation Law.[275]

The interviewees largely agreed that when the company is doing well, the board focuses on growth and how to maximize the rate or return; it does not prioritize compliance.[276] However, the investor directors, with the help of counsel, implement processes to ensure that management does not abuse its power; the less power VCs have, the less governance is prioritized.[277]

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270. *Model Legal Documents: Investors' Rights Agreement*, NAT'L VENTURE CAP. ASS'N, https://nvca.org/model-legal-documents/ (last visited Dec. 4, 2021). This was likely tied to the spotlight shown on sexual harassment in the aftermath of the #MeToo movement. Press Release, Nat'l Venture Cap. Ass'n, NVCA Unveils Resources to Help Address Sexual Harassment in Venture Ecosystem, https://nvca.org/pressreleases/nvca-unveils-resources-help-address-sexual-harassment-venture-ecosystem/; Interview with Lawyer #16, *supra* note 215 (noting that these type of riders appeared after #MeToo); Interview with Lawyer #3, *supra* note 134 (noting more attention regarding foreign investments and the Committee on Foreign Investment in the United States compliance).

271. Interview with Lawyer #13, *supra* note 184.

272. *Id.* (observing that stockholders delegate their power to the board to supervise management executives).

273. *Id.*

274. *Id.* (pointing to material transactions and mergers as needing stockholder approval).

275. *Id.* For example, under DGCL § 271, stockholder approval is required before the board may enter a transaction to sell, lease, or exchange all or substantially all of a corporation's assets. DEL. CODE ANN. tit. 8, § 271 (1953).

276. Interview with Lawyer #12, *supra* note 148; *see also* Interview with Lawyer #7 (on file with author) ("When a company is doing well . . . [there is] more comfort on relaxing oversight on the corporate governance side . . . [, which] can be correlated with good economic times.").

277. Interview with Lawyer #12, *supra* note 148.

As noted previously, there is a wide variety of investors in startups. The primary investors discussed in this Article are VCs, focusing on how they fulfill their role as investor directors.[278] Venture capitalists are often thought of as the better monitors when compared to the founder-management directors or independent directors.[279] As one survey respondent stated in responding to the question about which board member is the better monitors for startups, "[t]he question really has two facets: VCs are financial investors who know the [c]ompany's space and are motivated to more carefully monitor and assist the [c]ompany as it scales. They may have conflicts in some cases, of course, which is where corporate governance protections apply."[280] One respondent also cautioned about investor directors that defer to persuasive founders (implying that it may be to the company's detriment).[281]

As investor directors, VCs may also modify their positions on the type of corporate governance mechanisms they want to implement based on the other institutional investors on the board. For example, a VC investor director may take a riskier stance on corporate governance matters if they are the sole institutional investor as compared to when there are other institutional investors on the board.[282]

Venture capital investor directors can be bifurcated in two ways: those from large VC firms and those from small ones. Investors from large VC firms sometimes bring other, more junior partners to the boardroom with them.[283] This may change the dynamic as optically there are more people in the room associated with the VCs.[284] In contrast, the investor di-

278. *Cf.* Interview with Lawyer #26, *supra* note 143 (observing that CVC investors are flexible when companies want them to stay away). In contrast to VCs, most active, sophisticated corporate investors shy away from board seats and take board observer seats. *Id.*

279. *See* Pollman, *supra* note 3, at 200.

280. Corporate Governance Survey, *supra* note 108, at Question 14.

281. *Id.*

282. Interview with Lawyer #23, *supra* note 241 (observing that it becomes a question of how much power an investor director will exert if there are other investor directors to keep them in check).

283. Interview with Lawyer #6, *supra* note 97 (noting that more junior investors will do financial modeling and diligence for the company).

284. *Id.* Large VCs may have formal observer rights for the investors that accompany them or a handshake arrangement with the company that allows them to attend at the discretion of the company. *Id.* One lawyer noted that

rectors from small VC firms, although perhaps not as influential as the other board members, may be "more in the weeds" and more plugged in to what the company is doing.[285]

Seasoned investor directors are extremely valuable because of the broad network they can bring to bear.[286] They can also help to focus the meeting in a constructive way because they have a reflexive understanding of the market; they see a number of similarly-situated companies in the same space.[287] Put differently, investor directors have a wealth of experience and perspective that management does not have.[288] Their biggest input is on which individuals should comprise management and their support (or lack thereof) of that team.[289] Investor directors also serve an important role in getting other sources of funding.[290] In addition, they value and have protective provisions to insulate them from downside scenarios.[291] Since many VCs are early-stage investors, they generally are not looking for a quick exit and intend to be a partner to the company for the long term.[292] At their best, investor directors do everything that they can to help the company succeed: they bring connections to bear to help grow the business, serve as a

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some VC investors who did not get a board seat may be given a board observer seat instead and that she advises boards to be thoughtful about how many people are in the board room as it may affect board dynamics. Interview with Lawyer #19, *supra* note 239. *See also* Interview with Lawyer #6, *supra* note 97; Interview with #15, *supra* note 144.

285. Interview with Lawyer #6, *supra* note 97.

286. Interview with Lawyer #29, *supra* note 154; *see* Interview with Lawyer #18, *supra* note 98 (explaining that investor directors have industry contacts including accountants, bankers, and lawyers). Seasoned director investors can offer guidance informed by experience. Interview with Lawyer #29, *supra* note 154 ("I've had a client that went through what you're going through. This is how they handled it.").

287. Interview with Lawyer #29, *supra* note 154 (describing investor directors as doing an audit of the company's direction).

288. Interview with Lawyer #26, *supra* note 143 (citing investor directors' broad experience with other portfolio companies).

289. *Id.*

290. *Id.* An investor director's fundraising effectiveness also depends on their background (e.g., investment banker or chief investment officer). *Id.*

291. Interview with Lawyer #20, *supra* note 252.

292. Interview with Lawyer #23, *supra* note 241. However, investor directors are ultimately investing to make money. *Id.* Investors may also temper the optimism of founders with the reality that they observe across their portfolio companies. *Id.*

sounding board, and play the role of coach to key management.

A herd mentality may also be present among the VC investor directors. For example, if a prominent VC invests, others likely will follow.[293] There is the tension of whether the investor directors are thinking about their fiduciary duties as board members or their VC firm's reputation.[294] Based on years of experience, some lawyers believe that investor directors have a "heightened focus on bigger, more valuable companies."[295]

On the positive side, VC investor directors are aligned with the company because they want it to succeed.[296] They are very engaged and have a sense of what the company's metrics should be.[297] These directors also have a good understanding of corporate governance matters.[298] Investor directors understand corporate governance more than the other directors. They will know when it is necessary to bring lawyers into a discussion and will ask about necessary approvals and conflicts.[299]

The lawyers were all in agreement that one of the biggest contributions of investor directors is that they can give insight into what they see other portfolio companies do and make connections for critical hires, customers, and future board members.[300] If they understand their fiduciary duties, they will also ask probing questions.[301] However, they may not give the same degree of attention to each of their portfolio compa-

293. Interview with Lawyer #29, *supra* note 154.

294. Interview with Lawyer #2, *supra* note 142.

295. Interview with Lawyer #28, *supra* note 140.

296. Interview with Lawyer #30, *supra* note 137. Investors are comfortable giving founders more power to make decisions because they understand that "they are boots on the ground" and are more aware of what needs to happen for a company to grow. Interview with Lawyer #28, *supra* note 140; *see also* Interview with Lawyer #12, *supra* note 148.

297. Interview with Lawyer #30, *supra* note 137 (explaining that VC investors are "deep in the rhythm" of what metrics companies should be hitting because they are on numerous boards); Interview with Lawyer #1, *supra* note 192 (noting that investor directors invest for a living and have a wider view based on experience with peer companies).

298. Interview with Lawyer #18, *supra* note 98 (explaining that investor directors will often query whether lawyers should get involved, what approvals may be required, and if any conflicts exist).

299. *Id.*

300. Interview with Lawyer #17, *supra* note 190 (explaining that investor directors can help management deal with high level issues).

301. *Id.*

nies.[302] Since they cannot necessarily devote the time each company requires, they may rely more on management.[303] Ultimately, as non-management directors, investor directors' ability to see things through is limited.[304]

The investor directors' perspective is also influenced by the fact that they are compensated by their firms to sit on boards; they are effectively professional board members. Also, investor directors have not necessarily been managers in the past, so they cannot necessarily bring that particular experience to bear in their director capacity.[305]

Some investor directors may sit on up to ten boards.[306] From a practical perspective they may need to acquiesce on some matters so they can be a part of an investment. In downturns, the investors have "more backbone" and are likely to be adamant about the downside protections they will need in order to invest in a company.[307] Ultimately, when a company takes investor money, both parties are agreeing to share power.[308] At some points, each side may have more or less leverage.

In order to attain exponential growth and to dominate the market, the founders and investors who are on the board may also opt to be unconstrained by corporate governance mechanisms that would otherwise be in place if capital were not so abundant and non-traditional investors (also known as tourist VCs or tourist investors) did not abound.[309] Over three-fourths of the respondents in the survey strongly agreed/agreed with the following statement: "As long as valuations of private companies remain high and 'tourist VCs' continue to invest, corporate governance matters will be less important than obtaining high valuations for such companies."[310] One

302. *Id.*

303. Interview with Lawyer #25, *supra* note 156 (stating that investors are going to be forced by necessity to rely on management to execute business plans).

304. *Id.* ("[D]irection com[es] from [the] board, but [investor directors are] relying on executives to execute.").

305. *Id.*

306. Interview with Lawyer #15, *supra* note 144. Investor directors on multiple boards may have teams of people helping them to review things. *Id.*

307. *Id.*

308. *Id.*

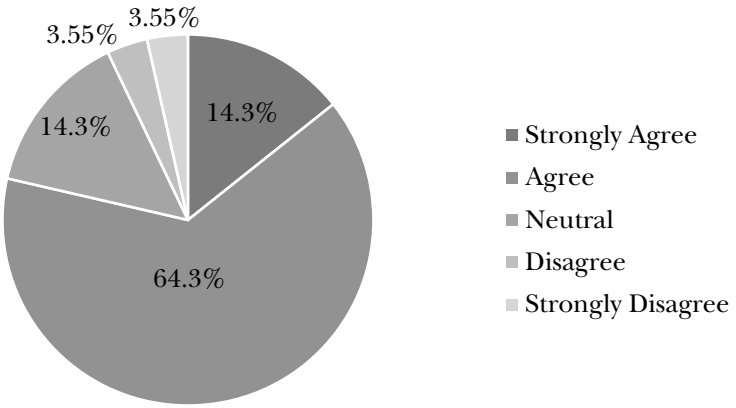
309. *See supra* note 29 and accompanying text.

310. Corporate Governance Survey, *supra* note 108, at Question 16.

respondent analogized the large amounts of money available to startups to being inebriated and said that less money needed to be offered before startups focused on corporate governance matters: "Startups are no different than the rest of the market. Someone needs to take the punch bowl away if you want everyone to sober up."[311] For some, the potential for a big payout for investors was the ultimate motivating factor. "Unicorns cure a lot of sins for early investors."[312]

FIGURE 3: SURVEY RESULTS

As long as valuations of private companies remain high and "tourist VCs" continue to invest, corporate governance matters will be less important than obtaining high valuations for such companies.



This, in turn, impacts the private ordering that occurs as a result of the staged financings.[313] According to Marc Andreessen and Ben Horowitz, the co-founders of the VC firm Andreessen Horowitz, "to make the decision to be a founder (a job fraught with likely failure), an individual needed to be so confident in her abilities to succeed that she would border on being so self-absorbed as to be truly egomaniacal."[314] Andreessen and Horowitz continue by stating that given the high failure rates of startups, "[founders] have to be partly delusional

311. *Id.*
312. *Id.*
313. *See* Gilson, *supra* note 19, at 1069.
314. KUPOR, *supra* note 22, at 47.

to start a company given the prospects of success and the need to keep pushing forward in the wake of the constant stream of doubters."[315] It is in the face of this narrative—larger-than-life founders (e.g., Travis Kalanick and Adam Neumann) with a single-minded focus who are able to do as they please—where the corporate governance mechanisms may begin to function poorly. The investor directors may have given the founder-management director more control than is prudent.

According to the interviewees, one of the biggest challenges to corporate governance is board dynamics.[316] Analogizing VCs to the "cool kids," one lawyer observed that there is a constant tension between the VCs and the rest of the board; VCs also still struggle with whether they are acting in what is in the best interest of their VC firm or the company.[317] An additional complication arises when new directors join the board; it is like "introducing new fish into an aquarium."[318] The corporate governance structure as currently constructed keeps the company on task.[319] One lawyer estimated that "90% of [the] landscape" is what he would describe as "best practices."[320] Lawyers work with the management team and board on what they want the governance to look like—"it's season to taste."[321] The assumption is that the board wants oversight, but that may not be true.[322] It is important to communicate and set up a system that works for everyone.[323] For example, management could use practical tools such as getting a "thumbs up approval" where the material terms of the deal are socialized

315. *Id.* at 47–48.

316. Interview with Lawyer #2, *supra* note 142 (citing the need for EQ to succeed and that it was "all relationships" at the end of the day).

317. *Id.*

318. *Id.*

319. Interview with Lawyer #29, *supra* note 154 (noting that the conversations among board members help to keep the corporate governance structure running smoothly).

320. Interview with Lawyer #1, *supra* note 192.

321. *Id.* Some boards may be less involved and not want to vote on certain things that other boards may want to vote on—for example, they may want a lease approved even if it is not required. *Id.*

322. *Id.* The lawyer gave the example of a company asking for board approval for a $10,000 bonus to an employee, and the board responding that this matter does not need approval; the CEO should have the flexibility to give the bonus if she thinks it's appropriate and the board does not need to be involved. *Id.*

323. *Id.*

in between a regularly scheduled board meeting before it is voted on to ensure that that the company has support for the deal from the board. In essence, the deliberative process and conversations have already occurred outside of the board meetings.[324] The lawyers add value by giving data points on how other companies have voted on other deals and what points they consider in making their decision.[325] Lawyers also work with their startup clients to have governance measures gradually implemented. It is a "huge win" if a company receives board consent in the early stages of a company.[326] The goal is to get founders to understand their roles and that the entity is not them as individuals.[327] Ultimately, the feedback loop created in corporate governance in private companies leads to a normative/narrative framework, which is one of the reasons why corporate governance can work in startups without bright-line rules. The implementation of corporate governance is an iterative process that evolves over time; it is influenced by board dynamics that are unique to each board because of the different individuals with different motivations and goals involved.

For early-stage companies, the bare minimum is to convince founders to act according to their respective titles. For example, founders need to understand that they must sign in their capacity as directors (not founders) when board matters are concerned and that records must be kept for certain matters.[328] Early-stage corporate governance also involves 701 compliance, 409A reports, and option approvals.[329] Only founders who have a "ton of leverage and confidence" have later-stage board control.[330] With respect to founder-friendly terms, if a company has investment interest from a number of parties,

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324. *Id.*

325. *Id.* (noting that lawyers are routinely in board meetings and can share relevant data points).

326. Interview with Lawyer #21, *supra* note 134.

327. *Id.* (noting that it may take some time for founders to understand this).

328. *Id.*

329. Interview with Lawyer #2, *supra* note 142 (explaining that options need to be granted correctly and the $10 million trigger for disclosure needs to be monitored); *see also* I.R.C. § 409A; 17 C.F.R. § 230.701 (2021).

330. Interview with Lawyer #21, *supra* note 134.

the leverage model is inverted, and the investors will agree to such terms being a part of the deal.[331]

As startups mature, they create committees and hold regular board meetings.[332] By Series B or Series C, the company operates with more corporate governance mechanisms in place.[333] For example, the company begins to form committees and have discussions about which directors are independent.[334] With later-stage companies, the issues are different too. Companies may be considering buying another company or being acquired; therefore, there might be conflicts of interest.[335] Early-stage corporate governance is analogous to starting kindergarten and, in later stages, it is like attaining a Ph.D.[336] There is a correlation between the maturity of the business and the sophistication of the issues. Generally, the lawyers did not necessarily believe that more governance is better; ultimately, since each company was uniquely situated, there was "no cookie cutter answer."[337] There are times, however, when lawyers point out that certain matters, ranging from important personnel matters to highly unique terms in a term sheet, need to go to the board.[338]

The hard decisions, such as capital planning and exit planning, to name a few, all have the potential for conflict. To make these decisions from a corporate governance perspective, the startups need to know what is required by statute and

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331. Interview with Lawyer #1, *supra* note 192 (citing Uber as an example of a company that received founder-friendly terms).

332. Interview with Lawyer #21, *supra* note 134. Before financing or the first outside director, board meetings are held rarely, especially if there is only one founder, in which case the board usually acts by unanimous written consent. *Id.*

333. *Id.* (analogizing this change to training wheels coming off).

334. *Id.* (noting that the first committee to be formed is usually the compensation committee).

335. Interview with Lawyer #1, *supra* note 192. For example, how should the board address the potential conflict created by its VC investor's investment in one of the companies the board was looking at acquiring? The board needs to understand if there is a conflict of interest and whether the VC investor director needs to be recused from the vote deciding whether to pursue the acquisition. *Id.*

336. *Id.*

337. *Id.* (noting that corporate governance can sometimes be distracting or paternalistic).

338. *Id.*

by governing documents.[339] More nuanced fiduciary duties are overlaid on top of that.

b. Corporate Governance in Good Economic Times

Startups are staying private longer.[340] Former Chair of the SEC, Mary Jo White, gave a talk in Silicon Valley, which many regarded as a wake-up call to private companies to put corporate governance mechanisms in place.[341] Adopting such mechanisms, however, is a gradual process.[342] Especially during good economic times, the board focuses less on corporate governance issues and may not ask the tough questions.[343] Put differently, the board will not affirmatively seek out information.[344]

There is not a "binary shift" in corporate governance in good versus bad economic times.[345] Corporate governance is not perfect but works well.[346] Many of the owners sit around

339. Interview with Lawyer #26, *supra* note 143 (referring to governing documents prepared in connection with financings regarding board composition and negative covenants, i.e., certain decisions in which investors have blocking rights).

340. Pollman, *supra* note 3, at 175. *See* Donald C. Langevoort & Robert B. Thompson, *"Publicness" in Contemporary Securities Regulation After the JOBS Act*, 101 GEO. L.J. 337 (2013) (discussing the public–private divide and when a private enterprise should be required to take on public status); *see also* George S. Georgiev, *The Breakdown of the Public–Private Divide in Securities Law: Causes, Consequences, and Reforms*, 18 N.Y.U. J.L. & BUS. 221 (2021).

341. Mary Jo White, Chair, U.S. Sec. Exch. Comm'n, Keynote Address at the SEC-Rock Center on Corporate Governance Silicon Valley Initiative (Mar. 31, 2016), https://www.sec.gov/news/speech/chair-white-silicon-valley-initiative-3-31-16.html (stating that the SEC would pursue fraud and urged startups to put internal controls and disclosure controls in place). SEC Commissioner, Allison Herren Lee, recently called for more disclosure by private companies, noting that "disclosure obligations that do exist are mostly a matter of contract rather than regulation, an approach that may affect both compliance and accuracy." Lee, *supra* note 90 (citing Fan, *supra* note 84).

342. Interview with Lawyer #2, *supra* note 142 (noting that the process starts with committees and off-the-shelf company charters).

343. Interview with Lawyer #10, *supra* note 141; Interview with Lawyer #30, *supra* note 137 (noting that as long as a company is perceived by investors as a hot deal there is not as much scrutiny, but that there is increased scrutiny if the company is not doing as well).

344. Interview with Lawyer #1, *supra* note 192.

345. Interview with Lawyer #15, *supra* note 144.

346. *Id.*

the board table and the board understands what really matters to a business in a way that public company boards do not.[347]

One of the biggest differences in private companies, other than valuation in good versus bad economic times, is the evolution of corporate governance.[348] Before the advent of founder-friendly terms, there would be numerous protective provisions, a separate series vote, and a more balanced board.[349] In the founder-friendly era after the Great Recession, in order not to increase a company's valuation, VCs would give holders of common stock more control over the board or control over the nomination of an individual director.[350] There would also be fewer protective provisions.[351] Although baseline material control decisions remained intact, investor directors no longer had a say in operational decisions.[352] In this way, the parties were potentially misaligned in terms of their goals, and this resulted in corporate governance functioning in a way that was unintended because the founder had all the leverage.[353] One could also argue that VCs may create bad governance because they are financially motivated.[354] Regardless of what structure is put in place, the corporate governance framework "is all there; it's just whether it is utilized or not."[355] In good times it is easier for boards to "go

347. *Id.*

348. Interview with Lawyer #14, *supra* note 152. Public company boards can also face dynamics similar to private company boards, although public companies operate under a robust set of stock exchange and SEC rules. *See, e.g.*, 17 C.F.R. § 249.310 (requiring public companies meeting certain criteria to submit annual reports); NASDAQ, INITIAL LISTING GUIDE (2021), https://listingcenter.nasdaq.com/assets/initialguide.pdf (detailing Nasdaq requirements for public companies).

349. Interview with Lawyer #14, *supra* note 152 (noting that VCs would use the board control lever so as not to impact economics in a competitive environment).

350. *Id.*

351. *Id.* (explaining that protective provisions would be limited to four or five, including those related to sale of the company, new financing, dividends/distributions/redemptions, change in the number of directors, and changes in charter or bylaws). There would also be a blended preferred vote instead of a series vote. *Id.*

352. *Id.* (e.g., blocks over debt, equity incentive plans).

353. *Id.* The argument on the other side would be that management control eliminates potential misalignment with venture investors. *Id.*

354. *Id.*

355. *Id.*

astray."[356] The investors want to keep the founder-management directors happy because they want their pro rata share of a company in future rounds.[357]

When a company meets its metrics and management exhibits credibility to the board, the board may relax oversight on corporate governance.[358] There are also fewer corporate governance issues in good economic times. The primary responsibility of the board in good economic times is holding regular board meetings and making sure the board has oversight.[359] The "[r]epeat entrepreneur who's been successful will be given more deference."[360] In fact, there is less reason for there to be conflict even with different economic interests among the directors because the expectation is that everyone benefits.[361] There are also certain types of transactions that are more likely to occur in good economic times, such as the repurchase of stock and secondary transactions.[362]

c. Corporate Governance in Bad Economic Times

The interviewees concurred that in bad economic times, boards are even more engaged and meet more frequently.[363] Due to COVID-19, boards are "meeting a lot more . . . because portfolio companies [are] facing unique challenges right now."[364] This is true of both companies that are doing well and those that are in trouble.[365] Investor directors take an ac-

356. Interview with Lawyer #21, *supra* note 134.

357. *Id.* (observing that the way VC financings are structured incentivizes VC investors to play along with the founder/management directors in good economic times).

358. Interview with Lawyer #7, *supra* note 276.

359. *Id.*

360. *Id.*

361. Interview with Lawyer #15, *supra* note 144 (noting that directors are "all co-equals around the board table").

362. Interview with Lawyer #17, *supra* note 190.

363. Interview with Lawyer #28, *supra* note 140; Interview with Lawyer #13, *supra* note 184 (noting that rocky economic times and potential insolvency mean that boards need to meet more often and establish a record that reflects engagement and the preservation of resources); Interview with Lawyer #17, *supra* note 190 (observing that since the pandemic, investor directors are more cautious, asking more questions, and digging deeper into management thinking).

364. Interview with Lawyer #7, *supra* note 276.

365. Interview with Lawyer #28, *supra* note 140.

tive role.[366] One lawyer characterized VC investor directors as "dictatorial" on changes in the business when they have leverage.[367] Founder or management directors are in frequent contact with board members outside of board meetings.[368] "Governing is more at the forefront of what people are thinking about . . . [a] large part of it is [the] media spotlight."[369] When things are going well, people tend to not look at underlying issues, or they're not noticeable.[370]

Everyone is also more careful in bad economic times.[371] Typically, the minutes reflect: "Questions were asked and answered. Discussion ensued."[372] But when economic times become difficult, the board requests that more discussion be reflected in minutes. For example, the minutes will state the factors discussed by the board (without attributing the comments to any specific individual) and the board will meet multiple times.[373] In a pay-to play-situation (where prior investors need to participate in their full pro rata percentage in a financing otherwise they lose certain rights), the minutes reflect that the company reviewed other term sheets, and that a banker or third-party evaluator was hired.[374] If there is an interested board member in a transaction, the minutes will reflect that

366. *Id.* (describing, for example, investor directors specifically stating the company needs to close certain offices or have layoffs); Interview with Lawyer #17, *supra* note 190 (observing that with an engaged board, investor directors offer their networks, help with employee talent and financials, and meet informally on a more regular basis). *But cf. id.* (noting CEOs keep investor directors informed, but that VCs may not be responsive unless the company is a promising one).

367. Interview with Lawyer #13, *supra* note 184.

368. Interview with Lawyer #28, *supra* note 140 (observing that companies are getting advice from board members and strategizing about how to raise more money; for those founders who are less quantitative, and haven't been through a downturn, the hard cuts are more difficult).

369. Interview with Lawyer #10, *supra* note 141.

370. Interview with Lawyer #30, *supra* note 137. Prior to the financial crisis in 2008, companies were hiring for growth and understood there were inefficiencies but thought they could raise another round of funding. *Id.* After 2008, companies were forced to address the underlying issues and the question became how to "right size the business." *Id.*

371. Interview with Lawyer #21, *supra* note 134.

372. *Id.*

373. *Id.* (describing an example in which a board discussed factors relating to the "necessity" of PPP loans and recorded those discussions in the minutes, even when rejecting the money).

374. *Id.*

other board members discussed the deal without that member present.[375] Although board decks are presented at the meeting and saved, they may not be attached to the board minutes because the entire deck is not self-explanatory.[376] More committees are generally formed during these periods as well.[377]

In the era of Paycheck Protection Program ("PPP") loans,[378] startups agonized over whether they should even apply for the loans.[379] The guidance from the U.S. Treasury was unhelpful, ambiguous, and changed rapidly.[380] In contemplating whether to take the loans, many board members considered what people might say in hindsight.[381] In evaluating whether to apply for such loans, investor directors have been more conservative than founder-management directors.[382] Robust records were created as part of the decision making process.[383] The lawyers and the board wanted to document the conflict around PPP loans to show that the board faced the issues and wrestled with them. They were intentional about allowing discussion to spill over into an actual board meeting;

375. *Id.*

376. *Id.*

377. *Id.*

378. One lawyer described PPP loans as a "surgical exercise." Interview with Lawyer #29, *supra* note 154.

379. Interview with Lawyer #10, *supra* note 141 (sharing that some companies even applied for loans without telling their boards, so the boards needed to ratify such loans and have a more fulsome discussion).

380. Interview with Lawyer #14, *supra* note 152 (noting "terrible guidance").

381. Interview with Lawyer #10, *supra* note 141 (noting that in many instances, when the board discusses something contentious, the minutes need to reflect lengthier discussions and factors involved in decision making process; "minutes are more art than science" and there is a "fine line between having too much or too little").

382. Interview with Lawyer #7, *supra* note 276 (stating that this is in part due to the fact that founders are dealing with the day-to-day pain and investors are not).

383. Interview with Lawyer #5, *supra* note 173; Interview with Lawyer #29, *supra* note 154 (noting how their law firm developed internal processes regarding PPP loans which included reviewing relevant documents implicated by PPP loans, conducting a preliminary analysis regarding potential pitfalls, and working with government contracts lawyers to understand PPP loans; lawyers also suggested ways to move the process forward); Interview with Lawyer #14, *supra* note 152 (sharing that lawyers advised companies on how to build a file as a backstop against future regulatory inquiries about whether the company should have taken the loan or not).

these discussions also reflected the fact that guidance was changing in real time and views may have changed based on evolving guidance.[384] Management would present a memo to the board about why they needed the money and the board would review the memo.[385] More robust practices around hiring and firing also are implemented during bad economic times, such as obtaining releases with severance or approaching compensation differently to conserve cash.[386]

Generally, in bad markets, "internal controls and financial attention ramp[ ] up; people [are] watching everything more closely."[387] In downturns, the focus is on operations.[388] Companies are more careful when they do not have access to capital that is not "massively dilutive."[389] There is also more scrutiny on financials of the company, and the VCs do not want to give money earlier than they need to.[390]

In recessionary times, everyone cannot win.[391] No single set of terms is standard in bad economic times. Either independent or investor directors (who are not lead directors like Series A with difficult economics) are the "moderating voice

384. Interview with Lawyer #26, *supra* note 143 (noting that companies would often turn to lawyers for guidance).

385. Memos provided the board with information about the impact of COVID-19 and the related economic fallout based on their business, including: measures the company had already taken to address the fallout (e.g., management took pay cuts), how the economic fallout impacted the company's operating plan, and quantitatively and qualitatively how it affected the operating plan and the company). *Id.*

386. Interview with Lawyer #11, *supra* note 168.

387. Interview with Lawyer #12, *supra* note 148 (noting that the ramp-up of internal controls and financial attention are more a function of management than investors).

388. Interview with Lawyer #30, *supra* note 137 (giving examples of what clients look at from an operational perspective: monthly burn, cash flow, how runway could be extended). During a downturn, companies focus on the existential risk of not getting a round of funding. *Id.*

389. Interview with Lawyer #12, *supra* note 148 (observing that companies in such situations behave better).

390. Interview with Lawyer #17, *supra* note 190 (noting that generally there is a fifteen to twenty-four month burn rate for startups; in the beginning of the pandemic pre-money valuations were down and there was a wait-and-see approach).

391. Interview with Lawyer #26, *supra* note 143 (citing liquidation preferences and anti-dilution adjustments and the fact that investors putting in new money will ask for special preferences in bad economic times).

looking out for interests of all stockholders."[392] There are inside transactions, down rounds, recapitalizations, and exits in which some or all investors are taking liquidation preference instead of as-converted preference.[393] There also may be down round financial arrangements, which come with a whole suite of potential peril.[394] In addition, there are more distressed-company-type exits in which no one gets consideration.[395] Lawyers play an educating role and help boards to think through what happens when things do not go well.[396] There are fact patterns that come up far more often in recessionary periods, and governance questions become increasingly difficult.[397] These patterns include existing investors funding rounds. These inside rounds create governance issues that are harder and more complex because there is less alignment, and there may not be a disinterested director.[398] Companies enter into a "morass of conflicts"[399] with investor directors when there is a down round, which is more likely to be led by past investors who now sit on the board. If there is a pay-to-play provision, this may cause economic hardship to insiders who cannot meet their pro rata share. This is where the company encounters significant corporate governance challenges because those who are setting the terms have fiduciary duties.[400] Corporate governance becomes even more important during these times because there are more immediate consequences to what the board is doing, and startups need to ensure that

392. Interview with Lawyer #7, *supra* note 276.

393. Interview with Lawyer #26, *supra* note 143 (stating that lawyers spend a lot more time counseling on the issues above, process points, documentation on thought process, and explaining why the transactions are best for the stockholders).

394. Interview with Lawyer #7, *supra* note 276 (citing related party transactions, insider-led rounds and lawsuits as examples).

395. *Id.* (pointing to example of startups not clearing preference stack (e.g., *In re* Trados Inc. S'holder Litig., 73 A.3d 17, 36 (Del. Ch. 2013))).

396. *Id.* (noting how lawyers help startups think through issues; for PPP loans there were a lot of conversations at the board level and lawyers looked at affiliation and necessity certification).

397. Interview with Lawyer #26, *supra* note 143 (stating that in part the difficult corporate governance issues are due to the capital structure of a company—e.g., how liquidation preference and anti-dilution protections are set-up).

398. *Id.*

399. Interview with Lawyer #13, *supra* note 184.

400. *Id.*

they are following corporate governance practices, such as giving adequate notice for board meetings.[401] There may also be an increasing number of side letters at the convertible note stage that may carry over to equity financings.[402]

Out of self-preservation, "when [the] ability to access capital markets is restricted, people will [significantly] tighten governance."[403] When a budget is set, the company will stay within the confines of the budget.[404] In bad economic times, the "economic divergence [among stockholders] becomes more meaningful."[405] Most VCs are aware of risks and give more attention to process than they did ten years ago.[406] In deals, more onerous terms, redemption, liquidation preference, and the like become increasingly common.[407]

The board is always managing for the future, but particularly when there is an economic downturn, boards are evaluating the company's liquidity position, the right time to raise capital and how to minimize subsequent dilution (which is not aligned with the company's interests or the interests of stockholders).[408] If the fund of an investor director does not have dry powder to invest in future rounds, it creates a significant challenge within the board dynamic.[409] The COVID-19-related downturn also created unique challenges that differed from other downturns because of social media and the PPP loans.[410] People wanted to be *perceived* as doing the right thing, whether

401. Interview with Lawyer #22, *supra* note 186.

402. Interview with Lawyer #5, *supra* note 173 (observing that the number of side letters are "astronomical" for smaller investors post-COVID even at the Seed or Series A stage of financing and that negotiating with both the lead investor and smaller investors is costly for companies).

403. Interview with Lawyer #12, *supra* note 148.

404. *Id.*

405. Interview with Lawyer #15, *supra* note 144; *see also* Interview with Lawyer #18, *supra* note 98 (citing tendency to diverge in what path the startup takes—selling company, taking on more debt, or raising more equity).

406. Interview with Lawyer #15, *supra* note 144.

407. Interview with Lawyer #18, *supra* note 98 (noting that deals are getting done, but terms are getting uglier).

408. Interview with Lawyer #9, *supra* note 187.

409. *Id.* (noting that the investor director's voice may carry less weight and management may become frustrated with them).

410. Interview with Lawyer #24, *supra* note 213.

it was with respect to taking the PPP loans or bringing employees back to the office.[411]

In the absence of an economic downturn, IPOs and acquisitions can serve a disciplining function as well.[412] Down rounds—financing rounds in which the company receives a lower valuation than in prior rounds—also have a disciplining effect.[413] The disciplining function mentioned at various times throughout this Article entails implementing more robust corporate governance measures to correspond to the increasing complexity and size as the startup matures. "Investors generally wait to[o] long to call Founders out on bad decisions and to make management changes, even when they have the power to do so."[414] As one survey respondent observed, more attention is given to corporate governance issues at the later stages of the company because they "have more at stake, [and] the dollars involved are higher."[415] Furthermore, "later[-]stage companies are more likely to shift focus to governance, and to take governance matters seriously."[416] There are also differences in severity of corporate governance problems at a later stage. "The governance problems at the early stage are generally procedural (everyone is aligned but not going through the full governance process) and the later-stage problems are substantive."[417]

Some of the commentary pointed to the importance of appropriate corporate governance, regardless of stage or value of the company.[418] For example, in the event that early-stage companies have corporate governance issues, they could po-

411. *Id.* (observing that people's reputation could go "in a nanosecond" if they were perceived to have made the wrong decision).

412. Corporate Governance Survey, *supra* note 108, at Question 19. However, acquisitions were a far more frequent occurrence than IPOs until recently. *Id.* One respondent noted that "in regulated industries, the regulatory environment itself is an important disciplining factor." *Id.*

413. *Id.*

414. *Id.* at Question 22.

415. *Id.* at Question 17.

416. *Id.*

417. *Id.*

418. *Id.* at Question 18 ("The importance of appropriate corporate governance remains the same regardless of value."). *But cf. id.* (Another respondent said, "Governance is important at all levels, though I do think its importance does grow with the company.")

tentially lead to larger problems later on.[419] In fact, "earlier stage companies are more likely to have corporate governance glitches because . . . they may not be well advised. The issues are just more glaring in late-stage companies."[420] In essence, each VC-backed private company forms its own narrative in this regard based on a set of norms that is influenced by case law, contracts, and best practices—to varying degrees.

Much of the criticism of VC-backed private companies centers around the growth-at-all-costs model that some view as "the sole driving mantra of Silicon Valley and the tech startup industry."[421] One person has characterized venture capital as the "'Wild West' where rule-breaking is a foundational principle."[422] On one hand, such a "philosophy can have enormous psychological benefits to entrepreneurs, who are often trying to accomplish what can seem impossible. By liberating themselves from the idea that things must remain the way they have always been, entrepreneurs take risks, challenge the status quo, and can even change the world."[423] But breeding such a culture can mean "that rules simply don't apply in [the VC] industry."[424]

4. *Diversity, Equity, and Inclusion Challenges*

The fourth and final key finding from the survey and interviews is that, while DEI issues took center stage in the public company corporate governance landscape,[425] there was not a

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419. *Id.* at Question 17 ("The groundwork usually starts early. Bad governance practices early will compound in later rounds.").

420. *Id.*

421. Evan Epstein, *Why Governance Matters for Your Startup*, MEDIUM (Apr. 12, 2018), https://medium.com/@evan.epstein/why-governance-matters-for-your-startup-4424a3967882; *see also* Scott Lenet, *Venture Capital Desperately Needs More Governance*, FORBES (June 20, 2019, 1:52 PM), https://www.forbes.com/sites/scottlenet/2019/06/20/venture-capital-desperately-needs-more-governance/amp/.

422. Lenet, *supra* note 421.

423. *Id.*

424. *Id.* The author then points out that there is no school to learn how to be a VC nor are there any major or degree programs. *Id.* Furthermore there are no requirements for continuing education, professional certifications, or trainings. *Id.*

425. *See, e.g.*, CAL. CORP. CODE § 301.3 (West 2021). In addition to California, many other states have either passed or proposed some type of board diversity measure. Jennifer Fan, *Diversifying Startups and VC Power Corridors*,

similar prioritization in the startup ecosystem. In fact, the VC ecosystem continues to face challenges on the DEI front that may negatively impact corporate governance. Although U.S. fundraising continued to break records,[426] the beneficiaries of such funds were not women and minorities. Woman investors only comprise 13 percent of the VC industry, and two-thirds of VC firms still have no women partners;[427] for men and women of color, that number is even lower.[428] Women and minorities also receive less funding due to the interest in funding serial entrepreneurs and working within existing networks—which tend to advantage white males.[429] Furthermore, there are fewer women and minorities who are founders of companies and, in the age of COVID-19, the numbers contracted even

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TECHCRUNCH (Aug. 29, 2021, 8:32 AM), https://techcrunch.com/2021/08/29/diversifying-startups-and-vc-power-corridors/.

426. *See, e.g.*, James Thorne, *US VC Fundraising Hits Record $69B in 2020 After a16z Closes Two Mega-Funds*, PITCHBOOK (Nov. 20, 2020), https://pitchbook.com/news/articles/us-vc-fundraising-hits-record-69b-in-2020-after-a16z-closes-two-mega-funds.

427. Erin Griffith, *Group Seeking Equality for Women in Tech Raises $11 Million*, N.Y. TIMES (Nov. 30, 2020), https://www.nytimes.com/2020/11/30/technology/women-tech-allraise.html.

428. DELOITTE, VENTURE FORWARD & NVCA, VC HUMAN CAPITAL SURVEY 8–10 (3d ed. 2021), https://www2.deloitte.com/us/en/pages/audit/articles/diversity-venture-capital-human-capital-survey.html. Over 80% of VC firms do not have a Black investor, which impacts the number of diverse investor directors. Gené Teare, *The Conversation and the Data: A Look at Funding to Black Founders*, CRUNCHBASE NEWS (June 5, 2020), https://news.crunchbase.com/news/the-conversation-and-the-data-a-look-at-funding-to-black-founders/.

429. Priyamvada Mathur, *Quarterly VC Funding for Female Founders Drops to Three-Year Low*, PITCHBOOK (Oct. 8, 2020), https://pitchbook.com/news/articles/vc-funding-female-founders-drops-low?utm_content=article-5084&utm_campaign=article_email&utm_source=sg&utm_medium=email. In 2019, only 11.5% of total venture capital funding went to teams with at least one female founder. Kate Clark, *US VC Investment in Female Founders Hits All-Time High*, TECHCRUNCH (Dec. 9, 2019, 11:06 AM), https://techcrunch.com/2019/12/09/us-vc-investment-in-female-founders-hits-all-time-high. In 2020, approximately 2.6% of total funding went to Black and Latinx founders. CRUNCHBASE, CRUNCHBASE DIVERSITY SPOTLIGHT 2020: FUNDING TO BLACK & LATINX FOUNDERS (2020), http://about.crunchbase.com/wp-content/uploads/2020/10/2020_crunchbase_diversity_report.pdf. Lawyer #11, *supra* note 168 (noting the differences in expectations between white entrepreneurs and Black entrepreneurs—white entrepreneurs will seek counsel with just an idea whereas Black entrepreneurs will not come until they have a term sheet in hand).

more.[430] Women are less likely to push for a board seat.[431] They also have a more difficult time getting funding.[432] The #MeToo and Black Lives Matter movements further highlighted the lack of diversity in the VC realm.[433] While there have been some attempts to address this issue through targeted funds and diversity riders,[434] there are still very few investors who are women and minorities.[435] As a result, there is a relative absence of such persons on the boards of startups. DEI issues continue to be one of the most intransigent issues for startups to address. Further, there is very little discussion

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430. "Women own just 11 percent of founder and employee equity in start-ups, according to a study conducted by Carta, a financial technology start-up." Griffith, *supra* note 427. *See also The US VC Female Founders Dashboard*, PITCHBOOK (Nov. 5, 2020), https://pitchbook.com/news/articles/the-vc-female-founders-dashboard?utm_content=article-5084&utm_campaign=article_email&utm_source=sg&utm_medium=email. "Investments in women-led companies this year are on pace to be the worst since 2017." Mathur, *supra* note 429. Women are also underrepresented in merger and acquisition transactions. *See* Afra Afsharipour, *Women and M&A*, 12 U.C. IRVINE L. REV. 359 (2022).

431. Interview with Lawyer #5, *supra* note 173 (citing a new female startup CEO who did not get a board seat and received significantly less pay than the prior CEO).

432. *Id.*

433. *See* Natasha Mascarenhas and Jonathan Shieber, *Venture Firms Rush to Find Ways to Support Black Founders and Investors*, TECHCRUNCH (June 2, 2020, 6:43 PM), https://techcrunch.com/2020/06/02/diverse-startups-and-investors-matter/; Richard Robinson, *Venture Capitalists Must Do More Than Stand in Solidarity with Black Lives Matter*, FIN. TIMES (July 22, 2020), https://www.ft.com/content/55a4d2e1-4d2b-4f19-a9b8-11534df4c688. Despite the #MeToo movement, women, especially women of color, continue to face significant barriers. WOMEN WHO TECH, WOMEN WHO TECH STARTUP & TECH CULTURE SURVEY (2020), https://womenwhotech.com/sites/default/files/2020-09/WomenWhoTech_StartupAndTechSurvey2020.pdf.

434. Sophia Kunthara, *Investors with Proven Track Records of Diversity Funding Respond to National Crisis*, CRUNCHBASE (June 3, 2020), https://news.crunchbase.com/news/talk-is-cheap-investors-with-proven-track-records-of-diversity-funding-respond-to-national-crisis/; Alejandro Guerrero, *How Venture Capital Can Increase Diversity Where It Matters Most*, FORTUNE (Oct. 8, 2020 5:30 PM), https://fortune.com/2020/10/08/venture-capital-diversity-investing-vc-cap-table-rider/.

435. *See generally* Jennifer S. Fan, *Startup Biases*, U.C. DAVIS L. REV. (forthcoming 2023) (discussing biases faced by women and racial and ethnic minorities in startups).

about DEI issues in private companies.[436] This trend will likely continue unless DEI issues are prioritized in a meaningful way. Part IV will discuss in more detail what can be done to address this challenge in the corporate governance context.

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In sum, corporate governance in startups is impacted by a variety of factors, including the power differential among the founders, investors, and independent directors who sit on the board of the startup; the influence of a founder-centric model; startups staying private longer; the race to exponential growth under the growth-at-all-costs mantra; and, more recently, an economic downturn. While VCs' economic interest animates their level of engagement in a startup, it is also tempered by a founder-centric model which translates to VCs deferring to founders and ceding control (that they otherwise might be leveraging) during good economic times. Furthermore, with respect to independent directors in the private company context, the survey and interviews suggest that they do not play the tiebreaker or moderating influence that some scholars assume. In addition, the author's empirical research demonstrates the important role that investor directors in particular play during bad economic times and how the contours of corporate governance are impacted. Lastly, despite the recent focus on DEI efforts in companies, the lawyers interviewed confirm that these efforts still remains a nascent concept from a corporate governance perspective unless a company is about to go public[437] or is addressing sexual harassment issues.[438] In some cases, there may be diversity riders.[439] There is very little

436. Interview with Lawyer #18, *supra* note 98; Interview with Lawyer #16, *supra* note 215 (noting that anti-harassment riders were added following #MeToo).

437. Interview with Lawyer #24, *supra* note 213 (stating that human resources, investor relations, and bankers are more influential in terms of diversity issues).

438. Interview with Lawyer #19, *supra* note 239 (citing language in contracts regarding the investigation and potential removal of a director if there are allegations of inappropriate conduct); Interview with Lawyer #16, *supra* note 215 (noting the addition of anti-harassment policies following #MeToo).

439. Interview with Lawyer #16, *supra* note 215 (noting that they can be found in the Investors' Rights Agreements).

discussion on such issues in the private company realm.[440] If there is any activity in DEI, it is typically in the later-stage companies and appears more in the hiring context.[441] Some lawyers have pointed out that it only becomes an issue if it is a "must," such as when WeWork was going public with an all-male board.[442] If DEI issues are discussed, such conversations are initiated by the founder-management directors or investor directors, but not the independent directors.[443]

IV.
Playbook for Corporate Governance Changes

This final Part looks at what should be changed in terms of the way that corporate governance currently operates in light of the shift to a founder-friendly model. The approach to implementing such changes will differ depending on the stage of the company, whether the founder(s) is a serial entrepreneur, and whether the company has sophisticated investors (who serve as investor directors) or independent directors.[444] Corporate governance in private companies is a delicate balance; bright-line rules or laws passed to govern private compa-

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440. Interview with Lawyer #18, *supra* note 98 (noting that even on the public company front, ISS and Glass Lewis have more influence on DEI issues); Interview with Lawyer #23, *supra* note 241 (observing that these issues are secondary and not top of mind).

441. Interview with Lawyer #6, *supra* note 97; Interview with Lawyer #17, *supra* note 190 (noting that such conversations may happen organically when someone notices that there are four men on the board and mentions that the company should have a woman director).

442. Interview with Lawyer #8, *supra* note 238 ("Boards will not address [DEI] until it feels like it must."); *see also* Jeff Green, *WeWork's All-Male Board Is Pretty Typical of IPOs These Days*, Bloomberg (Aug. 14, 2019, 1:31 PM), https://www.bloomberg.com/news/articles/2019-08-14/wework-s-all-male-board-is-pretty-typical-of-ipos-these-days.

443. Interview with Lawyer #8, *supra* note 238 (observing that with founder-management directors whether the conversation takes place depends on their own ideologies and preferences).

444. Interview with Lawyer #21, *supra* note 134 (noting that these outside directors "instill a lot of rigor"). *But cf. id.* (observing that these types of investors do not have the experience that VC investors do and also may not be as solid in their understanding of what corporate governance entails). Corporate governance does not operate as well if companies are bootstrapped at later stages or have smaller or angel investors. *Id.*

nies would not work to address its deficiencies.[445] Companies, particularly the founders who lead them, need to have the autonomy to determine what this balance looks like at different junctures in their growth.

While it is important for private companies to have the flexibility to determine how corporate governance mechanisms apply at different stages of their respective life cycles, there are still some important changes that should be considered to improve corporate governance in private companies. First, hold more trainings for directors, especially if there are first-time directors who fulfill a DEI purpose.[446] As a general matter, boards could benefit from more training either as a refresher to understanding their duties or learning about compliance issues that have increasing importance. This is particularly true of the founders who are primarily focused on the growth of the startup and may not have prioritized corporate governance, as noted in Part III above.

Second, more emphasis could be placed on forming committees. Particularly in challenging economic times, there may be transactions or matters that need to be supplemented with committees. As a company grows, the founders may experience challenges accompanied by such growth, especially if it is rapid. Committees become more important, and having dedicated time to discuss certain issues, such as compensation, ensures that proper attention is given to them. It is also an efficient process because the committee makes a recommendation to the board, and the board can immediately vote on it. As an example, if more diverse directors are prioritized, a nominating committee, similar to one in the public company setting, could be formed.

Third, as startups grow, their needs for workers change and become increasingly complex. Therefore, identifying culture risk in companies becomes important because it can affect corporate governance. Boards need to be diligent and re-

445. Pollman, *supra* note 3, at 216–20 ("The features of startup governance suggest that courts should be willing to apply fiduciary doctrine more flexibly . . . ."); *see also* Interview with Lawyer #1, *supra* note 192.

446. Interview with Lawyer #10, *supra* note 141 (stating that board trainings are typically done right before a company goes public; boards also need to be educated on topics like ESG that were not relevant 10 years ago); Interview with Lawyer #21, *supra* note 134 (noting that an education program works).

view culture and collect metrics on employee turnover, harassment complaints, diversity in the company, and the like on a regular basis. These risks need to be understood and managed at the outset, otherwise the company can become distracted by these issues instead of focused on the growth of the company.

Fourth, there should be renewed emphasis on IPOs, acquisitions, and financings as opportunities for more rigorous corporate governance measures to be implemented; founders can take the lead on this. Also, the close relationship between companies and their counsel means that there is a good chance that companies will listen to their counsel's advice about implementing corporate governance measures to prevent problems in the future. More specifically, although a late-stage private company may not be going public, preparing as if the company is going public by putting certain measures in place, such as committees and more independent directors, provides a good foundation for any opportunities that arise in the future. An economic downturn should not be the first time that corporate governance measures are implemented; by then, it could be too late, and the company may not survive. At a minimum, a company should hold regular board meetings, keep minutes, have a board vote on major decisions, and be aware of the ramifications of giving any one person, such as the founder, more power on the board. Ultimately, it is a healthy dynamic for a business to invest the time in corporate governance measures irrespective of what the company ultimately decides to do with its business. This would of course mean additional time and expense, but these additional burdens would pay off in the long term for the business. Even without the disciplining mechanism of IPOs, acquisitions, or financings, VC investor directors could be motivated to implement corporate governance mechanisms by their limited partners who demand such changes in their limited partnership agreements.[447] As an example, the limited partners could require that a certain number of board seats be allocated to diverse candidates or that interviews for key hires include such candidates.

447. Interview with Lawyer #23, *supra* note 241 (citing example of VCs wanting to avoid breach of fiduciary duties suits by stockholders if corporate governance matters go awry).

Fifth, a startup may want to limit the number of people present in the boardroom. If there are too many people present it can change the dynamic of the board. One way to have fewer individuals is to limit the participation of board observers by requiring a fund to have a threshold ownership percentage or number of shares to maintain its board observer rights, time limit the board observer right, or limit attendance or certain information. These arrangements could then be reflected in a side letter or the Investors' Rights Agreement.

Finally, in addition to some of the DEI measures discussed above, it appears that the industry needs to be intentional about how it approaches DEI issues if it hopes to make any headway in these efforts.[448] This is likely the area in which corporate governance needs to be reimagined to include more diverse candidates at every level. It will also require leadership from the founders and VCs. For example, in order to recruit more diverse boards, companies must commit to diversifying the investor base and the limited partners who invest in VC funds. One way to accomplish this is by adding diversity riders in VC financings documents, such as the Investors' Rights Agreement, to ensure diversity is a factor in determining board composition. The efforts cannot stop there, however. There needs to be a good faith effort to include Black and other underrepresented groups throughout the startup ecosystem. In addition to the board and investors, diversity needs to be considered in key hires. Depending on current networks will not suffice; a deeper pipeline needs to be built. The limited partners who invest in VC funds should also be diversified by including parties that have traditionally been excluded from the VC ecosystem, such as historically Black colleges and universities.

448. For a more in-depth discussion of these proposed solutions, see Fan, *supra* note 435. It became clear in writing this Part that this topic could be the subject of another article. A more fulsome analysis of DEI issues in startups can be found in "Startup Biases," which explores DEI issues in startups in greater depth, including a detailed accounting of the biases that women and racial and ethnic minorities face in this ecosystem and each of the proposed solutions discussed here. Fan, *supra* note 435.

Conclusion

Venture capital-backed private companies have long played an outsized role in the United States. These private companies have influenced the way we live, work, and play. Their reach even extends to our culture, law, and politics. For these reasons, it is important to understand what kind of accountability they have within the current corporate governance structure.

Through novel empirical analysis, using both survey and interview data, this Article makes several important contributions. First, it illustrates that after the Great Recession, a new founder-centric board emerged, which had implications for board dynamics. Second, independent directors do not play the outsized roles that many scholars have purported; they are neither the tie-breaking vote nor the neutral arbiter. This finding has implications for the study of private company corporate governance, as the importance of independent directors may differ from what is theorized and have an impact on how board dynamics are analyzed. Ultimately, the dynamics on the board of private companies are most impacted by whether founder-management directors or investor directors have the bigger role. Third, the normative/narrative framing of corporate governance, where there are no bright-line rules, gives boards the flexibility to determine how, when, and to what extent corporate governance guardrails are implemented. During times of economic plenty, when and how robustly corporate governance measures are enacted depends on the priorities of the company at that particular stage of growth; typically, this means that these measures are not put into place unless there is a reason, such as an acquisition or IPO. However, as the interviews revealed, during bad economic times the companies eschew such flexibility. Corporate governance guardrails are more robustly followed, and process becomes paramount. In fact, investor directors are the most influential during economic downturns. Finally, the advancement of DEI initiatives within startups is meager at best. The only way such efforts succeed is if there is the interest and the will from the founders, investors, and the board.

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A SAFE HARBOR FOR RANSOMWARE PAYMENTS: PROTECTING STAKEHOLDERS, HARDENING TARGETS, AND DEFENDING NATIONAL SECURITY

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Ransomware attacks have become common. Victims range from small municipalities to non-profits to giant multi-national corporations. These attacks disable the victim's cyber-systems and may result in financial losses, data leaks, business failures, and, in some cases, even loss of life. The hackers may be lone actors or infamous cyber-gangs; they may be hostile foreign countries or non-state actors such as terrorist groups.

Most victims pay the ransom. But payment does not guarantee the recovery of data as promised. In addition, payment transfers value to criminals and may jeopardize national security.

In an effort to cut off financial flows to the hackers, several U.S. agencies have targeted ransomware payments. Both the Office of Foreign Assets Control (OFAC) and the Financial Crimes Enforcement Network (FinCEN) have issued advisories emphasizing the potential liability for ransomware victims (and those assisting them) who pay prohibited persons or transmit funds without the required procedures.

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This Article argues that the threat of legal liability for ransomware victims who pay the ransom, with no positive incentive, is unlikely to improve cybersecurity or even to stop payments. In fact, such threats may be counterproductive if they lead victims to conceal attacks. Instead, this article suggests the creation of a safe harbor for ransomware payment that (i) enables the victim and those who assist the victim to pay when necessary (protecting stakeholders), but that also (ii) deters attacks (hardening targets) and (iii) facilitates interdiction of attacks that do occur (defending national security).

Introduction

Imagine a nurse working an overnight shift. When the nurse enters an elderly patient's room to administer medication, the hospital laptop needed to confirm the correct medication shows only one message: "Your computer has been infected with a virus. Click here to resolve this issue." Clicking does not resolve the issue. All hospital computers display the

same message. The hospital initiates its required security incident response procedures[1] and shifts into crisis mode.

Hospital administrators soon receive a ransom demand: if a hefty sum in bitcoin[2] is paid to a specified pseudonymous address,[3] the hospital's computer system will be restored to operability. The hospital reacts swiftly, engaging a digital forensics and incident response company, calling its insurance company, and informing regulators and law enforcement. With every passing minute, however, patient care may be compromised and sensitive data may be stolen. The hospital pays the ransom, receives the decryption key, and starts work to resume normal operations.

In an increasingly digital world, security is often breached digitally. Reliable statistics on ransomware are difficult to generate but, according to some reports, 43% of European and North American firms were targeted by cybercriminals in 2020 and, of those, one in six involved a ransom demand.[4] In the United States, 71% of targeted companies paid the ransom.[5] Experts estimate that ransomware hackers extracted over $400

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1. 45 C.F.R. §§ 164.304, 164.308(a)(6) (2021) (defining "security incident" and identifying requirements for implementing security incident procedures in regulations promulgated pursuant to the Health Insurance Portability and Accountability Act).

2. Bitcoin is both a cryptocurrency and a protocol, so in this article "Bitcoin" (with an uppercase letter B) is used to label the protocol, software and community, and "bitcoin" (with a lowercase letter b) is used to label units of cryptocurrency.

3. *See* discussion *infra* Section II.D. A Bitcoin address, for example, is represented by a 26-35-character alphanumeric string that indicates the virtual location to which Bitcoin are sent and received. Aff. Supp. Appl. for Seizure Warrant, No. 3:21-mj-70945-LB, ¶ 18 (N.D. Cal. June 7, 2021), https://www.justice.gov/opa/press-release/file/1402056/download (defining Bitcoin addresses).

4. Hiscox, Hiscox Cyber Readiness Report 2021: Don't Let Cyber Be a Game of Chance 2, (2021), https://www.hiscoxgroup.com/sites/group/files/documents/2021-04/Hiscox%20Cyber%20Readiness%20Report%202021.pdf (reporting results of survey of 6,042 companies in eight countries). *See also* Martin Croucher, *Almost Half Of Firms Hit By Cyberattack In 2020, Report Says*, Law360 (Apr. 20, 2021, 2:22 PM), https://www.law360.com/articles/1376896/almost-half-of-firms-hit-by-cyberattack-in-2020-report-says (discussing a recent Hiscox, Ltd. report).

5. Hiscox Cyber Readiness Report 2021, *supra* note 4, at 10 (calling the United States the "most fruitful territory for the ransom specialists"). *See also* Daniel Silver et al., *Gov't Authorities Should Assist Ransomware Targets,* Law360 (May 21, 2021, 5:47 PM), https://www.law360.com/articles/1386039/gov-t-

million in 2020.[6] Most of these ransoms were paid to pseudonymous addresses in cryptocurrencies—also known as convertible virtual currencies—such as Bitcoin.

For the hospital, however, paying the ransom is not the end of the story. The hospital, the incident response company, the insurance company, and the hospital's bank may now face investigations and liability for the hospital's ransomware payment. In their efforts to combat the rising tide of ransomware attacks, regulators are threatening enforcement actions against victims who pay ransoms–as well as those who assist them.

Few entities, faced with a ransomware attack, can afford to refuse the hackers' terms. Not paying the ransom may result in financial ruin or even loss of life.[7] In circumstances presenting the threat of significant harm, and in the absence of feasible alternatives, paying the ransoms is ethically justifiable.[8] At any rate, and, as noted above, at least in the United States, most corporate victims pay the ransom.[9]

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authorities-should-assist-ransomware-targets (asserting that most companies pay ransomware ransoms).

6. CHAINALYSIS, RANSOMWARE 2021: CRITICAL MID-YEAR UPDATE 3, (2021), https://go.chainalysis.com/rs/503-FAP-074/images/Ransomware-2021-update.pdf (noting that $400 million is likely less than the true total).

7. John Reed Stark, *An OFAC Compliance Checklist For Ransomware Payments*, LAW360 (Feb. 2, 2021, 5:43 PM), https://www.law360.com/articles/1349647/ (identifying potential consequences for not paying a ransom). A ransomware attack against a hospital in Germany in 2020 reportedly led to the diversion of an emergency room patient to another hospital and a delay in treatment of over an hour. The patient died. *See* Dan Goodin, *A Patient Dies After Ransomware Attack Hits a Hospital*, WIRED (Sept. 19, 2020, 8:00 AM), https://www.wired.com/story/a-patient-dies-after-a-ransomware-attack-hits-a-hospital/ (reporting that German authorities were seeking the ransomware perpetrators on suspicion of negligent manslaughter). *But see* Patrick Howell O'Neill, *Ransomware Did Not Kill a German Hospital Patient*, MIT TECH. REV. (Nov. 12, 2020), https://www.technologyreview.com/2020/11/12/1012015/ransomware-did-not-kill-a-german-hospital-patient/ (reporting that authorities determined the patient was in such poor health that she likely would have died anyway).

8. *Should Cities Ever Pay Ransom to Hackers?*, WALL ST. J. (Sept. 17, 2019, 10:02 PM), https://www.wsj.com/articles/should-cities-ever-pay-ransom-to-hackers-11568772120?mod=article_inline (quoting Craig Shue).

9. John Reed Stark, *Ransomware's Dirty Little Secret: Most Corporate Victims Pay*, LINKEDIN (Jan. 28, 2019), https://www.linkedin.com/pulse/ransomwares-dirty-little-secret-most-victims-pay-john-reed-stark/ (comparing the payment of ransomware with the frequency of paying an electric bill).

Paying a ransom can only be ethically justified, however, as the best among bad alternatives. Payment is likely to incentivize hackers to attack other targets.[10] To make matters worse, paying the ransom may not lead to recovery of the data as promised.[11] Paying ransoms, by definition, transfers value to criminals, and that is against many laws.

But more than simple illegality is at issue. While ransomware hackers may be lone criminals or infamous cybergangs, they may also be hostile foreign countries, or non-state actors such as terrorist groups. Ransomware hackers have been identified in several jurisdictions, including North Korea,[12] Iran,[13] Russia[14] and China,[15] which raises security concerns for the United States. Ransomware and other digital threats tend

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10. *Should Cities Ever Pay Ransom to Hackers?*, *supra* note 8 (quoting Frank Cilluffo).

11. FED. BUREAU OF INVESTIGATION, INTERNET CRIME REPORT 2020, at 14 (Mar. 17, 2021), https://www.ic3.gov/Media/PDF/AnnualReport/2020_IC3Report.pdf (noting that payment may not restore a victim's data).

12. U.S. DEP'T OF TREASURY ET AL., DPRK CYBER THREAT ADVISORY: GUIDANCE ON THE NORTH KOREAN CYBER THREAT (Apr. 15, 2020) https://home.treasury.gov/system/files/126/dprk_cyber_threat_advisory_20200415.pdf (alleging North Korea has been responsible for a number of high-profile cyberattacks).

13. In 2018, two Iranians were indicted in connection with the SamSam ransomware attack. Indictment, United States v. Savandi, No. 2016R00103 (D. N.J. Nov. 26, 2018), https://www.justice.gov/opa/press-release/file/1114741/download. *See* U.S. DEP'T OF JUST., TWO IRANIAN MEN INDICTED FOR DEPLOYING RANSOMWARE TO EXTORT HOSPITALS, MUNICIPALITIES, AND PUBLIC INSTITUTIONS, CAUSING OVER $30 MILLION IN LOSSES (Nov. 28, 2018), https://www.justice.gov/opa/pr/two-iranian-men-indicted-deploying-ransomware-extort-hospitals-municipalities-and-public.

14. *See To Stop the Ransomware Pandemic, Start with the Basics*, ECONOMIST (Jun. 19, 2021), https://www.economist.com/leaders/2021/06/19/to-stop-the-ransomware-pandemic-start-with-the-basics (reporting that Russia provides sanctuary to cyber attackers).

15. *See* Ben Kochman & Stewart Bishop, *US, Allies Say China Behind Massive Microsoft Server Attack*, LAW360 (July 19, 2021, 4:24 PM), https://www.law360.com/articles/1404209/us-allies-say-china-behind-massive-microsoft-server-attack (reporting White House claims that hackers affiliated with the Chinese government have hit private companies with ransomware); *America under Cyber Siege: Preventing and Responding to Ransomware Attacks: Hearing Before the Comm. on the Judiciary*, 117th Cong. 3 (2021) (statement of Deputy Assistant Att'y Gen. Richard Downing), https://www.judiciary.senate.gov/imo/media/doc/Downing%20-%20Statement.pdf (discussing charges against hackers in China operating on behalf of its Ministry of State Security) [hereinafter statement of Downing].

to be invisible until realized, which amplifies the potential to compromise U.S. critical infrastructure.[16] In August 2021, President Biden labeled cybersecurity the "core national security challenge" for the United States.[17]

Unlike conventional warfare or cross-border crime, there are few international legal norms to help contain cyberattack risk.[18] Ransomware attacks are difficult to combat because the threat is everywhere, and nowhere, until the attack occurs. Victims range from small municipalities to non-profits to multinational corporations and governments.[19] Ransomware "blurs the boundaries between state and private actors and between geopolitics and crime,"[20] and the law is struggling to respond.

Strategically significant economic transactions have long been highly regulated. In particular, regulators have long sought to safeguard national security by monitoring and controlling payments. In the wake of the September 11th attacks, the discovery and prevention of terrorist financing became a key pillar of U.S. security architecture.[21] Perhaps unsurprisingly, paying a ransom and thereby aiding the "enemy" may trigger costly government investigations and penalties.[22] Regulators have threatened enforcement of sanctions and anti-money laundering laws not only against ransomware victims

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16. *See* discussion *infra* Sections III.A and III.B (describing, for example, the ransomware attack against Colonial Pipeline).

17. Dustin Volz & David Uberti, *Biden Says Cybersecurity Is the 'Core National Security Challenge' at CEO Summit*, WALL ST. J. (Aug. 25, 2021), https://www.wsj.com/articles/biden-to-hold-cybersecurity-summit-with-tech-giants-top-banks-energy-firms-11629882002 (reporting that Biden urged the private sector representatives at the meeting to raise the bar, and emphasized their shared responsibilities).

18. *See To Stop the Ransomware Pandemic, Start with the Basics*, *supra* note 14 (reporting that there is novelty and confusion in the geopolitical cyber-domain regarding legal norms).

19. *See* discussion *infra* Section II.B.

20. *To Stop the Ransomware Pandemic, Start with the Basics*, *supra* note 14 (discussing why dealing with cyber-insecurity is hard).

21. *See* USA Patriot Act, Pub. L. No. 107-56, 115 Stat. 272 (2001). *See also* U.S. DEP'T OF TREASURY, 2003 NATIONAL MONEY LAUNDERING STRATEGY, at 4 (Nov. 18, 2003), https://www.treasury.gov/press-center/press-releases/Documents/js10102js1010.pdf (explaining that the Act enhanced communications within and between the Federal government and financial institutions regarding the financial funding of terrorists).

22. John Reed Stark, *supra* note 7 (identifying potential government action if a victim pays the ransomware).

who pay, but also against third-party service providers who facilitate payments. On October 1, 2020, the Department of the Treasury's Financial Crimes Enforcement Network (FinCEN) bureau warned banks, incident response companies, and cyber insurance companies of potential anti-money laundering liability connected with assisting ransomware victims with ransom payments.[23] FinCEN updated its advisory on November 8, 2021, emphasizing that ransomware payments require immediate attention from financial institutions.[24] The Department of the Treasury's Office of Foreign Assets Control (OFAC) warned companies on October 1, 2020 that OFAC adopts a strict liability sanctions enforcement policy against persons who, even unknowingly, pay ransomware attackers on the government's list of Specially Designated Nationals and Blocked Persons (SDNs).[25] On September 21, 2021, OFAC updated its advisory to encourage victim reporting and improvement in cyber-security practices.[26] Other specialized anti-terrorism rules[27] may also impose liability for making a ransomware payment.

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23. FIN. CRIMES ENF'T NETWORK, ADVISORY ON RANSOMWARE AND THE USE OF THE FINANCIAL SYSTEM TO FACILITATE RANSOM PAYMENTS, FIN-2020-A006 (Oct. 1, 2020), https://www.fincen.gov/sites/default/files/advisory/2020-10-01/Advisory%20Ransomware%20FINAL%20508.pdf.

24. FIN. CRIMES ENF'T NETWORK, ADVISORY ON RANSOMWARE AND THE USE OF THE FINANCIAL SYSTEM TO FACILITATE RANSOM PAYMENTS, FIN-2021-A004 (Nov. 8, 2021), https://www.fincen.gov/sites/default/files/advisory/2021-11-08/FinCEN%20Ransomware%20Advisory_FINAL_508_.pdf (updating the October 1, 2020, advisory).

25. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF TREASURY, ADVISORY ON POTENTIAL SANCTIONS RISKS FOR FACILITATING RANSOMWARE PAYMENTS, (Oct. 1, 2020), https://home.treasury.gov/system/files/126/ofac_ransomware_advisory_10012020_1.pdf.

26. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF TREASURY, UPDATED ADVISORY ON POTENTIAL SANCTIONS RISKS FOR FACILITATING RANSOMWARE PAYMENTS, (Sept. 21, 2021), https://home.treasury.gov/system/files/126/ofac_ransomware_advisory.pdf (updating the October 1, 2020, advisory); *see also Treasury Takes Action Against Suex: What You Need To Know*, CHAINALYSIS (Sept. 22, 2021), https://go.chainalysis.com/ofac-update-suex-recording.html?aliId=eyJpIjoiUURPXC9IbklWd0FjU3NTUDAiLCJ0IjoidWZzdWR5UG9qTGQxa3Z0RTcrcDNhZz09In0%253D (describing the reasons for the update).

27. *See* discussion *infra* Section III.D.

How do we steer between the Scylla of legal liability and the Charybdis of a cyberattack?[28] Sometimes, as in our hospital hypothetical, ransoms should be paid as the lesser evil. Simply punishing ransom payments, therefore, would be unjust and probably insufficient. Confronted with potential loss of life, people may rightly choose legal liability.

On the other hand, society cannot allow itself to be held hostage. Public order requires that those who endanger individual lives, enterprises, and core social functions be resisted, and that there be consequences for such endangerment. That is, the status quo, in which many enterprises simply pay off cybercriminals, incentivizes and facilitates more cyberattacks, and is, thereby, unsustainable.

The threat of legal liability for ransomware payments with no positive incentive for potential victims is unlikely to encourage adoption of sound security measures or even to stop payments, and may be counterproductive if it leads victims to conceal attacks. This article argues for the creation of a safe harbor for payment that (i) enables the victim and those who assist the victim to pay when necessary (protecting stakeholders), but that also (ii) deters attacks (hardening targets), and (iii) facilitates interdiction of attacks that do occur (defending national security). Part II of this Article reviews the current ransomware landscape, including the ransomware hackers, their weapons, and the mechanics of such attacks. Part III examines the national security implications of ransomware attacks, and the liabilities that payment of a ransom may trigger. Part IV looks at the decision to pay a ransom and the practical and ethical considerations that ransomware victims currently confront. In response to the public and private dilemmas now presented by ransomware attacks, Part V proposes a safe harbor: a system of clear requirements and regulatory restraint designed to contain and manage ransomware threats with the minimum individual and societal cost.

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28. *See* Edward J. Krauland et al., *Five Key Takeaways from OFAC and FinCEN's Ransomware Advisories*, LEXOLOGY: INTERNATIONAL COMPLIANCE BLOG (Oct. 6, 2020), https://www.lexology.com/library/detail.aspx?g=631463e7-9bad-4d95-a92c-a1af3d874e46 (describing the "conundrum" faced by ransomware victims and companies that assist them).

I.
Ransomware Attacks

A. *What Is Ransomware?*

1. *Definition*

Malicious computer software, or "malware," is intended to cause a victim's computer to behave in a manner inconsistent with the intention of the owner or user of the victim's computer, often unbeknownst to that person.[29] "Ransomware" is a species of malware that "infects a computer and encrypts some or all of the data or files on the computer, and then demands that the victim pay a ransom in order to decrypt and recover the files, or in order to prevent the hacker from distributing or destroying the data."[30] A ransomware attack may take a variety of forms, but often involves either a "locker" or a "crypto" strategy. "Locker" ransomware holds the user's data behind a locked interface, demanding that the victim pay the ransom to unlock the data.[31] Under such an attack, a computer may be unusable, but data files may be untouched.[32] "Crypto" ransomware leaves the data accessible to the system but makes it indecipherable and therefore unusable without the decryption key.[33] During a crypto attack, the computer may still be usable, though continuing to use it may spread the ransomware.[34]

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29. Indictment at 28, United States v. Hyok, No. CR 2:20-cr-00614-DMG (C.D. Cal. Dec. 8, 2020) (defining the term).

30. *Id.* at 30 (defining the term).

31. *See* Kevin Savage et al., Symantec, The Evolution of Ransomware 6 (2015), https://its.fsu.edu/sites/g/files/imported/storage/images/information-security-and-privacy-office/the-evolution-of-ransomware.pdf (outlining security responses to ransomware).

32. *See id.*

33. *See id.*

34. *See* Alison Grace Johansen, *What is a Computer Virus?*, Norton (July 23, 2020), https://us.norton.com/internetsecurity-malware-what-is-a-computer-virus.html (warning that "once the virus infects your computer, the virus can infect other computers on the same network); *see also* Tyler Omoth, *How Computer Viruses Spread and How to Avoid Them*, ITPro (Mar. 26, 2021), https://www.itpro.com/security/malware/357313/how-do-computer-viruses-spread (pointing out that once "you're alerted to the presence of a virus, you need to remove it as soon as possible. The longer you leave it the more damage it can do.").

2. *History*

One of the first widely known ransomware attacks occurred in 1989. Biologist Joseph Popp distributed 20,000 infected disks labeled, "AIDS Information – Introductory Diskettes" to AIDS researchers.[35] Once the recipient's computer was booted up 90 times, the AIDS Trojan virus hid or encrypted the computer's files.[36] In order to regain access, users were instructed to send $189 to PC Cyborg Corporation in Panama.[37] Popp did not make much of a profit from his virus because of the difficulty in sending the payments and the development of antidote tools; he was arrested and charged with blackmail in the United Kingdom.[38]

The use of ransomware that encrypted users' data and extorted some kind of payment began to gain steam in the mid-2000s;[39] locker ransomware, in particular, became popular in the late 2000s.[40] Some examples of more recent ransomware

35. Juliana De Groot, *A History of Ransomware Attacks: The Biggest and Worst Ransomware Attacks of All Time,* DIGITAL GUARDIAN (Dec. 1, 2020), https://digitalguardian.com/blog/history-ransomware-attacks-biggest-and-worst-ransomware-attacks-all-time.

36. Kaveh Waddell, *The Computer Virus that Haunted Early AIDS Researchers,* THE ATLANTIC (May 10, 2016), https://www.theatlantic.com/technology/archive/2016/05/the-computer-virus-that-haunted-early-aids-researchers/481965/ (detailing the AIDS Trojan virus).

37. Marlese Lessing, *Case Study: AIDS Trojan Ransomware,* SDXCENTRAL (Jun. 3, 2020), https://www.sdxcentral.com/security/definitions/case-study-aids-trojan-ransomware/ (explaining how the virus worked).

38. Waddell, *supra* note 36 (explaining the payment instructions).

39. *See* Savage, *supra* note 31, at 9 (discussing the Trojan.Gpcoder and Trojan.Cryzip families of viruses).

40. *See id.* at 10 (discussing the Trojan.Randsom.C malware).

strains[41] have included: CryptoLocker,[42] SamSam,[43] Emotet,[44] Petya and NotPetya,[45] WannaCry,[46] and DarkSide.[47]

The pace of ransomware attacks has continued to accelerate, breaking records in 2020 and 2021 with the United States bearing the brunt.[48] One factor contributing to the number of

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41. Emsisoft Malware Lab, *Ransomware Statistics for 2021: Q2 Report,* EMSISOFT BLOG (July 6, 2021), https://blog.emsisoft.com/en/38864/ransomware-statistics-for-2021-q2-report/ (noting that STOP (Djvu) attacks accounted for 71.20% of ransomware strains in the second quarter of 2021); *see also Ransomware Attacks and Types – How Encryption Trojans Differ,* KASPERSKY, https://usa.kaspersky.com/resource-center/threats/ransomware-attacks-and-types (last visited Aug. 2, 2021) (listing other variants including Bad Rabbit, Ryuk, Shade/Troldesh, Jigsaw, Petya, GoldenEye, GandCrab, B0r0nk0k, Dharma Brr, FAIRRANSOMWARE, and MADO).

42. CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY, ALERT TA13-309A, CRYPTOLOCKER RANSOMWARE INFECTIONS (Oct. 7, 2016), https://us-cert.cisa.gov/ncas/alerts/TA13-309A (explaining that CryptoLocker restricts access to infected computers and demands the victim provide a payment to the attackers to decrypt and recover their files); *see also* Bart Custers et al., *Laundering the Profits of Ransomware: Money Laundering Methods for Vouchers and Cryptocurrencies,* 28 EUR. J. CRIME, CRIM. L. & CRIM. JUST. 121, 132 (2020) (explaining that CryptoLocker was targeted at Microsoft Windows and is disseminated via infected email attachments).

43. Cybersecurity & Infrastructure Security Agency, Alert AA18-337A, SAMSAM RANSOMWARE (Dec. 3, 2018), https://us-cert.cisa.gov/ncas/alerts/AA18-337A (warning that, once in, the ransomware infects all reachable hosts on the victim's network).

44. CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY, ALERT TA18-201A, EMOTET RANSOMWARE (Jan. 23, 2020), https://us-cert.cisa.gov/ncas/alerts/TA18-201A (explaining that Emotet is a modular banking Trojan affecting state, local, tribal, and territorial governments, and the private and public sectors).

45. CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY, ALERT TA17-181A, PETYA RANSOMWARE (Feb. 15, 2018), https://us-cert.cisa.gov/ncas/alerts/TA17-181A (explaining that NotPetya is a variant of Petya attributed to the Russian military that encrypts files and makes Windows computers unusable).

46. *What is Wannacry/Wannacryptor?,* NAT'L CYBERSECURITY & COMMC'N. INTEGRATION CTR., https://us-cert.cisa.gov/sites/default/files/FactSheets/NCCIC%20ICS_FactSheet_WannaCry_Ransomware_S508C.pdf (last visited July 21, 2021).

47. CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY, ALERT AA21-131A, DARKSIDE RANSOMWARE: BEST PRACTICES FOR PREVENTING BUSINESS DISRUPTION FROM RANSOMWARE (July 8, 2021), https://us-cert.cisa.gov/ncas/alerts/aa21-131a (discussing Ransomware-as-a-Service).

48. Silver, *supra* note 5; Claudia Glover, *Unprecedented Ransomware Spike Puts Government in the Crosshairs,* TECHMONITOR (Aug. 4, 2021), https://techmonitor.ai/technology/cybersecurity/record-breaking-ransomware-at-

attacks in 2020 was the COVID-19 pandemic,[49] which shifted a substantial part of the U.S. workforce to working from home.[50] One survey found that, during the pandemic, over a third of companies did not practice common cybersecurity protocols such as phishing training and multi-factor authentication.[51] Remote work required people to do business from out-of-network, relatively unsecured, computers.[52] A computer network is only as strong as its least vigilant user,[53] and during the pandemic many users were overstretched and distracted.[54] But ransomware was a problem before 2020, and will continue to

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tempt-spike (noting that the number of attempted attacks had already exceeded the total number for 2020).

49. FIN. CRIMES ENF'T NETWORK, ADVISORY ON CYBERCRIME AND CYBER-ENABLED CRIME EXPLOITING THE CORONAVIRUS DISEASE 2019 (COVID-19) PANDEMIC, FIN-2020-A005 (July 30, 2020), https://www.fincen.gov/sites/default/files/advisory/2020-07-30/FinCEN%20Advisory%20Covid%20Cybercrime%20508%20FINAL.pdf (warning that illicit actors were engaged in fraudulent schemes that exploited vulnerabilities created by the pandemic); *To Stop the Ransomware Pandemic, Start with the Basics*, ECONOMIST (June 19, 2021), https://www.economist.com/leaders/2021/06/19/to-stop-the-ransomware-pandemic-start-with-the-basics (noting that workers logging in from home added to cyber-risk).

50. Robert McMillan et al., *NYC's Subway Operator and Martha's Vineyard Ferry Latest to Report Cyberattacks,* WALL ST. J. (June 2, 2021), https://www.wsj.com/articles/ransomware-scourge-continues-as-essential-services-are-hit-11622672685 (stating that the potential profit from ransomware coupled with the increase in remote working during COVID-19 provided the incentive and opportunity for ransomware); Ben Kochman, *Insurers Set Limits on Risky Sectors Amid Cybercrime Spike*, LAW360 (May 21, 2021), https://www.law360.com/articles/1387175/insurers-set-limits-on-risky-sectors-amid-cybercrime-spike (noting that work from home environments created security gaps).

51. Sydney Wess, *Cybersecurity Risk Management Best Practices,* VISUAL OBJECTS (Oct. 27, 2020), https://visualobjects.com/app-development/blog/cybersecurity-risk-management (providing statistics regarding cybersecurity measures companies required for remote work during COVID-19).

52. Michael K. Lindsey, *Cybersecurity Concerns for 2021,* 63-FEB ORANGE COUNTY LAW. 34 (Feb. 2021), http://www.virtualonlineeditions.com/publication/?m=15276&i=692099&view=articleBrowser&article_id=3884376&ver=html5 (noting that people's home Wi-Fi networks may not be up to the standards of protection maintained in a company office).

53. *Id.* (explaining that the bulk of data breaches are due to human error).

54. Ben Kochman, *How Ransomware Will Continue Wreaking Havoc In 2021*, LAW360 (Jan. 3, 2021), https://www.law360.com/articles/1334799/how-ransomware-will-continue-wreaking-havoc-in-2021 (also noting communications gaps with remote employees).

challenge business and government actors in the coming years.

B. *Victims*

Ransomware victims encompass all kinds of entities, including health systems,[55] municipalities,[56] universities,[57] school districts,[58] and both large and small companies. The U.S. Federal Bureau of Investigation (FBI) reported that approximately 2,500 organizations were victims of ransomware in 2020.[59]

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55. *See, e.g.*, *147,000 Patients Affected by Scripps Health Ransomware Attack,* HIPAA J. (June 3, 2021), https://www.hipaajournal.com/147000-patients-affected-by-scripps-health-ransomware-attack/ (detailing the attack).

56. For example, there was a coordinated attack on 22 Texas municipalities in 2019. *Should Cities Ever Pay Ransom to Hackers?,* WALL ST. J. (Sept. 17, 2019), https://www.wsj.com/articles/should-cities-ever-pay-ransom-to-hackers-11568772120 (featuring the comments of academic experts). The Texas attacks have been attributed to REvil. *US Justice Department Announces Indictment Against REvil Ransomware Suspect Behind 2019 Ransomware Attack on Texas Municipalities*, TEX. DEP'T OF INFO. RES. (Nov. 8, 2021), https://dir.texas.gov/news/us-justice-department-announces-indictment-against-revil-ransomware-suspect-behind-2019.

57. For example, in June 2020, the University of California paid over $1 million to salvage research locked down by ransomware. Charlie Osborne, *University of California SF Pays Ransomware Hackers $1.14 Million to Salvage Research,* ZDNET (June 30, 2020), https://www.zdnet.com/article/university-of-california-sf-pays-ransomware-hackers-1-14-million-to-salvage-research/ (discussing the measures undertaken by the university). That same summer, the University of Utah paid approximately half a million dollars to prevent ransomware hackers from leaking student data. Catalin Cimpanu, *University of Utah Pays $457,000 to Ransomware Gang,* ZDNET (Aug. 21, 2020), https://www.zdnet.com/article/university-of-utah-pays-457000-to-ransomware-gang/ (noting that the university restored much of their data from backups).

58. Tawnell D. Hobbs, *Schools Struggling to Stay Open Get Hit By Ransomware Attacks,* WALL ST. J (Nov. 13, 2020), https://www.wsj.com/articles/my-information-is-out-there-hackers-escalate-ransomware-attacks-on-schools-11605279160 (stating the newspaper documented nearly three dozen ransomware attacks on school districts between March and November 2020).

59. FED. BUREAU OF INVESTIGATIONS, *supra* note 11, at 14 https://www.ic3.gov/Media/PDF/AnnualReport/2020_IC3Report.pdf (noting those incidents triggered over $29 million in adjusted losses); *see also* Emsisoft Malware Lab, *The State of Ransomware in the U.S.: Report and Statistics 2020*, EMSISOFT BLOG (Jan. 18, 2021), https://blog.emsisoft.com/en/37314/the-state-of-ransomware-in-the-us-report-and-statistics-2020/ (estimating that approximately 2,400 U.S. entities suffered attacks in 2020).

Examples abound. In August 2019, the computers of 22 municipalities in Texas fell victim to a coordinated attack seeking $2.5 million to unlock their files.[60] In June 2020, the NetWalker hackers extorted $1.14 million from the University of California at San Francisco's School of Medicine[61] "in exchange for a tool to unlock the encrypted data and the return of the data they obtained."[62] In July 2020, the University of Utah paid unknown hackers over $450,000 in response to an attack on the computer services for the College of Social and Behavioral Science.[63] In May 2021, Scripps Hospital System in San Diego was struck by a ransomware attack which lasted nearly four weeks and affected over 147,000 patients.[64]

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60. Bobby Allyn, *22 Texas Towns Hit with Ransomware Attack in 'New Front' of Cyberassault,* NPR (Aug. 20, 2019), https://www.npr.org/2019/08/20/752695554/23-texas-towns-hit-with-ransomware-attack-in-new-front-of-cyber-assault (reporting that the ransomware hackers requested a $2.5 million ransom); s*ee also* Amelia A. Boylan, *After the Ransomware Attacks: Texas Governance and Authorities for Cyberattack Response,* HOMELAND SECURITY TODAY (Nov. 13, 2019), https://www.hstoday.us/subject-matter-areas/infrastructure-security/after-the-ransomware-attacks-texas-governance-and-authorities-for-cyberattack-response/ (noting that the Sodinokibi ransomware strain was used).

61. Davey Winder, *The University of California Pays $1 Million Ransom Following Cyber Attack,* FORBES (June 29, 2020), https://www.forbes.com/sites/daveywinder/2020/06/29/the-university-of-california-pays-1-million-ransom-following-cyber-attack/?sh=623202f618a8. The NetWalker hackers were reported to be responsible for the University of California, San Francisco, hack in June 2020; *see* Joe Tidy, *How Hackers Extorted $1.14m from University of California, San Francisco,* BBC (June 29, 2020), https://www.bbc.com/news/technology-53214783 (claiming to have observed the ransom negotiation).

62. *See* Univ. of Cal. San Francisco, *Update on IT Security Incident at UCSF,* CAMPUS NEWS (June 26, 2020), https://www.ucsf.edu/news/2020/06/417911/update-it-security-incident-ucsf (discussing the hack); Lauren Berg, *Calif. University Says It Paid $1.14M in Ransomware Attack,* LAW360 (June 29, 2020) (reporting that the malware rendered a number of School of Medicine servers inaccessible).

63. Scott D. Pierce, *University of Utah Pays $450K to Stop Cyberattack on Servers,* U.S. NEWS (Aug. 22, 2020), https://www.usnews.com/news/best-states/utah/articles/2020-08-22/university-of-utah-pays-450k-to-stop-cyberattack-on-servers.

64. *147,000 Patients Affected by Scripps Health Ransomware Attack, supra* note 55 (noting that staff were forced to work with paper charts and the attackers acquired some patient information). It is unknown who is responsible. Kat Jercich, *Scripps CEO Says Attack Was Ransomware,* HEALTHCARE IT NEWS (May 26, 2021), https://www.healthcareitnews.com/news/scripps-ceo-says-attack-was-ransomware (noting that a number of recent attacks on healthcare institutions have involved Conti ransomware).

It is possible some non-profits and municipalities are softer targets because they may have weaker cybersecurity controls, including inadequate system backups and ineffective incident response capabilities.[65] Other attacks may be motivated by the potential for far-reaching impacts and maximum publicity. In May 2021, DarkSide encrypted Colonial Pipeline's data, which precluded operation of its business.[66] The ensuing shutdown of pipelines, which served much of the eastern United States, resulted in runs on gasoline, higher gas prices, and shortages[67] that impacted millions of Americans.[68] Colonial Pipeline paid $4.4 million in Bitcoin to DarkSide to regain control of its pipeline data.[69]

C. *Hackers and Their Weapons*

1. *Examples*

In some cases, the attackers are known to authorities; many are repeat players. DarkSide, which is said to operate from Russia, carried out a ransomware attack on the North American division of chemical distribution giant Brenntag[70]

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65. FIN. CRIMES ENF'T NETWORK, *supra* note 24, https://www.fincen.gov/sites/default/files/advisory/2021-11-08/FinCEN%20Ransomware%20Advisory_FINAL_508_.pdf (citing the Multi-State Information Sharing and Analysis Center (MS-ISAC) security primer on ransomware published in 2020).

66. It also resulted in the theft of personal information of almost 6,000 employees and their families. Brian Fung, *Colonial Pipeline Says Ransomware Attack Also Led to Personal Information Being Stolen*, CNN (Aug. 16, 2021), https://www.cnn.com/2021/08/16/tech/colonial-pipeline-ransomware/index.html.

67. Collin Eaton & Amrith Ramkumar, *Colonial Pipeline Shutdown: Is There a Gas Shortage and When Will the Pipeline Be Fixed?*, WALL ST. J. (May 13, 2021), https://www.wsj.com/articles/colonial-pipeline-cyberattack-hack-11620668583 (noting that Colonial Pipeline supplied about 45% of the fuel consumed on the East Coast).

68. Abigail Ng, *A Major U.S. Pipeline Is Still Mostly Shut Due to a Cyberattack. Here's what you need to know*, CNBC (May 10, 2021), https://www.cnbc.com/2021/05/10/largest-us-fuel-pipeline-colonial-still-mostly-shut-impact-and-reopening.html (reporting that the pipeline connects Gulf Coast refineries with more than 50 million people in the U.S. South and East).

69. Approximately $2.3 million of the ransom was recovered by the Department of Justice (DOJ). *See* discussion *infra* Section V.F.

70. Lawrence Abrams, *Chemical Distributor Pays $4.4 Million to DarkSide Ransomware*, BLEEPINGCOMPUTER (May 13, 2021, 6:24 PM), https://www.bleepingcomputer.com/news/security/chemical-distributor-pays-44-

shortly before its attack on Colonial Pipeline. Brenntag reportedly also paid a $4.4 million ransom in Bitcoin to DarkSide in May 2021 to receive a decryptor and to prevent DarkSide from leaking exfiltrated data.[71] After the disruptions caused by the Colonial Pipeline attack, however, DarkSide apologized, stating "[o]ur goal is to make money, and not creating problems for society."[72] The group later took its website down, purportedly to avoid becoming part of the crossfire between the U.S. and Russian presidents.[73]

REvil (Ransomware Evil), also known as the Sodinokibi gang,[74] successfully carried out an attack against London foreign currency exchange firm Travelex on New Year's Eve in 2020, demanding a $6 million ransom.[75] REvil claimed to have accessed Travelex's network, downloading and encrypting its data.[76] After weeks of negotiations, Travelex agreed to pay a

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million-to-darkside-ransomware (noting that DarkSide created a private leak page for the company with a description of the types of data that had been stolen and screenshots of some of the files).

71. *Id.* (noting that the $4.4 million in Bitcoin had been reduced from approximately $7.5 million initially demanded).

72. Tim Bradshaw & Hannah Murphy, *We Regret 'Creating Problems,' Say Colonial Petroleum Pipeline Hackers*, FIN. TIMES (May 10, 2021), https://www.ft.com/content/0afb53f0-f382-442a-9a32-02824ce8bb70 (reporting DarkSide claimed to be 'apolitical').

73. David E. Sanger, *Russia's Most Aggressive Ransomware Group Disappeared. It's Unclear Who Made That Happen.*, N.Y. TIMES (July 13, 2021), https://www.nytimes.com/2021/07/13/us/politics/russia-hacking-ransomware-revil.html?referringSource=articleShare (noting that some believe the group will reorganize under another name).

74. Some cybersecurity experts have highlighted a possible connection between DarkSide and REvil. *See DarkSide Ransomware Links to REvil Group Difficult to Dismiss,* FLASHPOINT (May 11, 2021), https://www.flashpoint-intel.com/blog/darkside-ransomware-links-to-revil-difficult-to-dismiss/ (suggesting that the DarkSide threat actors were from Russia, and likely former REvil affiliates); *What We Know About the DarkSide Ransomware and the US Pipeline Attack,* TREND MICRO (May 17, 2021, 3:25 AM), https://www.trendmicro.com/en_us/research/21/e/what-we-know-about-darkside-ransomware-and-the-us-pipeline-attac.html (noting that the DarkSide ransomware shared many similarities with REvil).

75. Akshaya Asokan, *Travelex Paid $2.3 Million to Ransomware Gang: Report*, BANK INFO SEC. (Apr. 10, 2020), https://www.bankinfosecurity.com/travelex-paid-23-million-to-ransomware-attackers-report-a-14094 (reporting that Travelex's customer service was crippled for weeks during the negotiations).

76. *Id.*

ransom in Bitcoin valued at $2.3 million.[77] Reporters at a UK newspaper claimed to have confirmed the payment with representatives of the Sodinokibi gang in an online chat.[78] In March 2021, REvil launched an attack against Taiwanese computer manufacturer Acer.[79] The Acer attack was reportedly accompanied by a $50 million ransom demand.[80] The technology news website *Bleeping Computer* reported that REvil offered Acer a 20% discount if the payment was transferred by an earlier deadline.[81] In May 2021, REvil launched a ransomware attack against meat producer JBS SA, and JBS's U.S. division paid the hackers a ransom in bitcoin valued at $11 million.[82] In early July 2021, REvil launched an attack on the Kaseya virtual system administrator[83] that infected hundreds of organizations worldwide, including both small and medium-sized companies (for whom ransoms in the $25,000–$150,000 range were reported) and larger service providers (one of which was reportedly asked for $5 million).[84]

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77. *Id.*

78. *Id.* (reporting that the confirmation was claimed by the Journal).

79. Brittany Vincent, *Acer Falls Victim to $50 Million Ransomware Attack*, PC MAG (Mar. 20, 2021), https://www.pcmag.com/news/acer-falls-victim-to-50-million-ransomware-attack (speculating that REvil may have exploited a vulnerability in Microsoft Exchange to pull off the hack).

80. *Id.* (reporting that REvil threated to leak stolen data if the ransom went unpaid).

81. Lawrence Abrams, *Computer Giant Acer Hit by $50 Million Ransomware Attack*, BLEEPINGCOMPUTER (Mar. 19, 2021), https://www.bleepingcomputer.com/news/security/computer-giant-acer-hit-by-50-million-ransomware-attack/.

82. Jacob Bunge, *JBS Paid $11 Million to Resolve Ransomware Attack*, WALL ST. J. (June 9, 2021, 8:27 PM), https://www.wsj.com/articles/jbs-paid-11-million-to-resolve-ransomware-attack-11623280781 (explaining that JBS USA Holdings Inc. paid to avoid more disruptions in the nation's meat supply).

83. Robert McMillan, *Ransomware Attack Affecting Likely Thousands of Targets Drags On*, WALL ST. J. (July 4, 2021, 12:27 PM), https://www.wsj.com/articles/ransomware-group-behind-meat-supply-attack-threatens-hundreds-of-new-targets-11625285071 (explaining that REvil likely focused its attack on the Kaseya virtual system administrator, or VSA, software which is used by companies and technology service providers to carry out software updates on computer networks).

84. *Id.* (reporting that as many as 40,000 computers were affected worldwide). The abrupt disappearance of the group on July 13, 2021 reportedly left the then-current victims in the middle of negotiations to get their data back. David E. Sanger, *Russia's Most Aggressive Ransomware Group Disappeared. It's Unclear Who Made That Happen.* N.Y. TIMES (July 13, 2021), https://

Evil Corp., also known as the Dridex gang,[85] allegedly operates with the approval and possibly the assistance of the Russian Intelligence Services.[86] Evil Corp. has been active since 2007, and is blamed for using the Locky ransomware against individual households in 2016 as well as the BitPaymer ransomware against larger enterprise targets in 2017 and 2018.[87] Despite the fact that several of its members faced U.S. charges in 2019,[88] Evil Corp. went on to deploy WastedLocker in 2020, which attacked U.S. banks, financial institutions, and a number of corporations including Garmin.[89] In 2021, Evil Corp. likely deployed the Phoenix Locker ransomware against a vari-

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www.nytimes.com/2021/07/13/us/politics/russia-hacking-ransomware-revil.html?referringSource=articleShare.

85. Lawrence Abrams, *New Evil Corp Ransomware Mimics PayloadBin Gang to Evade US Sanctions*, BLEEPINGCOMPUTER (June 6, 2021, 4:52 PM), https://www.bleepingcomputer.com/news/security/new-evil-corp-ransomware-mimics-payloadbin-gang-to-evade-us-sanctions/ (reporting that Evil Corp. also goes by Indrik Spider).

86. *See* Press Release, U.S. Dep't of the Treasury, Treasury Sanctions Russia with Sweeping New Sanctions Authority (Apr. 15, 2021), https://home.treasury.gov/news/press-releases/jy0127.

87. Catalin Cimpanu, *New WastedLocker Ransomware Demands Payments of Millions of USD*, ZDNET (June 23, 2020), https://www.zdnet.com/article/new-wastedlocker-ransomware-demands-payments-of-millions-of-usd/ (calling Evil Corp "one of the biggest malware operations on the planet").

88. Bobby Allyn, *Russian Hacking Group Evil Corp. Charged by Federal Prosecutors in Alleged Bank Fraud*, NPR (Dec. 5, 2019, 1:43 PM) https://www.npr.org/2019/12/05/785034567/russian-hacking-group-evil-corp-charged-by-federal-prosecutors-in-alleged-bank-f (reporting the criminal indictments of Maksim Yakubets and Igor Turashev, both of whom lived in Russia). The United States also offered a $5 million reward for information leading to the arrest of Yakubets. Lindsey O'Donnell, *Feds Offer $5M Reward to Nab 'Evil Corp' Dridex Hacker*, THREATPOST (Dec. 5, 2019, 12:55 PM), https://threatpost.com/feds-5m-reward-evil-corp-dridex-hacker/150858/. OFAC also imposed sanctions on Evil Corp. itself. Sanctions List Search for Evil Corp., OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, https://sanctionssearch.ofac.treas.gov/Details.aspx?id=26664 (last visited Oct. 20, 2021) (listing Evil Corp.).

89. Alex Hern, *Ransomware Attack on Garmin Thought to Be the Work of 'Evil Corp'*, THE GUARDIAN (July 27, 2020), https://www.theguardian.com/technology/2020/jul/27/ransomware-attack-on-garmin-thought-to-be-the-work-of-evil-corp (reporting that Garmin had been held hostage for a reported $10 million ransom).

ety of targets, including U.S. commercial insurance giant CNA Financial Corp.[90]

2. *National/Political Motivations*

A number of attacks have been carried out by foreign governments or state-sponsored entities. The U.S. government has attributed both the 2014 Sony Pictures Entertainment hack and the 2017 WannaCry 2.0 ransomware attacks to North Korean state-sponsored cyber-crime activity (referred to as Hidden Cobra[91] or the Lazarus Group). An April 2020 cyber threat advisory issued by the FBI and U.S. Departments of State, Treasury, and Homeland Security warned that, under the pressure of U.S. and UN sanctions, North Korea is employing cybercrime to generate revenue for its weapons of mass destruction and ballistic missile programs, as well as to disrupt critical U.S. infrastructure.[92] One expert has warned that "threat actors associated with rival nations such as Iran and North Korea have adopted ransomware attacks as a fast and easy means to bypass U.S. economic sanctions and funnel badly needed capital into their cash-starved economies."[93]

In April 2021, President Biden signed an executive order blocking property of certain persons in response to the malicious cyberactivities of the Russian government.[94] The order included in particular the Russian intelligence services, while OFAC concurrently added over 40 persons in the Russian technology sector to the SDN list.[95] In the Treasury Department's

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90. Elizabeth Montalbano, *Insurance Giant CNA Hit with Novel Ransomware Attack*, THREATPOST (Mar. 26, 2021, 12:06 PM), https://threatpost.com/cna-hit-novel-ransomware/165044/ (initially reporting that CNA planned to restore its systems using backup rather than pay the ransom).

91. U.S. DEP'T OF THE TREASURY, DPRK CYBER THREAT ADVISORY: GUIDANCE ON THE NORTH KOREAN CYBER THREAT (Apr. 15, 2020), https://home.treasury.gov/system/files/126/dprk_cyber_threat_advisory_20200415.pdf (reporting that Australia, Canada, New Zealand, and the United Kingdom joined the U.S. in attributing WannaCry 2.0 to the DPRK).

92. *Id.*

93. John Reed Stark, *An OFAC Compliance Checklist for Ransomware Payments*, LAW360 (Feb. 2, 2021, 5:43 PM), https://www.law360.com/articles/1349647/.

94. Exec. Order No. 14,024, 86 Fed. Reg. 20249 (Apr. 15, 2021).

95. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T. OF THE TREASURY, ISSUANCE OF EXECUTIVE ORDER BLOCKING PROPERTY WITH RESPECT TO SPECIFIED HARMFUL FOREIGN ACTIVITIES OF THE GOVERNMENT OF THE RUSSIAN FEDERA-

accompanying press release, it stated that Russian intelligence services executed a number of recent cyberattacks, including the 2020 SolarWinds cyberattack against some U.S. government targets.[96] The Treasury Department also stated that, to bolster their malicious cyber operations, Russian intelligence services "cultivate and co-opt criminal hackers," including Evil Corp.,[97] "enabling them to engage in disruptive ransomware attacks."[98]

In July 2021, the United States and a number of other countries accused China of "malicious cyber activity and irresponsible state behavior" for its use of criminal contract hackers to conduct unsanctioned cyber operations.[99] The United States claimed that Chinese government-affiliated "cyber-operators have conducted ransomware operations against private companies that have included ransom demands of millions of dollars," and attributed several attacks to hackers working with the Chinese Ministry of State Security.[100] U.S. officials condemned China's unwillingness to address criminal hacking activity by China-based groups.[101] On the same day, U.S. federal prosecutors announced indictment of four Chinese provincial

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TION AND RELATED FREQUENTLY ASKED QUESTIONS; RUSSIA-RELATED DESIGNATIONS, (Apr. 15, 2021), https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20210415 (listing 19 new individuals and 25 new entities).

96. *See* Press Release, U.S. Dep't of the Treasury, Treasury Sanctions Russia with Sweeping New Sanctions Authority (Apr. 15, 2021), https://home.treasury.gov/news/press-releases/jy0127 (stating that Russian Intelligence Services were responsible for the 2020 exploit of the SolarWinds Orion platform and other information technology infrastructures).

97. *See* discussion *infra* Section III.B.

98. *See* Press Release, U.S. Dep't of the Treasury, Treasury Sanctions Russia with Sweeping New Sanctions Authority (Apr. 15, 2021), https://home.treasury.gov/news/press-releases/jy0127.

99. *See* White House Statement, The United States, Joined by Allies and Partners, Attributes Malicious Cyber Activity and Irresponsible State Behavior to the People's Republic of China (July 19, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/07/19/the-united-states-joined-by-allies-and-partners-attributes-malicious-cyber-activity-and-irresponsible-state-behavior-to-the-peoples-republic-of-china/ (enumerating U.S. concerns with China's malicious cyber activity, including ransomware).

100. *Id.*

101. *See* Kochman & Stewart, *supra* note 15 (discussing indictments relating to China and Chinese hackers unsealed on July 19, 2021).

government intelligence officers for hacking dozens of U.S. computer systems.[102]

Ransomware hackers are believed to operate with impunity and even official encouragement in Iran as well. U.S. regulators have claimed that Iran has harbored the hackers responsible for a number of cyberattacks,[103] including the SamSam ransomware.[104] In September 2020, OFAC imposed sanctions on the Iranian intelligence ministry-backed cyber-attackers Advanced Persistent Threat 39 (APT39) and 45 associated persons for cyberattacks against perceived Iranian adversaries.[105]

3. *The Business of Ransoms and Ransomware-as-a-Service*

These days, ransomware extortion is a profitable industry. The Sodinokibi hackers are thought to have made over $81 million in 2020 alone.[106] Ransomware-as-a-Service (RaaS), in which software developers license their products to would-be hackers for a fixed fee or for a share of successful ransom pay-

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102. Indictment, U.S. v. Ding Xiaoyang, No. 21 CR1622 GPC (S.D. Cal. May 28, 2021), https://www.law360.com/articles/1404209/attachments/0.

103. Zak Doffman, *Forget Russia—Iranian Hackers Behind Malicious New Cyber Attacks, Warns New Report*, FORBES (Nov. 12, 2020, 6:00 AM), https://www.forbes.com/sites/zakdoffman/2020/11/12/forget-russia-iranian-hackers-behind-malicuous-new-cyber-attacks-warns-new-report/?sh=65cf9357309a (quoting Lotem Finkelsteen that attacks being made on Israeli targets are further proof that the two countries express their aggression mostly through cyberattacks).

104. In December 2018, the U.S. Department of Justice indicted Faramarz Shahi Savandi and Mohammad Mehdi Shah Mansouri, both of Iran, for hacking and extortion. *See* Press Release, U.S. Dep't of Just., Two Iranian Men Indicted for Deploying Ransomware to Extort Hospitals, Municipalities, and Public Institutions, Causing Over $30 Million in Losses (Nov. 28, 2018), https://www.justice.gov/opa/pr/two-iranian-men-indicted-deploying-ransomware-extort-hospitals-municipalities-and-public (alleging both men acted from inside Iran). Additional charges were added a few weeks later. Kate Brumback, *2 Iranian Men Face New Charges Over Atlanta Cyberattack*, ASSOCIATED PRESS (Dec. 5, 2018), https://apnews.com/article/e81264497a074004a8bc042f4f05cdd1 (detailing additional charges).

105. *See* Press Release, U.S. Dep't of the Treasury, Treasury Sanctions Cyber Actors Backed by Iranian Intelligence Ministry (Sept. 17, 2020), https://home.treasury.gov/news/press-releases/sm1127 (accusing APT39 of deploying malware).

106. Ben Kochman, *IBM Says Ransomware Hackers Netted at Least $81M in 2020*, LAW360 (Sept. 28, 2020, 9:17 PM), https://www.law360.com/articles/1314366 (reporting on claims made by IBM's "X-Force" incident response unit).

ments,[107] has become common.[108] DarkSide, responsible for the Brenntag and Colonial Pipeline attacks discussed above, is an example of an RaaS operation.[109] In one model, the RaaS operator works with third-party hackers who gain access and encrypt the target devices. Another group, BlackMatter, posted advertisements on various cybercrime forums seeking partners, claiming its product combined the best features of REvil, Darkside and Lockbit, and touting added functions like printing the ransomware note on all available printers.[110] The RaaS team may then take 20–30% of the ransom payment, with the rest going to the hacker. Some developers create toolkits that can be downloaded and deployed by hackers with less technical skill;[111] others claim to enforce restrictions on potential targets.[112]

Ransomware victims even have their own version of customer service. Attackers have sharpened their business models, including guaranteeing turnaround times, providing real-

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107. Edward Kost, *What Is Ransomware as a Service (RaaS)? The Dangerous Threat to World Security*, UPGUARD: BLOG (Aug. 24, 2021), https://www.upguard.com/blog/what-is-ransomware-as-a-service. This "as-a-service" model follows similar evolutions in the mainstream software and infrastructure industries, which have seen success from "software-as-a-service" and "infrastructure-as-a-service" business models. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., COMBATING RANSOMWARE 16 (Apr. 30, 2021) https://securityandtechnology.org/wp-content/uploads/2021/04/IST-Ransomware-Task-Force-Report.pdf.

108. Marisa Midler, *Ransomware as a Service (RaaS) Threats*, CARNEGIE MELLON UNIV.: SOFTWARE ENG'G INST. BLOG (Oct. 5, 2020), https://insights.sei.cmu.edu/blog/ransomware-as-a-service-raas-threats/ (listing the top ten active ransomware variants in the first quarter of 2020 and noting that four of them use the RaaS model). The Sodinokibi/REvil, Phobos, Dharma, and GlobeImposter ransomware variants also all operate using an RaaS model. *Id.*

109. Abrams, *supra* note 70 (explaining that DarkSide partnered with third-party hackers who gained access to networks and encrypted devices).

110. Dmitry Smilyanets, *An Interview with BlackMatter: A New Ransomware Group That's Learning from the Mistakes of DarkSide and REvil,* THE RECORD (Aug. 2, 2021), https://therecord.media/an-interview-with-blackmatter-a-new-ransomware-group-thats-learning-from-the-mistakes-of-darkside-and-revil/.

111. Juliana De Groot, *A History of Ransomware Attacks: The Biggest and Worst Ransomware Attacks of All Time*, DIGITAL GUARDIAN (Dec. 1, 2020), https://digitalguardian.com/blog/history-ransomware-attacks-biggest-and-worst-ransomware-attacks-all-time.

112. Smilyanets, *supra* note 110.

time chat support for victims, and offering payment demands customized to a victim's financial profile."[113] Some hackers have offered a help line for victims unsure how to buy bitcoin.[114] The ransomware group REvil reportedly set up custom-made sites for each of their victims to use to negotiate getting their data back, and advertised its successes (victims) on a publicly-available "happy blog."[115]

Frequently, the size of the ransom actually paid is negotiated. For example, the Washington, D.C., Metropolitan Police Department reportedly offered the Babuk ransomware group $100,000 in response to a $4 million demand in May 2021.[116] Babuk rejected the offer and claimed to have released 250GB of personal data of police personnel and informers.[117] Other negotiations have been more "successful." In January 2020, Travelex negotiated the ransom from $6 million down to $2.3 million.[118] When CWT Global suffered a Ragnar Locker ransomware attack in July 2020, the initial demand[119] was for $10 million. After discussions in an anonymous public chat room,

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113. Stark, *supra* note 9.

114. Lawrence J. Trautman & Peter C. Ormerod, *Wannacry, Ransomware, and the Emerging Threat to Corporations*, 86 TENN. L. REV. 503, 535 (2019) (quoting Bruce Schneier, IBM Resilient Chief Technology Officer).

115. David E. Sanger, *Russia's Most Aggressive Ransomware Group Disappeared. It's Unclear Who Made That Happen.*, N.Y. TIMES (July 13, 2021, 10:32 AM), https://www.nytimes.com/2021/07/13/us/politics/russia-hacking-ransomware-revil.html?referringSource=articleShare.

116. *See* Thomas Brewster, *Ransomware Hackers Claim to Leak 250GB of Washington, D.C., Police Data After Cops Don't Pay $4 Million Ransom*, FORBES (May 13, 2021, 10:32 AM), https://www.forbes.com/sites/thomasbrewster/2021/05/13/ransomware-hackers-claim-to-leak-250gb-of-washington-dc-police-data-after-cops-dont-pay-4-million-ransom/?sh=51e794e558d0; Peter Hermann & Dalton Bennett, *Ransomware Attack on D.C. Police Resumes with More Internal Files Released*, WASH. POST (May 11, 2021, 6:58 PM), https://www.washingtonpost.com/local/public-safety/ransomware-attack-dc-police/2021/05/11/e1cb8600-b295-11eb-ab43-bebddc5a0f65_story.html (noting that the police stopped further theft of data but the hackers had already stolen a number of documents).

117. Brewster, *supra* note 116.

118. Akshaya Asokan, *Travelex Paid $2.3 Million to Ransomware Gang: Report*, BANK INFO SEC. (Apr. 10, 2020), https://www.bankinfosecurity.com/travelex-paid-23-million-to-ransomware-attackers-report-a-14094.

119. Jack Stubbs, *'Payment Sent' - Travel Giant CWT Pays $4.5 Million Ransom to Cyber Criminals*, REUTERS (July 31, 2020, 9:55 AM), https://www.reuters.com/article/us-cyber-cwt-ransom/payment-sent-travel-giant-cwt-pays-4-5-million-ransom-to-cyber-criminals-idUSKCN24W25W.

the hackers agreed to a bitcoin payment valued at $4.5 million.[120] As mentioned above, the Brenntag ransom of $4.4 million in Bitcoin paid in May 2021 had been reduced from the initial demand of approximately $7.5 million.[121]

D. *Ransomware Payment Mechanics*

1. *Cryptocurrencies*

Ransomware hackers typically demand that their victims send the ransom amount in a cryptocurrency,[122] such as Bitcoin,[123] capitalizing on the relatively unregulated ecosystem of the cryptocurrency markets.[124]

It is often said that cryptocurrencies are anonymous; it is more precise to say that they are generally held pseudonymously. A cryptocurrency is an entry on a digital ledger.[125] Ledger entries are signed, and only modifiable, by authorized parties.[126] The ledger itself, however, is distributed among users of the cryptocurrency, hence "distributed ledger."[127] Distribution of the ledger ensures accuracy; each transaction is

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120. *Id.*

121. Abrams, *supra* note 70 (reporting the lower payment amount).

122. *See* Julio Hernandez-Castro, *An Economic Analysis of Ransomware and Its Welfare Consequences,* 7(3):190023 ROYAL SOCIETY OPEN SCIENCE 4 (Mar. 2020), https://www.researchgate.net/publication/339688144_An_economic_analysis_of_ransomware_and_its_welfare_consequences (noting that "Bitcoin and other cryptocurrencies have played a fundamental role in the 'success' of Cryptolocker and other recent ransomware").

123. *See* Custers et al., *supra* note 42 (noting that although Bitcoin is currently the most common, other cryptocurrencies such as Monero are gaining in popularity among ransomware hackers).

124. Cryptocurrencies add to the challenge of ransomware because they are considered to be borderless, and avoid compliance and other costs imposed by national financial regulation. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 14 (calling cryptocurrencies "borderless").

125. *See* Nareg Essaghoolian, Comment, *Initial Coin Offerings: Emerging Technology's Fundraising Innovation*, 66 UCLA L. REV. 296, 302 (2019) (explaining briefly blockchain technology).

126. *See* Scott J. Shackelford & Steve Myers, *Block-by-Block: Leveraging the Power of Blockchain Technology to Build Trust and Promote Cyber Peace,* 19 YALE J.L. & TECH. 334, 345 (2017) (explaining the use of signing keys).

127. *See* Brandon Ferrick, Note, *Modernizing the Stockholder Shield: How Blockchains and Distributed Ledgers Could Rescue the Appraisal Remedy*, 60 B.C. L. REV. 621, 623 (2019) (describing distributed ledgers).

verified by other copies of the ledger.[128] As a result, each transaction is "named" and even public, not anonymous.[129]

The "names" on the ledger, however, are bitcoin addresses, represented by long alphanumeric strings that generally reveal little about the people involved.[130] Cryptocurrencies are transferred to and from, and held in, designated digital "wallets."[131] If a wallet is "hosted," a second party, like a cryptocurrency exchange, receives, stores, and transmits the currency on behalf of its accountholders.[132] An "unhosted" wallet is one not hosted by a third-party financial system, and has been analogized to an anonymous bank account.[133] If a wallet is unhosted, the beneficial owner of the wallet transfers money in and out of the wallet. Cryptocurrencies may also be moved around using smaller crypto kiosks and trading desks that may be difficult to track.[134]

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128. *See* Bridget J. Crawford, *Blockchain Wills*, 95 IND. L.J. 735, 775 (2020) (explaining how blockchain verifies transactions by comparing it to a personal check).

129. *See* Nicole Perlroth et al., *Pipeline Investigation Upends Idea That Bitcoin is Untraceable,* N.Y. TIMES (June 9, 2021), https://www.nytimes.com/2021/06/09/technology/bitcoin-untraceable-pipeline-ransomware.html (explaining that all Bitcoin transactions are out in the open); Briseida Sofia Jiménez-Gómez, *Risks of Blockchain for Data Protection: A European Approach*, 36 SANTA CLARA HIGH TECH. L.J. 281, 293 (2020) (identifying most cryptocurrencies as pseudo-anonymous, not anonymous).

130. Aff. Supp. Appl. for Seizure Warrant, Case 3:21-mj-70945-LB (N.D. Cal. June 7, 2021), ¶ 18, https://www.justice.gov/opa/press-release/file/1402056/download (comparing bitcoin addresses with bank account numbers).

131. Bitcoin wallets allow users to send and receive bitcoins. They are software applications that interface with the Bitcoin blockchain and generate and store a user's address and private keys (passwords*). Id.* ¶¶ 19–20 (defining Bitcoin wallets and private keys).

132. *See* FIN. CRIMES ENF'T NETWORK, APPLICATION OF FINCEN'S REGULATIONS TO CERTAIN BUSINESS MODELS INVOLVING CONVERTIBLE VIRTUAL CURRENCIES, FIN-2019-G001 (May 9, 2019).

133. *See id.* (explaining some cryptocurrency basics in connection with the proposed rule regarding unhosted wallets).

134. Ben Kochman, *Ransomware Panel Urges Crypto Oversight, Payment Reports,* LAW360 (Apr. 29, 2021, 9:24 PM), https://www.law360.com/articles/1380203/ransomware-panel-urges-crypto-oversight-payment-reports (reporting on the Institute for Security and Technology Ransomware Task Force findings). *See also* RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 6 (prioritizing closer regulation of cryptocurrency exchanges, crypto desks, and over-the-counter trading desks, and recommending that

Much as a shell corporation may do business without needing to disclose the identity of the parties who ultimately benefit, cryptocurrency accounts are merely addresses with which values may be associated.[135] In addition, a ransom often does not flow straight from the ransomware victim to the hacker; it travels through a multi-step process involving different financial entities, many of which are still outside of established (regulated) financial payments markets.[136] Hackers may shuffle cryptocurrencies among various accounts to evade the few institutional safeguards operating in this space,[137] just as shell corporations may be used for money laundering, tax evasion, and the like. In sum, cryptocurrency transfers—including ransom payments—are generally difficult to connect with a particular person, which is why ransomware demands are usually for some quantity of a cryptocurrency.[138]

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they be required to comply with laws relating to customer due diligence and anti-money laundering).

135. Carol Goforth, *The Lawyer's Cryptionary: A Resource for Talking to Clients about Crypto-Transactions*, 41 CAMPBELL L. REV. 47, 56 (2019) (defining cryptocurrency address).

136. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107 (describing steps in the process as "novel").

137. *See* U.S. DEP'T JUST., REPORT OF THE ATTORNEY GENERAL'S CYBER DIGITAL TASK FORCE 51 (2020), www.justice.gov/archives/ag/page/file/1326061/download (noting that many have sought to leverage new financial technology services as a way to "circumvent traditional financial institutions in order to obtain, transfer, and use funds to advance their missions"); *Terrorism Financing in Early Stages with Cryptocurrency But Advancing Quickly*, CHAINALYSIS: INSIGHTS (Jan. 17, 2020), https://blog.chainalysis.com/reports/terrorism-financing-cryptocurrency-2019 (expressing concern regarding advances in technical sophistication in terrorism financing); Yaya Fanusie, *The New Frontier in Terror Fundraising: Bitcoin*, CIPHER BRIEF (Aug. 24, 2016), https://www.thecipherbrief.com/column_article/the-new-frontier-in-terror-fundraising-bitcoin (discussing terrorist financial innovation); Resty Woro Yuniar, *Bitcoin, PayPal Used to Finance Terrorism, Indonesian Agency Says*, WALL ST. J. (Jan. 10, 2017, 10:46 AM), https://www.wsj.com/articles/bitcoin-paypal-used-to-finance-terrorism-indonesian-agency-says-1483964198 (reporting that virtual money was used to make tracking a transaction difficult for law enforcement).

138. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107 (noting that cryptocurrencies add to the challenge of identifying ransomware hackers).

That said, in some circumstances, blockchain explorers[139] and analysis can help interpret public ledgers and reveal individual identities.[140] However, even though law enforcement officials in the Colonial Pipeline and other cases have attributed identities to some digital currency addresses and recovered ransom amounts paid in a cryptocurrency,[141] the majority of transactions are still impossible to trace to a particular person.[142] Ransoms paid are, as a general matter, irrecoverable.

2. *Paying the Ransom*[143]

Recall our hospital victim from the introduction. The hospital promptly notifies its insurance provider, a digital forensics and incident response company, the Department of Health and Human Services,[144] and law enforcement. Soon, our hospital is told by the hackers to pay $10 million in bitcoin

139. A blockchain explorer is a software that draws data from a blockchain and uses a database to arrange and present the data to a user in a searchable format. Affidavit in Support of an Application for a Seizure Warrant at 5, No: 3:21-mj-70945-LB (N.D. Cal. June 7, 2021), https://www.justice.gov/opa/press-release/file/1402056/download (noting that blockchain explorers allow users to search for and review transactional data for addresses on a particular blockchain).

140. Blockchain analysis, often conducted by specialized blockchain analytic companies, can help interpret public blockchain ledgers and identify entities are involved in particular transactions. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107 (explaining blockchain analysis).

141. *See* discussion *infra* Sections III.B and V.F.

142. *See* Paul Vigna & Caitlin Ostroff, *Why Hackers Use Bitcoin and Why It Is So Difficult to Trace,* WALL ST. J. (July 16, 2020, 4:33 PM), https://www.wsj.com/articles/why-hackers-use-bitcoin-and-why-it-is-so-difficult-to-trace-11594931595 (explaining that no identifying information is needed to start a bitcoin account); Madana Prathap, *Bitcoin Does Not Make Payments Anonymous – Just Really Hard to Trace,* BUS. INSIDER INDIA (Aug. 5, 2021), https://www.businessinsider.in/investment/news/bitcoin-does-not-make-payments-anonymous-just-really-hard-to-trace/articleshow/85068905.cms (discussing recent improvements in efforts to link wallet addresses to persons); Requirements for Certain Transactions Involving Convertible Virtual Currency or Digital Assets, 85 Fed. Reg. 83.840, 83,844 (proposed Dec. 23, 2020) (to be codified at 31 C.F.R. Parts 1010, 1020, 1022) (outlining limitations of current tools to identify attribute some activity in convertible virtual currencies to natural persons).

143. *See generally* RANSOMWARE TASK FORCE, INST. FOR SECURITY. & TECH., *supra* note 107, at Appendix B (walking through the steps of the cryptocurrency payment process).

144. 45 C.F.R. § 164.304 (2021) (defining "security incident").

to an address provided. The hospital is scrambling—its care providers are struggling with paper charting and the information in its offsite back-up system is being scanned to make sure it is even usable. Confronted with the specter of compromised patient care, the hospital decides to pay the ransom. How is this payment made?

In a typical arrangement,[145] the hospital might send $10 million by wire transfer from its bank to a cryptocurrency exchange like Coinbase,[146] with instructions to purchase the equivalent amount in bitcoin. The actual transfer of funds may be effected by the hospital itself, or by the incident response team, or even by the hospital's insurer. The bitcoin is then sent from a wallet hosted at the exchange to an address designated by the hacker.

At that point, a hacker typically begins splitting up the funds and moving them around in order to conceal the identity of the ultimate beneficiaries.[147] Sometimes the funds are spread out among hundreds of other wallets.[148] This process may include the following colorfully named, and somewhat overlapping, operations:

- mixers and tumblers,[149] muddying the public ledger by mixing in legitimate traffic with illicit ransomware funds;[150]
- smurfing[151] transactions, breaking the total amount into many smaller amounts across many accounts and exchanges;

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145. FIN. CRIMES ENF'T NETWORK, ADVISORY ON RANSOMWARE AND THE USE OF THE FINANCIAL SYSTEM TO FACILITATE RANSOM PAYMENTS 3 (2021), https://www.fincen.gov/sites/default/files/advisory/2021-11-08/FinCEN%20Ransomware%20Advisory_FINAL_508_.pdf (outlining a typical fact pattern).

146. COINBASE, https://www.coinbase.com (last visited Jul. 24, 2021).

147. *See* Custers et al., *supra* note 42.

148. David Uberti, *How the FBI Got Colonial Pipeline's Ransom Money Back*, WALL ST. J. (June 11, 2021, 5:33 AM), https://www.wsj.com/articles/how-the-fbi-got-colonial-pipelines-ransom-money-back-11623403981 (explaining how the payment was tracked).

149. Mixing or tumbling involves the use of mechanisms to break the connection between an address sending cryptocurrency and the addresses receiving cryptocurrency. FIN. CRIMES ENF'T NETWORK, *supra* note 145 (defining some common terms).

150. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 14 (explaining how funds are mixed with legitimate traffic).

151. Smurfing refers to a layering technique in money laundering that involves breaking total amounts of funds into smaller amounts to move

- "chainhopping," exchanging funds in one cryptocurrency for another using any of a variety of cryptocurrency exchanges;[152]
- money-mules, using service providers to set up accounts, or using accounts with false or stolen credentials;[153] and
- simply moving the cryptocurrency to exchanges and peer-to-peer exchangers[154] in jurisdictions with weak anti-money laundering and anti-terrorism financing controls.

If all goes well, when the hospital pays the ransom, the hospital begins to regain control over its data. The regained control, however, is necessarily partial. It will be unclear whether patient data was exfiltrated and, if so, whether there remains a risk that the data will be released on the web. The digital forensics and incident response team begins the process of tracing the ransomware to identify how it was installed,[155] and to the extent possible, to determine whether the malware is still in the hospital system as a back door for another attack. It will be difficult, maybe impossible, for the hospital to be positive that remediation is complete and risks have been contained.

The incident is likely to be costly. The hospital may need to overhaul or even replace its entire computer system. Patients whose care may have been compromised during the outage may sue.[156] It may be unclear what costs the hospital's

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through multiple accounts before they reach the ultimate beneficiary. FIN. CRIMES ENF'T NETWORK, *supra* note 145 (defining some common terms).

152. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 14 (defining chainhopping).

153. *Id.* (noting illicit account use). *See* Custers et al., *supra* note 42.

154. Peer-to-peer exchangers operate informally, exchanging fiat currencies for virtual currencies or one virtual currency for another virtual currency. *See* FIN. CRIMES ENF'T NETWORK, ADVISORY ON ILLICIT ACTIVITY INVOLVING CONVERTIBLE VIRTUAL CURRENCY 4 (2019), https://www.fincen.gov/sites/default/files/advisory/2019-05-10/FinCEN%20Advisory%20CVC%20FINAL%20508.pdf.

155. It is often a condition to ransomware negotiations that the hacker disclose how it gained access to the victim's network. *See* Abrams, *supra* note 70 (discussing the Brenntag ransomware).

156. For example, four class action suits (two in federal court, two in California state court) were filed against Scripps Healthcare alleging negligent behavior by the hospital. Heather Landi, *Scripps Health Was Attacked by Hackers. Now, Patients Are Suing for Failing to Protect Their Health Data,* FIERCE

cyber insurance policy will cover. Concerned with disclosure of patients' protected health information in violation of the Health Insurance Portability and Accountability Act of 1996 (HIPAA),[157] the Department of Health and Human Services' Office of Civil Rights may penalize the hospital.[158] If our hypothetical hospital is for-profit, given a likely drop in share value, its shareholders may sue.[159] The hospital's woes may continue

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HEALTHCARE (June 22, 2021, 3:45 PM), https://www.fiercehealthcare.com/tech/following-ransomware-attack-scripps-health-now-facing-class-action-lawsuits-over-data-breach#:~:text=corning's%20lawsuit%20wants%20Scripps%20Health,litigation%20expenses%20and%20court%20costs (discussing the Scripps lawsuits); Shawn Rice, *Cyberattack Class Suits Have Unpredictable Insurance Impact,* LAW360 (June 30, 2020), https://www.law360.com/articles/1399182/cyberattack-class-suits-have-unpredictable-insurance-impact (discussing costs companies face after a cyberattack).

157. Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191, 110 Stat. 1936 (1996) (codified as amended in scattered sections of 5–42 U.S.C.).

158. Ransomware is a security incident under the HIPAA Security Rule and there is liability for not reporting it. A security incident is defined as the attempted or successful unauthorized access, use, disclosure, modification, or destruction of information or interference with system operations in an information system. 45 C.F.R. § 164.304 (2013). Once the ransomware is detected, the covered entity or business associate must initiate security incident and response and reporting procedures. 45 C.F.R. § 164.308(a)(6) (2013). In addition, a ransomware attack may result in an impermissible disclosure of patient protected health information and breach HIPAA rules. *See* 45 C.F.R. § 160.103 (2013) (defining disclosure); 45 C.F.R. § 164.402 (2013) (defining breach as the acquisition, access, use, or disclosure of patient protected health information which compromises the security or privacy of the information).

See also U.S. DEP'T HEALTH & HUMAN SERVS., FACT SHEET: RANSOMWARE AND HIPAA (2016), https://www.hhs.gov/sites/default/files/RansomwareFactSheet.pdf ("When electronic protected health information (ePHI) is encrypted as the result of a ransomware attack, a breach has occurred because the ePHI encrypted by the ransomware was acquired (i.e., unauthorized individuals have taken possession or control of the information), and thus is a "disclosure" not permitted under the HIPAA Privacy Rule."). HIPAA violations by covered entities may be intentional or unintentional, although a breach as a result of a malicious cyberattack might qualify as a Tier 1 violation (a violation that the covered entity was unaware of and could not have realistically avoided, had a reasonable amount of care been taken to abide by HIPAA rules). *What Are the Penalties for HIPAA Violations,* HIPAA JOURNAL (Jan. 15, 2021), https://www.hipaajournal.com/what-are-the-penalties-for-hipaa-violations-7096/ (walking through the four tiers).

159. This assumes a for-profit hospital.

long after the hackers have sent the key and the computer system is again operational.

To make matters even worse, however, the Department of the Treasury may take enforcement actions against the hospital, its incident response company, its insurance company, and its bank based on the payment made to the hackers. As discussed below, if regulators determine that the hackers are sanctioned persons, or that the transfer violated anti-money laundering laws, then the government may prosecute the hospital and those who assisted it.

II.
National Security and Liability for Paying Ransoms

A. *National Security and the Flow of Value*

Ransomware is a national security issue; it is not merely "private" criminal extortion,[160] and it poses a threat to U.S. critical infrastructure[161] including military facilities. In July 2019, the U.S. Coast Guard issued a marine safety alert[162] after a ransomware attack on a U.S.-flagged ultra-large container ship highlighted dangers to vessel and facility owners and operators.[163] In December 2019, the Coast Guard announced

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160. Ransomware Task Force, Inst. for Sec. & Tech., *supra* note 107, at 7 (explaining that cybercrime is typically seen as white-collar crime, but ransomware presents a national security threat). *See also* Jeff Neal, *Is the U.S. in a Cyber War?*, Harv. L. Today (July 14, 2021), https://today.law.harvard.edu/is-the-u-s-in-a-cyber-war/?utm_source+SilverpopMailing&utm_medium=email&utm_campaign=daily%20Gazette%2020210719%20(1) (interviewing Juliette Kayyem, who notes that U.S. public infrastructure is owned by the private sector, and that cyberattacks against private entities may impact public sector downstream clients).

161. *See* Cybersecurity & Infrastructure Sec. Agency, Critical Infrastructure Sectors, https://www.cisa.gov/critical-infrastructure-sectors (last visited July 30, 2021) (listing 16 sectors).

162. U.S. Coast Guard, Cyber Incident Exposes Potential Vulnerabilities Onboard Commercial Vessels, (July 8, 2019), https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/Alerts/0619.pdf (claiming the vessel was operating without effective cybersecurity measures).

163. James Rundle, *Coast Guard Details February Cyberattack on Ship,* Wall St. J. (July 26, 2019), https://www.wsj.com/articles/coast-guard-details-february-cyberattack-on-ship-11564133401 (reporting an Emotet malware infection that debilitated a deep-draft vessel, bound for New York City); *Ryuk Ransomware Took Down U.S. Coast Guard Operations,* CISOMAG (Dec. 3, 2019), https://cisomag.eccouncil.org/ryuk-ransomware-took-down-u-s-coast-guard-

that a ransomware attack had penetrated a U.S. port, and encrypted critical network files, including those that monitored and controlled cargo transfer.[164] The facility was shut down for over 30 hours.[165] Experts warn that "attacks on the energy grid, on a nuclear plant, waste treatment facilities, or on any number of critical assets could have devastating consequences, including human casualties."[166]

Ransomware also poses risks to the healthcare system. Healthcare facilities have been a favorite target of ransomware hackers with 560 U.S. healthcare facilities victimized in 2020.[167] An October 2020 ransomware attack on the University of Vermont Health Network reportedly delayed cancer treatments for some patients.[168]

Educational institutions and local governments have also been disrupted, and their funding (often taxpayer dollars) diverted.[169] Almost 1,700 schools, colleges, and universities in the United States were impacted by ransomware in 2020.[170] Many of those educational institutions were already struggling with budgetary issues and COVID-19-related challenges. When the county school district in Yazoo, Mississippi, voted to pay a

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operations/ (identifying the attack as deploying Ryuk ransomware); Cybereason Nocturnus, *A One-Two Punch of Emotet, TrickBot & Ryuk Stealing and Ransoming Data*, MALICIOUS LIFE (Apr. 2, 2019), https://www.cybereason.com/blog/one-two-punch-emotet-trickbot-and-ryuk-steal-then-ransom-data (explaining that a number of attacks adapted Emotet as a dropper for the TrickBot trojan, which then stole sensitive information and downloaded the Ryuk ransomware).

164. COMMANDANT, U.S. COAST GUARD, MARINE SAFETY INFO. BULLETIN: CYBERATTACK IMPACTS MTSA FACILITY OPERATIONS (Dec. 16, 2019), https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/MSIB/2019/MSIB_10_19.pdf (announcing a Ryuk ransomware attack).

165. *See id.*; CISOMAG, *supra* note 163.

166. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 8 (detailing incidents in which ransomware has disrupted U.S. critical infrastructure).

167. *The State of Ransomware in the US: Report and Statistics 2020,* EMSISOFT MALWARE LAB (Jan. 18, 2021), https://blog.emsisoft.com/en/37314/the-state-of-ransomware-in-the-us-report-and-statistics-2020/.

168. Lindsey O'Donnell, *Cyberattack on UVM Health Network Impedes Chemotherapy Appointments*, THREATPOST (Nov. 9, 2020, 3:15 PM), https://threatpost.com/cyberattack-uvm-health-network/161059/ (reporting that the attack halted chemotherapy, mammogram, and biopsy appointments).

169. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 9.

170. *The State of Ransomware in the US, supra* note 167.

cybersecurity firm to help recover maliciously encrypted data, it used up a chunk of its annual budget.[171] An attack on a Houston-area school district in 2020 jeopardized its ability to function and to make payroll.[172] Local governments, which oversee water utilities, airports, schools, health care facilities, and other services, are also frequent targets.[173] Victims have included the City of Atlanta,[174] the City of Baltimore,[175] and the Colorado Department of Transportation.[176] Such attacks have been described as "catastrophic" for both the governments and their constituents.[177]

The economic impact of ransomware attacks is substantial and, as suggested in the foregoing section, far greater than the value of the ransoms actually paid.[178] A ransomware attack may force a victim offline for weeks,[179] followed by a recovery

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171. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 10.

172. McMillan, *supra* note 50 (enumerating a number of attacks).

173. Michael Garcia, *The Underbelly of Ransomware Attacks: Local Governments,* COUNCIL ON FOREIGN RELATIONS BLOG (May 10, 2021, 12:35 PM), https://www.cfr.org/blog/underbelly-ransomware-attacks-local-governments (noting local governments "are one of the most targeted sectors, yet have arguably the least resources and capabilities to prepare for and respond to ransomware").

174. Alan Blinder & Nicole Perlroth, *A Cyberattack Hobbles Atlanta, and Security Experts Shudder,* N.Y. TIMES (Mar. 27, 2018), https://www.nytimes.com/2018/03/27/us/cyberattack-atlanta-ransomware.html (detailing the attack).

175. Niraj Chokshi, *Hackers Are Holding Baltimore Hostage: How They Struck and What's Next,* N.Y. TIMES (May 22, 2019), https://www.nytimes.com/2019/05/22/us/baltimore-ransomware.html (noting that Baltimore responded quickly but was still impacted).

176. Tamara Chuang, *Cyber Attack on CDOT Computers Estimated to Cost Up to $1.5 Million So Far,* DENVER POST (Apr. 6, 2018, 12:11 AM), https://www.denverpost.com/2018/04/05/samsam-ransomware-cdot-cost/ (noting the costs of the attack).

177. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 35 (recommending a requirement that local governments adopt baseline security measures).

178. *See* Jacob Bunge & Jesse Newman, *Ransomware Attack Roiled Meat Giant JBS, Then Spilled Over to Farmers and Restaurants,* WALL ST. J. (June 11, 2021, 10:28 AM) (noting JBS paid an $11 million ransom, but in 2020 generated $53 billion in global sales).

179. *Ransomware Payments Fall as Fewer Companies Pay Data Exfiltration Extortion Demands,* COVEWARE (Feb. 1, 2021), https://www.coveware.com/blog/ransomware-marketplace-report-q4-2020. Cybersecurity experts estimate that it takes organizations infected with ransomware on average over 16 days to restore their networks. Danny Palmer, *Ransomware Attacks are Causing More*

process that may take the better part of a year.[180] Total remediation costs are typically several times the ransom payment and are often large enough to cripple small businesses.[181] The National Cyber Security Alliance estimates that 60% of small businesses fail within six months of a cyberattack.[182] The global cost in 2020 was estimated at $20 billion.[183]

Apart from direct damages to the victims of ransomware attacks, the proceeds from such attacks are by definition funneled to criminal networks. One U.S. Department of Justice (DOJ) official called ransomware a "cyber weapon of mass destruction," operating in an unvirtuous cycle in which ransoms that are paid are used to develop more ransomware.[184] Proceeds may help finance terrorism, human trafficking, or the proliferation of weapons of mass destruction,[185] i.e., threaten security, and thereby impose further material and human costs. To simplify, payment to the wrong actor is itself a threat. The United States protects national security and public order by regulating money flows; OFAC sanctions, anti-money laundering regulations, and anti-terrorism acts, to name a few, all recognize that national security is protected by stopping the flow of funds to hostile actors.

Regulators can and do seek the potential attackers—the recipients of funds—directly. They may also try to stem the flow of funds at their sources. Usually, we associate those efforts with persons who are knowingly funding the potential attackers, but that is not necessarily the case. It is possible to use

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Downtime Than Ever Before, ZDNET (Jan. 23, 2020), https://www.zdnet.com/article/ransomware-attacks-are-causing-more-downtime-than-ever-before/.

180. *The State of Ransomware in the US*, *supra* note 167.

181. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 10.

182. Thomas Koulopoulos, *60 Percent of Companies Fail in 6 Months Because of This (It's Not What You Think)*, INC.COM (May 11, 2017), https://www.inc.com/thomas-koulopoulos/the-biggest-risk-to-your-business-cant-be-eliminated-heres-how-you-can-survive-i.html (noting almost 50% of small businesses have experienced a cyberattack).

183. *See* N.Y. DEP'T FIN. SERVS., INS. CIRCULAR LETTER NO. 2, INDUS. GUIDANCE REGARDING CYBER INS. RISK FRAMEWORK, 23 NYCRR 500 (July 1, 2021), https://www.dfs.ny.gov/industry_guidance/circular_letters/cl2021_02 (outlining ransomware risks to insurers).

184. McMillan, *supra* note 50 (quoting John Carlin of the DOJ). *See also id.*

185. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 3 (warning that ransom money may go on to fund other types of crime).

existing legal tools to penalize persons who are providing the funds either unknowingly or under duress, such as ransomware victims. In these cases, the government may determine that its interest in interdicting the hostile actor outweighs the additional harm that may be imposed on the ransomware victim. When this occurs, regulators such as OFAC or FinCEN may punish ransomware victims who pay the ransom and those who assist them.

B. *OFAC Sanctions Liability*

1. *U.S. Sanctions in General*

OFAC administers a variety of measures restricting interaction between U.S. persons and persons the United States has determined to be a threat to our national security. Under the Trading with the Enemy Act[186] and, since the mid-1970s,[187] the National Emergencies Act[188] and the International Emergency Economic Powers Act,[189] the President has the authority to declare an emergency or national security threat, and to delegate authority for additional measures to the Treasury Department.

The result is a regulatory structure that currently includes restrictions relating to approximately 25 countries.[190] For example, U.S. persons are prohibited from dealing with ransomware attackers located in or affiliated with the govern-

186. 50 U.S.C. § 4305(b)(1)(B) (2018) (authorizing the President of the United States "during the time of war" to prevent or prohibit transactions in any property in which a foreign country or national has any interest by any person subject to the jurisdiction of the United States).

187. CHRISTOPHER A. CASEY ET AL., CONG. RSCH. SERV., R45618, THE INTERNATIONAL EMERGENCY ECONOMIC POWERS ACT: ORIGINS, EVOLUTION, AND USE, 8-10 (2020) (chronicling the transition from the Trading with the Enemy Act to the National Emergencies Act and the International Emergency Economic Powers Act).

188. 50 U.S.C. § 1601 *et seq.* (2018) (providing the requirements for the President to declare a national emergency).

189. 50 U.S.C. §§ 1701–07 (2018) (empowering the President to investigate, regulate, and prohibit certain transactions in the event of any unusual and extraordinary threat to national security from outside the country).

190. *Sanctions Programs and Country Information,* OFAC, U.S. DEP'T TREAS., https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information (last visited July 30, 2021) (listing the active sanctions programs). Sanctions include bans on certain interactions unless the person gets a license from OFAC, and such licenses are difficult to get.

ments of jurisdictions such as Iran, North Korea, Syria, Cuba, Venezuela, and the Crimea region of Ukraine.[191] In addition, OFAC imposes measures on a variety of nonstate actors and behaviors through other programs, including its Counter Terrorism Sanctions[192] and Cyber-Related Sanctions.[193] Those restrictions may include a ban on certain transactions and asset freezes.[194] In connection with its sanctions programs, OFAC maintains a list of approximately 6,300 SDNs.[195] All U.S. persons are prohibited from dealing with SDNs, and any SDN property or interest in property within the possession or control of a U.S. person must be frozen and promptly reported to OFAC.[196] Entities owned 50% or more by SDNs trigger the

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191. *Id.* (listing all U.S. sanctions programs, including the ones mentioned). *See also* OFAC, U.S. DEP'T TREAS., UPDATED ADVISORY ON POTENTIAL SANCTIONS RISKS FOR FACILITATING RANSOMWARE PAYMENTS, *supra* note 26, at 3–4 (describing those areas as subject to "comprehensive" embargoes).

192. *Counter Terrorism Sanctions*, OFAC, U.S. DEP'T TREAS., https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/counter-terrorism-sanctions (providing information about the counter-terrorism sanctions administered by OFAC) (last visited July 30, 2021).

193. *Sanctions Related to Significant Malicious Cyber-Enabled Activities,* OFAC, U.S. DEP'T TREAS., https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/sanctions-related-to-significant-malicious-cyber-enabled-activities (providing information about the cyber-related sanctions administered by OFAC) (last visited July 30, 2021). *See* Exec. Order No. 13,694, 80 Fed. Reg. 18077 (Apr. 2, 2015) (blocking the property of certain persons engaging in significant malicious cyber-enabled activities). Other sanctions programs under, for example, the Countering America's Adversaries Through Sanctions Act of 2017 may also be relevant in the ransomware context. *See, e.g.,* Countering America's Adversaries Through Sanctions Act, 22 U.S.C. §§ 9501–64 (2021), specifically § 9524 (relating to the imposition of sanctions with respect to activities of the Russian Federation undermining cybersecurity).

194. Sanctions programs vary, but for a general summary of the kinds of measures they include, see *Frequently Asked Questions*, OFAC, U.S. DEP'T TREAS., https://home.treasury.gov/policy-issues/financial-sanctions/faqs/topic/1501 (last visited July 29, 2021) (summarizing prohibited transactions and asset freezes).

195. *Where is OFAC's Country List? What Countries Do I Need to Worry About in Terms of U.S. Sanctions?*, OFAC, U.S. DEP'T TREAS., https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/where-is-ofacs-country-list-what-countries-do-i-need-to-worry-about-in-terms-of-us-sanctions (last visited July 29, 2021) (providing a good introduction to sanctions programs).

196. *See* Krauland et al., *supra* note 28.

same restrictions and requirements.[197] OFAC regulatory compliance measures, often transaction monitoring software, are a part of normal operations at entities such as financial institutions.[198]

2. *Who Has to Comply with OFAC Regulations?*

OFAC restrictions are primarily directed toward U.S. persons,[199] who are prohibited from making ransomware payments in violation of its regulations. U.S. persons include U.S. citizens and permanent residents, entities organized under U.S. laws, and any persons in the United States.[200]

OFAC's jurisdiction is broad, however. Some non-U.S. persons, whether ransomware victims or those who assist with the ransom payment, may also have to comply with OFAC regulations when their activities have a sufficient U.S. nexus. "Non-U.S. companies are subject to U.S. jurisdiction to the extent that they act within the United States, which includes acting through U.S.-incorporated entities or engaging in transactions involving U.S. goods, persons, or entities."[201] Non-U.S.

197. *Id.*

198. STEPHEN MARK LEVY, FEDERAL MONEY LAUNDERING REGULATION: BANKING, CORPORATE AND SECURITIES COMPLIANCE § 10.10 (2021, 2d ed. Supp. 2021-2) https://1.next.westlaw.com/Document/Iaa92444cb93911de9b8c850332338889/View/FullText.html?originationContext=typeAhead&transitionType=default&contextData=(sc.Default) (outlining OFAC sanctions compliance programs in the financial institutions context).

199. Most OFAC programs apply to "U.S. persons." Some OFAC sanctions relating to Cuba and North Korea, promulgated pursuant to the Trading with the Enemy Act, apply to a potentially broader category of "persons subject to the jurisdiction of the United States." *See* Amy Deen Westbrook, *What's in Your Portfolio? U.S. Investors Are Unknowingly Financing State Sponsors of Terrorism,* 59 DEPAUL L. REV. 1151, 1163 & n.65 (2010) (explaining the difference in jurisdiction between programs promulgated pursuant to the Trading with the Enemy Act and ones that have been imposed using the International Emergency Economic Powers Act).

200. 31 C.F.R. § 560.314 (defining the term "U.S. person" in the context of the Iranian Transactions and Sanctions Regulations).

201. Alexis Collins et al., *Ransomware and Sanctions Compliance: Considerations for Responses to Attacks,* CLEARY CYBERSECURITY & PRIVACY WATCH (Sept. 14, 2020) https://www.clearycyberwatch.com/2020/09/ransomware-and-sanctions-compliance-considerations-for-responses-to-attacks/ (warning "U.S. authorities view their jurisdiction expansively"). So, for example, a "non-U.S. company seeking to make a ransom payment to a sanctioned entity would thus be prohibited from making U.S. dollar transactions (almost all of which are routed and cleared through the U.S. financial system) for

persons may also be at risk for dealings with SDNs and comprehensively sanctioned jurisdictions under OFAC's "secondary sanctions" regimes. Secondary sanctions target non-U.S. persons who deal with SDNs, who participate in specified industries in sanctioned countries, or who support certain end-uses of concern[202] such as malicious cyber-activities outside U.S. jurisdiction.[203]

Thus, to the extent that a ransom is paid to an SDN (and so prohibited), the ransomware victim as well as those who assist the victim risk running afoul of the OFAC sanctions. Some at OFAC have suggested that sanctions enforcement in the wake of a ransomware payment may also be directed towards the attorneys involved in the ransomware response (in fact, there is some question of whether attorneys may be held to an even higher standard).[204]

3. *OFAC Advisory: Ransomware-Related Sanctions Targets*

In 2020 and 2021, OFAC issued and updated an advisory (the OFAC Advisory) warning that the agency adopts a strict liability approach to payments that make their way to an SDN, an entity over 50% owned by an SDN, or a threat actor in a sanctioned jurisdiction.[205] This approach will apply even if the ransomware victim makes the payment with no idea as to the

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the purchase of digital currencies used for a ransom payment, or engaging with U.S. persons or entities, including U.S.-based digital currency exchanges and intermediaries, in facilitating such payment." *Id.*

202. *See* Krauland et al., *supra* note 28.

203. The jurisdiction of Executive Order No. 13,694 is broad. *See* Exec. Order 13,694, § 1(a)(ii)(B), 80 Fed. Reg. 18077 (Apr. 2, 2015) (authorizing sanctions against non-U.S. persons who materially assist or provide financial support for any persons blocked under the order). In addition, Executive Order No. 13722 authorizes secondary sanctions against persons who materially assist or provide financial support for persons sanctioned for engaging in malicious cyber activities. *See* Exec. Order 13,722, § 2(a)(vii), 81 Fed. Reg. 14943 (Mar. 18, 2016) (imposing certain restrictions on North Korea). Arguably, any non-U.S. person, regardless of location, risks being designated on the SDN List for making a payment in any currency to a person sanctioned under the 2015 executive order. Collins et al., *supra* note 201.

204. *See* Stark, *supra* note 7 (discussing comments made at a January 2021 conference by Kaveh Miremadi, section chief in OFAC's enforcement division).

205. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 26 (updating its October 1, 2020, advisory warning of potential sanctions for paying ransoms).

hacker's identity, and if the hacker's identity is not discovered until after the fact.

The SDN list currently includes ransomware hackers or identified ransomware attackers designated through, for example, the terrorism and cyber-related programs[206] as well as hackers connected with sanctioned jurisdictions.[207] As mentioned above, "U.S. law generally prohibits facilitating, enabling, tendering, etc. payment to a suspected terrorist or someone located in, or affiliated with, a jurisdiction subject to comprehensive U.S. sanctions—such as Iran and North Korea."[208] In addition, some SDNs are now identified as cryptocurrency wallet addresses.[209]

A ransomware attacker may be on the SDN list, or in a sanctioned jurisdiction, but, in many cases, the ransomware victim does not know.[210] Ransomware attackers typically employ their technology to conceal their identity and location. In addition, some hackers identified by OFAC are rebranding their ransomware or impersonating other groups in order to circumvent U.S. sanctions.[211] For example, EvilCorp has reportedly rebranded WastedLocker as "Hades," "Phoenix," and

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206. Collins et al., *supra* note 201 (walking through the 2015 and 2016 Executive Orders pursuant to which cybersecurity threats may be sanctioned).

207. *Id.* (explaining prohibitions on ransom payments to persons located, organized, or resident in sanctioned territories).

208. Stark, *supra* note 7.

209. On November 28, 2018, OFAC identified for the first time digital currency addresses associated with sanctioned persons when it sanctioned two Iranian individuals involved in the 2015 SamSam ransomware scheme. Paul Marquardt et al., *OFAC Lists Digital Currency Addresses for First Time, Releases New Guidance,* CLEARY INT'L TRADE & SANCTIONS WATCH (Dec. 5, 2018) https://www.clearytradewatch.com/2018/12/ofac-lists-digital-currency-addresses-first-time-releases-new-guidance/ (noting that the individuals were accused of converting digital currency payments into Iranian rial as part of a widespread ransomware scheme).

210. Phil Muncaster, *Evil Corp Rebrands Ransomware to Escape Sanctions,* INFOSECURITY MAGAZINE (June 8, 2021) https://www.infosecurity-magazine.com/news/evil-corp-rebrands-ransomware/ (reporting that EvilCorp malware is identifiable based on things like the obfuscator, the cryptographic scheme, the encrypted file format, and other factors).

211. Elizabeth Montalbano, *Evil Corp Impersonates PayloadBin Group to Avoid Federal Sanctions,* THREATPOST (June 8, 2021) https://threatpost.com/evil-corp-impersonates-payloadbin/166710/ (reporting that Evil Corp. was trying to mask its latest activity by using a previously unknown ransomware called PayloadBin).

most recently "PayloadBin" (on a site previously operated by the Babuk group, which carried out the cyberattack on the DC police[212]) in "an attempt to trick victims into violating the OFAC regulations."[213] Even if a victim has some idea of who originated the attack, proving definitively that a hacker is *not* on the SDN list is difficult.[214]

4. *Strict Liability, Licenses, and Penalties*

Because U.S. sanctions regimes may impose strict liability in civil cases, an entity that makes a ransom payment to a hacker sanctioned by the United States could be subject to severe monetary penalties regardless of whether the entity knew or had reason to know that the hacker was sanctioned.[215] The OFAC Advisory warned of civil penalties for sanctions violations[216] based on strict liability, and emphasized that "a person subject to U.S. jurisdiction may be held civilly liable even if such person did not know or have reason to know that it was engaging in a transaction that was prohibited under sanctions laws and regulations administered by OFAC."[217]

OFAC has wide discretion to begin an investigation, and, although the agency will likely consider the company's knowledge when determining whether to bring an enforcement action, the action itself may impose significant costs on a ran-

212. *See* discussion *supra* Section II.C.3.

213. Muncaster, *supra* note 210 (noting the effort to trick victims).

214. *See* Stark, *supra* note 7. *See also* Krauland et al., *supra* note 28 (noting that ransomware victims and those who assist them are often incapable of determining the identity or the location of a ransomware hacker).

215. *See* Alexis Collins et al., *OFAC and FinCEN Issue Advisories on Cyber Ransom Payments,* Cleary Cybersecurity & Privacy Watch, Cleary Gottlieb (Oct. 6, 2020), https://www.clearycyberwatch.com/2020/10/ofac-and-fincen-issue-advisories-on-cyber-ransom-payments/ (noting OFAC's strict liability approach). *See also* Krauland et al., *supra* note 28.

216. Off. of Foreign Assets Control, U.S. Dep't of the Treasury, *supra* note 26, at 4 (updating the October 1, 2020, advisory). Violation of U.S. sanctions, prohibited interactions without an OFAC license, may result in monetary penalties, and willful violations may trigger DOJ criminal prosecution. Roberto J. Gonzalez & Rachel M. Fiorill, *USA*, *in* Sanctions 2020 151, 151 (2019), https://www.paulweiss.com/media/3979073/iclg_sanctions2020.pdf.

217. Off. of Foreign Assets Control, U.S. Dep't of the Treasury, *supra* note 26, at 4 (updating the October 1, 2020, advisory to encourage victims to report attacks if they suspect—not just believe there to be—a sanctions nexus).

somware target.[218] The OFAC Advisory mentioned potential mitigating factors that OFAC will consider, including timely and complete reporting of a ransomware attack,[219] cooperation with law enforcement, and cyber-security compliance measures.[220] But the availability of mitigation credit is unclear when a sanctions nexus is known or suspected at the time of the attack.[221]

The OFAC Advisory further warned companies that "license applications involving ransomware payments demanded as a result of malicious cyber-enabled activities will continue be reviewed by OFAC on a case-by-case basis with a presumption of denial."[222] OFAC has the authority to grant a specific license for a ransomware victim to make a payment to an SDN or other blocked person,[223] but the OFAC Advisory confirms that is unlikely.[224] In addition, no general license or regulatory exemption from prosecution currently exists for making a ransom payment.[225]

The OFAC Advisory does encourage victims and those assisting them with ransomware attacks to report the attacks to various government agencies and cybersecurity offices, and to "contact OFAC if there is any reason to suspect a potential sanctions nexus with regard to a ransomware payment."[226]

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218. Collins et al., *supra* note 201 (noting that OFAC discretion also extends to determination of penalties).

219. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 26, at 5 (updating the October 1, 2020, advisory to broaden the agencies to which reports may be made).

220. *Id.* at 4–5.

221. The OFAC Advisory specifies that credit for reporting to law enforcement or other relevant agencies is available "in the case of ransomware payments that may have a sanctions nexus." *Id.* at 5.

222. *Id.*

223. *See OFAC License Application Page*, U.S. DEP'T OF THE TREASURY, https://home.treasury.gov/policy-issues/financial-sanctions/ofac-license-application-page (last visited Sept. 21, 2021) (noting that a license is an authorization from OFAC to engage in a transaction that would otherwise be prohibited).

224. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 26, at 4 (explaining that OFAC will review license applications involving ransomware payments with a presumption of denial).

225. *See* OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 26, at 5 (confirming that applications will be reviewed on a "case-by-case" basis).

226. *Id.*

Even if a license were likely, the current license process is poorly suited to timely assistance. OFAC often takes "weeks if not months" to respond to license requests, and "generally refuses to issue licenses for theoretical or potential scenarios or where U.S. jurisdiction is uncertain."[227] As mentioned, U.S. jurisdiction is likely to be uncertain in most ransomware attacks because hackers often conceal their identity and location.

5. *The Threat of OFAC Enforcement in the Ransomware and Cryptocurrency Context*

Because cryptocurrencies are often held pseudonymously, enforcement of U.S. sanctions and other measures in the ransomware context has been challenging. OFAC has designated a number of hackers and ransomware attackers, and their bitcoin addresses, as SDNs. For example, the OFAC Advisory mentioned Bogachev (responsible for Cryptolocker), a list of Iranians (responsible for the SamSam ransomware used against the City of Atlanta, the Colorado Department of Transportation, and a number of health companies), the North Korean Lazarus Group (responsible for WannaCry 2.0), and Evil Corp. (responsible for the ransomware used against a number of banks and other attacks).[228] In addition, on September 21, 2021, OFAC designated as SDNs the Russia-based cryptocurrency over-the-counter broker SUEX OTC and 25 related Bitcoin, Ether, and Tether addresses for "facilitating financial transactions for ransomware actors."[229] SUEX is thought to have received nearly $13 million from ransomware operators including Ryuk, which was involved in the U.S. Coast Guard cyberattack.[230] The SUEX sanction was OFAC's first designa-

227. *See* Krauland et al., *supra* note 28.

228. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 26, at 2–3 (noting hackers who have been designated as SDNs).

229. *Publication of Updated Ransomware Advisory; Cyber-related Designation*, U.S. DEP'T OF THE TREASURY (Sept. 21, 2021), https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20210921.

230. *Chainalysis in Action: OFAC Sanctions Russian Cryptocurrency OTC Suex that Received Over $160 Million from Ransomware Attackers, Scammers, and Darknet Markets,* CHAINALYSIS INSIGHTS: CHAINALYSIS BLOG (Sept. 21, 2021), https://blog.chainalysis.com/reports/ofac-sanction-suex-september-2021 (detailing some of the illicit payment sources); *Ryuk Ransomware Took Down U.S. Coast Guard Operations,* CISOMAG (Dec. 3, 2019), https://cisomag.eccouncil.org/ryuk-ransomware-took-down-u-s-coast-guard-operations/ (identifying the attack as deploying Ryuk ransomware).

tion of a virtual currency exchange for laundering cyber-ransoms.[231]

As OFAC has added ransomware hackers and bitcoin addresses to its SDN list, the dilemma for ransomware victims who pay has worsened. In 2020, Garmin Corp. reportedly paid a multimillion dollar ransom to Evil Corp.,[232] a Russian cybercriminal gang[233] against which OFAC has imposed sanctions,[234] to regain control of its GPS and smartwatch systems. In 2021, CNA Financial Corp. reportedly paid a $40 million ransom in response to a Phoenix Locker attack.[235] Phoenix Locker is a variant of another ransomware (Hades) created by Evil Corp.[236] At the time, CNA Financial Corp. specifically noted that Phoenix was "[not] on any prohibited party list and [was] not a sanctioned entity" and stated that it had "followed all laws, regulations, and published guidance, including OFAC's 2020 ransomware guidance, in its handling of this matter."[237]

In addition, OFAC is actively enforcing its regulations in the context of cryptocurrency service businesses. In December 2020, OFAC announced a settlement with BitGo, which offers non-custodial digital wallet management services,[238] for providing its digital wallet services to SDNs.[239] OFAC alleged

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231. Press Release, U.S. Department of the Treasury, Treasury Takes Robust Actions to Counter Ransomware (Sept. 21, 2021), https://home.treasury.gov/news/press-releases/jy0364 (labeling SUEX "complicit" in ransomware activity).

232. Collins et al., *supra* note 201.

233. Hern, *supra* note 89 (explaining that Garmin's smartwatch and GPS business was held hostage for three days).

234. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 95 (identifying Evil Corp., also known as the Dridex Gang, as an SDN).

235. Brittany Chang, *One of the Biggest US Insurance Companies Reportedly Paid Hackers $40 Million Ransom After a Cyberattack,* BUS. INSIDER (May 22, 2021) https://www.businessinsider.com/cna-financial-hackers-40-million-ransom-cyberattack-2021-5 (updating reports on the CNA attack to indicate a ransom had been paid).

236. *Id.*

237. *Id.* (quoting a CNA spokesperson).

238. *Settlement Agreement between the U.S. Department of the Treasury's Office of Foreign Assets Control and BitGo, Inc.*, U.S. DEP'T OF THE TREASURY (Dec. 30, 2020), https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20201230_33 (announcing the settlement).

239. Enforcement Release, U.S. Department of the Treasury, OFAC Enters Into $98,830 Settlement with BitGo, Inc. for Apparent Violations of Mul-

BitGo had reason to know it was providing services to users in sanctioned countries based on their Internet Protocol (IP) addresses.[240]

In February 2021, OFAC settled with BitPay, Inc., which offers payment processing solutions for merchants to accept digital currency,[241] for 2,102 apparent violations of multiple sanctions programs.[242] OFAC alleged that BitPay allowed persons who appear to have been located in sanctioned countries to transact with merchants on BitPay's platform, "even though BitPay had location information, including Internet Protocol (IP) addresses and other location data, about those persons prior to effecting the transactions."[243]

C. *Anti-Money Laundering Liability*

1. *U.S. Measures*

A ransomware payment may also be subject to penalties under U.S. anti-money laundering (AML) regulations. U.S. law prohibits money laundering, which includes various techniques employed by criminals to make illegally obtained funds appear legitimate.[244] U.S. efforts to combat money laundering are based in large part on the AML regulations promulgated pursuant to the legislative framework known as the Bank Secrecy Act, alternatively known as the Currency Transactions

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tiple Sanctions Programs Related to Digital Currency Transactions (Dec. 30, 2020), https://home.treasury.gov/system/files/126/20201230_bitgo.pdf (specifying that BitGo is based in Palo Alto, California).

240. *Id.*

241. *Settlement Agreement between the U.S. Department of the Treasury's Office of Foreign Assets Control and BitPay, Inc.*, U.S. DEP'T OF THE TREASURY (Feb. 18, 2021), https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20210218 (announcing the settlement).

242. Enforcement Release, U.S. Department of the Treasury, OFAC Enters into $507,375 Settlement with BitPay, Inc. for Apparent Violations of Multiple Sanctions Programs Related to Digital Currency Transactions (Feb. 18, 2021), https://home.treasury.gov/system/files/126/20210218_bp.pdf (specifying that BitPay is based in Atlanta, Georgia).

243. U.S. DEP'T OF THE TREASURY, *supra* note 238 (implying that the company had reason to know that certain transactions were with persons in sanctioned countries).

244. *What Is Anti-Money Laundering?*, CORP. FIN. INST., https://corporatefinanceinstitute.com/resources/knowledge/finance/anti-money-laundering/ (last visited Jul. 31, 2021).

Reporting Act of 1970,[245] as amended by in 2001 by the USA PATRIOT Act[246] and the Anti-Money Laundering Act of 2020 (AMLA).[247] AML regulation is designed to detect, deter, and disrupt terrorist financing[248] and other criminal networks by imposing a variety of recordkeeping and reporting requirements on certain persons usually necessary to some part of the money laundering process.[249]

Some of the primary responsibilities imposed by AML regulations are know-your-customer requirements which require all financial institutions to conduct customer due diligence.[250] Customer due diligence includes identifying and verifying the identity of customers and their beneficial owners (when cus-

245. 31 U.S.C. §§ 5311–32. The Currency and Financial Transactions Reporting Act of 1970 was "designed to help identify the source, volume and movement of currency and other monetary instruments transported or transmitted into or out of the U.S." Julie Stackhouse, *What Is the Bank Secrecy Act and Why Does It Exist?,* FED. RSRV. BANK OF ST. LOUIS: ON THE ECON. BLOG (Apr. 23, 2018), https://www.stlouisfed.org/on-the-economy/2018/april/what-bank-secrecy-act-why-exist (explaining that Congress was concerned about cash coming in and out of the country).

246. Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001, 107 Pub. L. No. 56, 115 Stat. 272 (codified in scattered sections of U.S.C.) (strengthening U.S. measures to prevent international money laundering and the financing of terrorism).

247. AMLA was enacted as part of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021. William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, §§ 6001–511, 134 Stat. 3388, 4547–633. AMLA modernized AML by specifying new standards for testing the technology and processes used for AML compliance, with the challenge of cryptocurrencies in mind. Carl F. Fornaris et al., *The Anti-Money Laundering Act of 2020: Congress Enacts the Most Sweeping AML Legislation Since Passage of the USA PATRIOT Act,* NAT'L L. REV. (Jan. 19, 2021), https://www.natlawreview.com/article/anti-money-laundering-act-2020-congress-enacts-most-sweeping-aml-legislation-passage (explaining that the Act was passed as part of the National Defense Authorization Act for Fiscal Year 2021, over then-President Trump's veto).

248. *Bank Secrecy Act (BSA) & Related Regulations,* OFF. OF THE COMPTROLLER OF THE CURRENCY, https://www.occ.gov/topics/supervision-and-examination/bsa/bsa-related-regulations/index-bsa-and-related-regulations.html (last visited Jul. 31, 2021).

249. *See* 31 U.S.C. § 5311 (identifying the purpose of the subchapter as requiring reports and records that help in criminal, tax, or regulatory investigations or proceedings, and that help in conducting intelligence or counterintelligence activities to protect against terrorism).

250. 31 C.F.R. § 1010.230 (2021).

tomers are legal entities), understanding the nature and purpose of customer relationships, and ongoing monitoring to maintain and update customer information and identify suspicious transactions.[251]

AML regulations also require filing of Currency Transaction Reports (CTRs) when there are cash or coin transactions over $10,000 conducted by or for one person, or multiple currency transactions that total over $10,000 in a single day.[252] In addition, AML regulations require Suspicious Activity Reports (SARs) to be filed when, for example, transactions totaling $5,000 or more are known or suspected to involve funds derived from illegal activities.[253] Failure to comply with the customer due diligence requirements or to file CTRs and SARs can result in severe civil and criminal penalties.[254] AMLA enhanced criminal penalties, adding sanctions against intentionally deceiving or withholding information from financial institutions.[255]

2. *Enforcement of AML Laws*

Most AML regulations apply to "financial institutions," which include banks, broker/dealers, "money services busi-

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251. *Id.* at § 1010.230(b).

252. *Id.* at §§ 1010.311, 1010.314(b). *See also Notice to Customers: A CTR Reference Guide*, U.S DEP'T OF THE TREASURY FIN. CRIMES ENF'T NETWORK, https://www.fincen.gov/sites/default/files/shared/CTRPamphlet.pdf (last visited Jul. 15, 2020) (noting CTR requirements for personal identification information about the individual conducting the transaction including social security numbers, driver's licenses, or other government issued documents).

253. 12 C.F.R. § 21.11(c)(2) (2021).

254. 31 C.F.R. § 1022.380(e). For rules concerning enforcement, penalties, and forfeiture, see 31 C.F.R. §§ 1010.810–850. Government enforcement has included a multi-billion-dollar 2020 settlement with Goldman Sachs for, *inter alia,* AML compliance violations. *Goldman Sachs Fined $2.9B*, BANKERS ONLINE (Oct. 23, 2020), https://www.bankersonline.com/topstory/166119 (noting that the Federal Reserve Board assessed a $154 million civil penalty for Goldman's failure to maintain appropriate oversight, internal controls, and risk management in connection with its 1MDB transactions).

255. Kevin M. Bolan et al., *The Anti-Money Laundering Act of 2020–Expanding Anti-Money Laundering Reporting Responsibilities to Small Businesses*, WHITE & CASE (Feb. 16, 2021), https://www.whitecase.com/publications/alert/anti-money-laundering-act-2020-expanding-anti-money-laundering-reporting (explaining the new penalties).

nesses," and a variety of other actors.[256] "Money services businesses" are defined as persons doing business as, among other things, foreign exchange dealers, check cashers, traveler's check and money order issuers, and "money transmitters."[257] In turn, "money transmission services" are defined as "the acceptance of currency, funds, or other value that substitutes for currency from one person *and* the transmission of currency, funds, or other value that substitutes for currency to another location or person or by any means."[258]

AML regulations are not limited to U.S. financial institutions and money services businesses. They also apply to all other U.S. persons; U.S. branches of foreign financial institutions; non-U.S. financial institutions with certain U.S.-based operations; and non-U.S. financial institutions with transactions processed through a U.S. financial institution, or with operations affected by U.S. sanctions.[259]

AML measures are enforced by FinCEN, which, like the OFAC, is part of the Department of the Treasury.[260] FinCEN's mission is "to safeguard the financial system from illicit use and combat money laundering and promote national security through the collection, analysis, and dissemination of financial intelligence and strategic use of financial authorities."[261] FinCEN receives and maintains financial transactions data,

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256. Other actors include, for example, telegraph companies, casinos, card clubs, and commodities brokers. 31 C.F.R. § 1010.100(t).

257. *Id.* at § 1010.100(ff).

258. *Id.* at § 1010.100(ff)(5)(i) (emphasis added). AMLA codified existing FinCEN guidance, which had included cryptocurrencies as "value that substitutes for currency" for purposes of the definition of money services businesses since 2013.

259. *Who is Subject to US AML Laws?*, WILLKIE COMPLIANCE CONCOURSE, https://complianceconcourse.willkie.com/resources/anti-money-laundering-us-who-is-subject-to-us-aml-laws (last visited July 15, 2021) (noting that all institutions subject to FinCEN regulation are required to maintain risk-based compliance programs).

260. *See About*, U.S. DEP'T OF THE TREASURY, https://home.treasury.gov/about/general-information (last visited Sept. 21, 2021) (listing the offices and bureaus of the department).

261. *What We Do*, FIN. CRIMES ENF'T NETWORK, U.S DEP'T OF THE TREASURY, https://www.fincen.gov/what-we-do#:~:text=FinCEN%20is%20a%20bureau%20of%20the%20U.S.%20Department%20of%20the%20Treasury.&text=finCEN's%20mission%20is%20to%20safeguard,strategic%20use%20of%20financial%20authorities (last visited July 15, 2021) (explaining FinCEN's duties and responsibilities).

which it analyzes and disseminates for law enforcement purposes.[262]

3. *AML Laws in the Ransomware Context*

In 2020 and 2021, FinCEN issued and updated an advisory on ransomware and the facilitation of ransom payments (the FinCEN Advisory), warning that a ransomware victim who pays the ransom, and those who assist the victim, may face prosecution for violation of AML regulations.[263]

The FinCEN Advisory made it clear that financial institutions need to file SARs when handling ransomware payments.[264] In the same vein, the FinCEN Advisory noted that others who assist with a ransom payment might also face liability.[265] For example, incident response companies and cyber insurance companies who exchange a ransomware victim's funds for cryptocurrencies and then transfer that cryptocurrency to the ransomware attacker's accounts may be engaging in "money transmission."[266] As discussed above, money transmitters in the United States constitute "money services businesses," and therefore are "financial institutions" subject to the AML regulations.[267] Among other things, those regulations require registration with FinCEN, adoption of a written AML compliance program with adequate policies and procedures, designation of a chief compliance officer, training for appropriate personnel, and independent testing of the compliance program.[268] In addition, financial institutions are required to file SARs for transactions that raise red flags.[269] The FinCEN Advisory listed some potential indicators of ransomware and associated money laundering.[270] Red flags include, for example, situations in which a customer receives funds and then, shortly afterwards, transfers the same amount to a cryptocurrency exchange.[271] In addition, the FinCEN Advisory identi-

262. *Id.*
263. FIN. CRIMES ENF'T NETWORK, *supra* note 23, at 4.
264. *Id.* at 8–9.
265. *Id.* at 4.
266. *Id.*
267. *See* discussion *infra*, Section III.C.2.
268. Krauland et al., *supra* note 28.
269. FIN. CRIMES ENF'T NETWORK, *supra* note 23, at 7.
270. *Id.*
271. *Id.* at 8 (noting red flag indicator no. 5).

fied four sectors at high risk for ransomware attacks—government, finance, education, and healthcare—and advised financial institutions to look for transactions between customers in those sectors, and digital forensics and incident response or cyber insurance companies.[272] FinCEN warned that it "will not hesitate to take action against entities and individuals engaged in money transmission or other [money services business] activities if they fail to register with FinCEN or comply with their other AML obligations."[273]

4. *The Threat of AML Enforcement in the Ransomware Context*

So far, financial institutions and payment providers have faced the most risk of AML liability in the ransomware context.[274] In 2017, FinCEN assessed a $110 million civil money penalty for AML violations by virtual currency exchange BTC-e,[275] and a $12 million penalty against one of its operators, a Russian national who was arrested in Greece for his role in the violations.[276] Among other things, FinCEN found that BTC-e facilitated over $3 million in transactions tied to ransomware attacks, including CryptoLocker and Locky.[277]

5. *Stricter Regulations May Be on the Way for Cryptocurrency Transactions*

Regulators are in the process of examining the role of cryptocurrencies in recent hacks.[278] In late 2020, FinCEN and the U.S. Federal Reserve proposed several measures that will increase the scope of AML rules and liability in the ran-

272. *Id.* at 7 (noting red flag indicator no. 4).
273. *Id.* at 4.
274. *See* Silver et al., *supra* note 5.
275. Press Release, Financial Crimes Enforcement Network, United States Department of the Treasury, FinCEN Fines BTC-e Virtual Currency Exchange $110 Million for Facilitating Ransomware, Dark Net Drug Sales (July 26, 2017), https://www.fincen.gov/news/news-releases/fincen-fines-btc-e-virtual-currency-exchange-110-million-facilitating-ransomware (announcing the penalty).
276. *Id.*
277. *Id.*
278. David Uberti & James Rundle, *U.S. Looks into Cryptocurrency's Role in Ransomware Hacks*, WALL ST. J. (June 3, 2021, 6:34 PM), https://www.wsj.com/articles/u-s-looks-into-cryptocurrencys-role-in-ransomware-hacks-11622759665 (noting that White House officials are looking for better ways to trace ransomware).

somware payment context. Both proposals have the potential to shift substantial responsibility onto third parties who assist ransomware victims with ransom payments.

One proposed regulation would lower the threshold for recordkeeping and information transmission rules from $3,000 to $250 for fund transfers or transmittals that begin or end outside the United States[279] The revised rule would also clarify that "money" includes cryptocurrency, defined as "a medium of exchange . . . that either has an equivalent value as currency, or acts as a substitute for currency, but lacks legal tender status[,]" as well as "digital assets that have legal tender status."[280]

Another proposed regulation would require financial institutions to report any cryptocurrency transfers worth over $10,000 within fifteen days, and to keep records for any transfers worth over $3,000 if the counterparty uses an unhosted wallet.[281] This proposed regulation has been controversial,

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279. Threshold for the Requirement to Collect, Retain, and Transmit Information on Funds Transfers and Transmittals of Funds That Begin or End Outside the United States, and Clarification of the Requirement to Collect, Retain, and Transmit Information on Transactions Involving Convertible Virtual Currencies and Digital Assets with Legal Tender Status, 85 Fed. Reg. 68005, 68006 (proposed Oct. 27, 2020) (to be codified at 31 C.F.R. pts. 1010, 1020) (proposing "[l]owering of Threshold From $3,000 to $250 for Funds Transfers and Transmittals of Funds by Financial Institutions That Begin or End Outside the United States"). *See also* Evan Weinberger, *Treasury to Wrap Crypto Anti-Money Laundering Rules by Fall*, BLOOMBERG L. (June 11, 2021), https://news.bloomberglaw.com/securities-law/treasury-to-wrap-crypto-anti-money-laundering-rules-by-fall (outlining the proposal).

280. Threshold for the Requirement to Collect, Retain, and Transmit Information on Funds Transfers and Transmittals of Funds That Begin or End Outside the United States, and Clarification of the Requirement to Collect, Retain, and Transmit Information on Transactions Involving Convertible Virtual Currencies and Digital Assets with Legal Tender Status, 85 Fed. Reg. 68005, 68006 (proposed Oct. 27, 2020) (to be codified at 31 C.F.R. pts. 1010, 1020). The final rule is expected in September 2021. Weinberger, *supra* note 279.

281. Requirements for Certain Transactions Involving Convertible Virtual Currency or Digital Assets, 85 Fed. Reg. 83840, 83848 (proposed Dec. 23, 2020) (to be codified at 31 C.F.R. pts. 1010, 1020, 1022). The rule would require financial institutions to collect and keep records of the type of cryptocurrency, time, transaction value, payment instructions received by the financial institution's customer, any forms provided, name and physical address of each counterparty to the financial institution's customer, any other information to identify the transaction, accounts and (as reasonably

with over 7,000 comment letters filed,[282] including a 46-page objection from Coinbase, the largest cryptocurrency exchange in the United States.[283]

D. *Private Parties May Sue Ransomware Victims and Those Who Assist Them*

Ransomware victims who pay their attackers, and those who assist them with such payments, arguably may also face the possibility of liability under the provisions of the Anti-Terrorism Act (ATA),[284] as amended in 2016 by the Justice Against Sponsors of Terrorism Act (JASTA).[285] ATA and JASTA (together, ATA/JASTA) were enacted to interdict terrorist funding through non-traditional financial services. Although not designed for the ransomware payment context, they provide persons injured by acts of international terrorism with a cause of action against the foreign terrorist organization as well as its sources of funding.[286]

Under ATA/JASTA, U.S. plaintiffs injured by an act of international terrorism may seek treble damages plus costs and attorneys' fees from the terrorist perpetrators and any other person or entity that provided material support or financing

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available) parties. *Id.* at 83860–61 (proposing changes to 31 C.F.R. § 1010.410). The final rule is expected in November 2021. Weinberger, *supra* note 279.

282. *See* Comments Tab for Requirements for Certain Transactions Involving Convertible Virtual Currency or Digital Assets, REGULATIONS.GOV, https://www.regulations.gov/document/FINCEN-2020-0020-0001/comment (last visited July 31, 2021).

283. Letter from Paul Grewal, Chief Legal Officer, Coinbase, to Pol'y Div., Fin. Crimes Enf't Network (Jan. 4, 2021), https://www.regulations.gov/comment/FINCEN-2020-0020-6205 (criticizing the proposed rule as "bad regulation done poorly").

284. Antiterrorism Act of 1990 § 132, 18 U.S.C. § 2333 (2019).

285. Justice Against Sponsors of Terrorism Act, Pub. L. No. 114-222, 120 Stat. 852 (codified as amended in scattered sections of 18, 28 U.S.C.). The Anti-Terrorism Clarification Act of 2018 made additional changes to the law that are not relevant to this analysis. Anti-Terrorism Clarification Act of 2018, Pub. L. No. 115-253, 132 Stat. 3183 (codified as amended in scattered sections of 18 U.S.C.).

286. Jamie L. Boucher et al., *The Potential Impact of Terrorism Lawsuits Under the Antiterrorism Act on Ordinary Corporate, Banking and Sovereign Enterprises*, SKADDEN, ARPS, SLATE, MEAGHER & FLOM LLP, (May 26, 2020), https://www.skadden.com/insights/publications/2020/05/the-potential-impact-of-terrorism-lawsuits (explaining the cause of action available to terror victims).

for the attack.[287] To seek secondary liability, the U.S. plaintiff must be injured in a terrorist attack "committed, planned or authorized" by a foreign terrorist organization so-designated at the time of the attack, and the defendant must have conspired with or *aided and abetted* the foreign terrorist organization.[288] "A defendant aids and abets if it was generally aware that it was assuming a role in furthering the [organization's] terrorist attack and that it knowingly and substantially assisted the [organization] that carried out the attacks."[289]

In the past, ATA/JASTA secondary liability claims have been brought against traditional gatekeepers like financial institutions, often following prosecutions for violations of OFAC sanctions.[290] However, the rise of virtual currencies and the expansion of the understanding of money transmitters[291] has broadened the pool of potential ATA/JASTA defendants. In addition, plaintiffs have begun bringing ATA/JASTA civil suits against companies in other industries, "including pharmaceutical companies, government contractors, and social media platforms, for direct or indirect payments or provision of services to terrorist organizations."[292] Thus, ransom payments that make their way, even indirectly, to a foreign terrorist organization that carries out an attack injuring U.S. individuals may result in lawsuits against parties that participated in that financing chain.

E. *A Plethora of Regulatory Recommendations and Guidance*

The warnings in the OFAC and FinCEN advisories are only two of the regulatory responses to the ransomware epidemic. National security is dependent upon the integrity of

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287. 18 U.S.C. §§ 2333(a), (d)(2).

288. *Id.* § 2333(d)(2). A foreign terrorist organization is a foreign-based organization that engages in terrorist activity threatening the security of U.S. nationals or U.S. national security. 8 U.S.C. § 1189 (2019) (providing the process for designation under the Immigration and Nationality Act).

289. Alexis Collins et al., *Cryptocurrency and Other New Forms of Financial Technology: Potential Terrorist Concerns and Liability*, CLEARY GOTTLIEB 3 (June 25, 2021), https://www.clearygottlieb.com/-/media/files/alert-memos-2021/2021_06_25-terrorist-financing-concerns-and-liability-in-cryptocurrency-and-fintech-pdf.pdf (discussing the required U.S. nexus).

290. *Id.* at 3–5 (including examples).

291. *See generally* discussion *supra* Section III.C.

292. Collins et al., *supra* note 289, at 4 (providing specific examples of litigation).

digital platforms,[293] and such platforms exist across society, subject to a host of different legal authorities.[294] Depending on the sector in which it operates, a ransomware victim may find itself coping with recommendations and requirements from multiple sources. Our hypothetical hospital might be looking at guidance from, to name just a few examples:

- Department of Homeland Security, particularly its Cybersecurity and Infrastructure Security Agency (CISA);[295]
- Department of Health and Human Services;[296]
- National Cyber Investigative Joint Task Force;[297]
- Department of Justice Ransomware and Digital Extortion Task Force;[298]

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293. Statement of Downing, *supra* note 15 (arguing that ransomware is a threat to national security).

294. See, for example, the list that follows in the text.

295. HOMELAND SECURITY, https://www.dhs.gov (last visited July 22, 2021) (including news and updates on cybersecurity requirements); *Stop Ransomware,* CISA, CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY, https://www.cisa.gov/stopransomware (last visited July 22, 2021) (providing alerts, guidance, resources, and instructions for reporting ransomware).

296. *Fact Sheet: Ransomware and HIPAA*, OFF. FOR CIV. RTS., U.S. DEP'T OF HEALTH & HUM. SERVS. (July 11, 2016), https://www.hhs.gov/sites/default/files/RansomwareFactSheet.pdf (explaining how HIPAA compliance can help covered entities prevent and recover from ransomware).

297. *Ransomware: What It Is & What To Do About It,* NAT'L CYBER INVESTIGATIVE JOINT TASK FORCE, INTERNET CRIME COMPLAINT CTR. (IC3), https://www.ic3.gov/Content/PDF/Ransomware_Fact_Sheet.pdf (last visited Oct. 24, 2021) (listing 10 government agencies or offices as participants in the task force); *see also*, Press Release, Federal Bureau of Investigation, The National Cyber Investigative Joint Task Force Releases Ransomware Fact Sheet (Feb. 4, 2021), https://www.fbi.gov/news/pressrel/press-releases/the-national-cyber-investigative-joint-task-force-releases-ransomware-fact-sheet (announcing release of the fact sheet); *What We Investigate*, NAT'L CYBER INVESTIGATIVE JOINT TASK FORCE, https://www.fbi.gov/investigate/cyber/national-cyber-investigative-joint-task-force (explaining the origins, composition, and mandate of the task force).

298. *Memorandum for All Federal Prosecutors: Guidance Regarding Investigations and Cases Related to Ransomware and Digital Extortion*, Off. of the Deputy Att'y Gen., U.S. Dep't of Just. (June 3, 2021), https://www.justice.gov/dag/page/file/1401231/download (setting out notification requirements for DOJ divisions). *See also* Dustin Volz, *Ransomware Targeted by New Justice Department Task Force,* WALL ST. J. (Apr. 21, 2021), https://www.wsj.com/articles/ransomware-targeted-by-new-justice-department-task-force-11619014158 (reporting that the task force includes members of the department's criminal, na-

- Federal Trade Commission;[299]
- Institute for Security and Technology Ransomware Task Force;[300] and
- Center for Internet Security, including its Multi-State Information Sharing and Analysis Center.[301]

The threat of prosecution, added to the "noise" of multiple guidelines,[302] may be confusing for many ransomware victims. In the meantime, attacks continue.

III.
THE DECISION TO PAY A RANSOM

A. *Time Pressure and Uncertainty*

In many cases, hackers begin stealing data on a victim's customers, or patients, or business operations, days or weeks before the ransomware is detected or a ransom demanded.[303] Victims often have to respond to an announced attack

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tional security, and civil divisions as well as the FBI and the Executive Office of U.S. Attorneys).

299. *Ransomware,* FED. TRADE COMM'N, https://www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity/ransomware (last visited July 21, 2021) (including suggestions about how to protect businesses and what to do during an attack).

300. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 3 (report by "a team of more than 60 experts from software companies, cybersecurity vendors, government agencies, non-profits, and academic institutions").

301. *Security Primer – Ransomware,* CIS CTR. FOR INTERNET SEC., https://www.cisecurity.org/white-papers/security-primer-ransomware/(last date visited Oct. 24, 2021) (providing recommendations to mitigate ransomware risk). *See also,* MULTI-STATE INFO. SHARING & ANALYSIS CTR., RANSOMWARE GUIDE (2020), https://www.cisa.gov/sites/default/files/publications/CISA_MS-ISAC_Ransomware%20Guide_S508C_.pdf (listing ransomware best practices).

302. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 35 (calling the number of guides and technological tools currently available "confusing and problematic").

303. *See* Liam Tung, *This Is How Long Hackers Will Hide in Your Network Before Deploying Ransomware or Being Spotted,* ZDNET (May 19, 2021), https://www.zdnet.com/article/this-is-how-long-hackers-will-spend-in-your-network-before-deploying-ransomware-or-being-spotted/ (reporting an average of 11 days according to UK security firm Sophos). *See also,* Hobbs, *supra* note 58; Heather Landi, *Before Attacking IT Systems, Hackers Stole Information from 147K Patients, Scripps Says,* FIERCE HEALTHCARE (June 3, 2021), https://www.fiercehealthcare.com/tech/before-attacking-it-systems-hackers-stole-information-from-147-000-patients-scripps-health; Kochman, *supra* note 54

quickly,[304] while operating in panic mode.[305] As discussed above, victims who pay the ransom are "generally forced to do so without a clear understanding of the recipient."[306] Ransomware attackers do not give the victim time to get a firm handle on the scope of the problem.

B. *Arguments Against Paying*

The U.S. government advises against paying ransoms,[307] and, as discussed above, some agencies have emphasized potential liability for payment. Paying a ransom tends to increase the risk of cyberattacks to others.[308] A successful ransomware attack presumably encourages the attacker. Moreover, the ransom provides funds that may enable[309] the hackers to target others, including customers and suppliers of the ransomware victim.[310] Paying up may also "encourage other criminal actors to engage in the distribution of ransomware, and/or fund illicit activities."[311] As the business of ransomware continues, prices are rising.[312] Between 2019 and 2020, the average ran-

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(noting that cybercriminals steal sensitive data before locking victims out and demanding ransoms).

304. *See, e.g.*, Joe Panattieri, *Colonial Pipeline Cyberattack: Timeline and Ransomware Attack Recovery Details,* MSSP ALERT (June 7, 2021), https://www.msspalert.com/cybersecurity-breaches-and-attacks/ransomware/colonial-pipeline-investigation/ (setting out the timeline for the pipeline attack). *See also* Krauland et al., *supra* note 28 (noting the tight timetables usually associated with an attack).

305. Mark Lanterman, *Ransomware and Federal Sanctions,* 78 BENCH & BAR MINN. 6, 6 (2021) (noting that victims want the incident to be resolved at any cost and many rush to pay the cyberterrorist).

306. *See* Krauland et al., *supra* note 28.

307. CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY ET AL., JOINT CYBERSECURITY ADVISORY 16 (2020), https://us-cert.cisa.gov/ncas/alerts/aa20-302a; OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 25 (strongly discouraging payment of ransom demands).

308. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 49.

309. *See also* N.Y. STATE DEP'T OF FIN. SERVS., *supra* note 183 (stating that cybercriminals use ransomware to fund more frequent and sophisticated attacks).

310. Silver et al., *supra* note 5.

311. FED. BUREAU OF INVESTIGATION, *supra* note 11, at 14 (claiming that payment may embolden adversaries).

312. Hobbs, *supra* note 58 (noting that average ransom payments across all industries have climbed in recent years).

somware payment rose 33% to $111,605,[313] and demands in 2021 have also been steep.[314]

To add to the confusion, paying a ransom may not prevent loss or disclosure of the ransomware victim's data.[315] Cybersecurity experts estimate that over a quarter of ransomware victims who pay do not recover all of their data.[316] For example, in 2016, Kansas Heart Hospital paid a cyberattack ransom and received a demand for more money instead of a decryption key.[317] The hospital declined to pay the second time.[318] One survey found that in nearly 40% of cases in which the ransomware victim paid the ransom, the hackers made a separate demand for additional payment.[319]

Some cyberattacks are purely destructive, and some ransom messages are a ruse.[320] NotPetya was reportedly developed as a disk-wiping cyber-weapon by the Russian military,[321]

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313. Peter A. Halprin & Nicholas A. Pappas, *Ransomware, Security, and Insurance*, WESTLAW TODAY (May 11, 2021), https://today.westlaw.com/Document/I5de97a99b26711ebbea4f0dc9fb69570/View/FullText.html?transitionType=default&contextData=(sc.Default)&firstPage=true (noting that costs are rising).

314. Silver et al., *supra* note 5; Glover, *supra* note 48 (noting that the number of attempted attacks by mid-2021 had already exceeded the total number for 2020).

315. FED. BUREAU INVESTIGATION, *supra* note 11, at 14 (noting that payment may not restore a victim's data).

316. CYBER-EDGE GRP., 2021 CYBERTHREAT DEFENSE REPORT 3 (2021), https://cyber-edge.com/cdr/ (showing that 72% of ransomware victims who pay recover their data).

317. Bill Siwicki, *Ransomware Attackers Collect Ransom from Kansas Hospital, Don't Unlock All the Data, Then Demand More Money,* HEALTHCARE IT NEWS (May 23, 2016), https://www.healthcareitnews.com/news/kansas-hospital-hit-ransomware-pays-then-attackers-demand-second-ransom (discussing the hospital attack).

318. *Id.* (noting the hospital claimed to have paid only a small amount).

319. Ben Kochman, *Regulators Are Homing In on Perils of Ransomware Payments*, LAW360 (Feb. 12, 2021) https://www.law360.com/articles/1354297/regulators-are-homing-in-on-perils-of-ransomware-payouts (citing a survey released by cybersecurity company Proofpoint).

320. *See* Alfred Ng, *US: Russia's NotPetya the Most Destructive Cyberattack Ever,* CNET (Feb. 15, 2018), https://www.cnet.com/tech/services-and-software/uk-said-russia-is-behind-destructive-2017-cyberattack-in-ukraine/ (noting that the ransomware was a disguise for an attack meant to destroy data and cause chaos).

321. *See* Danny Palmer, *Ransomware: The Key Message Maersk Learned from Battling the NonPetya Attack,* ZDNET (Apr. 29, 2019), https://www.zdnet.com/article/ransomware-the-key-lesson-maersk-learned-from-battling-the-

and no key existed to restore a system that suffered an attack using that malware.[322] NotPetya attacks were so destructive that a number of insurance companies denied insurance claims by targeted policyholders, arguing that the cyberattacks were "hostile or warlike action[s]" excluded from coverage.[323]

C. *Paying the Ransom: Risks to the Entity and Its Stakeholders*

A number of factors can influence whether victims agree to pay the ransom demand, including the risk confronted by the entity and other stakeholders. An entity with full offsite data backup, for example, may be more likely to take a principled stand and refuse to pay.[324]

But, in some cases, principled decisions and business decisions do not align.[325] An entity without cyber insurance, or one that is looking at a full system outage, may agree to pay.[326] Given a threat to patient safety,[327] healthcare entities are considered likely to pay.[328] The possibility of data exfiltration may

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notpetya-attack/ (emphasizing the importance of a strong data recovery process); Press Release, U.S. Department of the Treasury, Treasury Sanctions Russia with Sweeping New Sanctions Authority (Apr. 15, 2021), https://home.treasury.gov/news/press-releases/jy0127 (attributing the attack to Russia's main intelligence agency).

322. Daniel Garrie & Peter A. Halprin, *Placing Ransomware in Context and Avoiding Liability for Paying Ransomware Claims,* 24 J. INTERNET L. 15, 16 (2021) (examining the war exclusion in insurance policies).

323. Adam Santariano & Nicole Perlroth, *Big Companies Thought Insurance Covered a Cyberattack. They May Be Wrong*, N.Y. TIMES (Apr. 15, 2019), https://www.nytimes.com/2019/04/15/technology/cyberinsurance-notpetya-attack.html (discussing suits filed by against insurers in U.S. courts over the war exclusion and damages from NotPetya attacks).

324. *See* Custers et al., *supra* note 42.

325. Kochman, *supra* note 319 (quoting cybersecurity attorney Jena Valdetero).

326. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 12 (discussing factors influencing decisions to pay).

327. Deborah R. Farringer, *Send Us the Bitcoin or Patients Will Die: Addressing the Risks of Ransomware Attacks on Hospitals,* 40 SEATTLE U. L. REV. 937, 939–40 (2017).

328. Shawn Rice, *Cyberattack Class Suits Have Unpredictable Insurance Impact*, LAW360 (June 30, 2020), https://www.law360.com/articles/1399182/cyberattack-class-suits-have-unpredictable-insurance-impact (quoting Michael Miguel claiming that hospitals often cannot operate without the encrypted data and "don't have the luxury to wait it out and not pay the ransom").

also make an entity more likely to pay.[329] By the end of 2020, most ransomware attacks included this type of double extortion.[330] Data breaches can have substantial ripple effects on other companies or individuals.[331]

Ransomware victims who have refused to pay provide a number of highly publicized cautionary tales. When MedStar Health hospital system suffered a SamSam ransomware attack in 2016, MedStar chose not to pay the ransom.[332] With its computer systems shut down,[333] Medstar's emergency room facilities backed up (leading to delays and confusion).[334] Hospital

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329. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 12 (explaining that "the theft and threat of public disclosure of sensitive data," known as data exfiltration, or double extortion, intensifies pressure on victims).

330. COVEWARE, *supra* note 179.

331. *See* Krauland et al., *supra* note 28 (noting a ransom payment decision requires consideration of the victim's operations, and the risk to stakeholders).

332. Morgan Eichensehr, *MedStar Lauds Federal Investigators After Hackers Indicted for 2016 Attack,* BALTIMORE BUS. J. (Nov. 29, 2018), https://www.bizjournals.com/baltimore/news/2018/11/29/medstar-lauds-federal-investigators-after-hackers.html (noting that the hackers had demanded 45 Bitcoins, at the time worth $19,000).

333. Jack Gillum et al., *MedStar Paralyzed as Hackers Take Aim at Another US Hospital,* AP NEWS (Mar. 29, 2016), https://apnews.com/article/c61f2be0d0814595b9006239942a40be (describing hospital operations as "crippled").

334. Ian Duncan & Andrea K. McDaniels, *MedStar Hack Shows Risks that Come with Electronic Health Records*, BALTIMORE SUN (Apr. 2, 2016), https://www.baltimoresun.com/health/bs-md-medstar-healthcare-hack-20160402-story.html (calling MedStar computer systems "crippled").

> MedStar Health patients were being turned away or treated without important computer records Tuesday as the health-care giant worked to restore online systems crippled by a virus. By Tuesday evening, MedStar staff could read — but not update — thousands of patient records in its central database, though other systems remained dark, a spokeswoman said.

John Woodrow Cox, *MedStar Health Turns Away Patients After Likely Ransomware Cyberattack*, WASH. POST (Mar. 29, 2016), https://www.washingtonpost.com/local/medstar-health-turns-away-patients-one-day-after-cyberattack-on-its-computers/2016/03/29/252626ae-f5bc-11e5-a3ce-f06b5ba21f33_story.html.

staff were deprived of critical directions and health history when they administered medication.[335]

In 2018, the City of Atlanta declined to (or, given the timetable, was unable to) pay hackers roughly $50,000 in bitcoin to decrypt its networks after a SamSam ransomware[336] attack.[337] The city's efforts to respond are estimated to have cost more than $2.7 million.[338] In May 2019, the City of Baltimore refused to pay attackers a $76,000 ransom; the cost of the attack has been estimated to be over $18 million.[339] The University of Vermont Health Network took a principled stand against payment after an October 2020 ransomware attack, even though the attack was estimated to cost $1.5 million each

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335. Kenneth N. Rashbaum, *MedStar Health Cyberattack: Treatment and Patient Safety Impact*, BARTON (Sep. 4, 2019), https://www.bartonesq.com/news-article/medstar-health-cyberattack-treatment-and-patient-safety-impact/.

> A nurse at MedStar Washington Medical Center described the situation as "chaotic," and added that clinicians could not access such vital information as medical history, medications prescribed and drug allergies. A doctor called the problem a "patient safety issue." . . . . One nurse cited a specific example of patient safety, however, stating that an antibiotic with potentially severe side effects had not been stopped within the designated time because of the attack. A physician indicated that laboratory results crucial to determining the best means to treat infection and other conditions could not be quickly processed because of the systems shutdown.

Id.

336. CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY, ALERT AA18-337A, SAMSAM RANSOMWARE (2018), https://us-cert.cisa.gov/ncas/alerts/AA18-337A.

337. *See* Stephen Deere, *U.S. Attorney in Atlanta; City Didn't Pay Cyber Attack Ransom,* ATLANTA JOURNAL-CONSTITUTION (Dec. 5, 2018), https://www.ajc.com/news/crime—law/attorney-atlanta-city-didn-pay-cyber-attack-ransom/CW6cgw1eZfoGAXDRprLzeI/ (reporting on the indictment of two Iranian nationals for the attack).

338. *See* Stephen Deere, *Cost of City of Atlanta's Cyberattack: $2.7 Million – and Rising,* ATLANTA JOURNAL-CONSTITUTION (Apr. 12, 2018), https://www.ajc.com/news/cost-city-atlanta-cyber-attack-million-and-rising/nABZ3K1AXQYvY0vxqfO1FI/ (noting that estimate did not include additional, potentially substantial, costs); Lily Hay Newman, *Atlanta Spent $2.6M to Recover from a $52,000 Ransomware Scare,* WIRED (Apr. 23, 2018), https://www.wired.com/story/atlanta-spent-26m-recover-from-ransomware-scare/ (pointing out the complexity of a ransomware victim's decision to pay).

339. *See* Ian Duncan, *Baltimore Estimates Cost of Ransomware Attack at $18.2 Million as Government Begins to Restore Email Accounts,* BALTIMORE SUN (May 29, 2019), https://www.baltimoresun.com/maryland/baltimore-city/bs-md-ci-ransomware-email-20190529-story.html.

day the system was down.[340] The bill for recovery and lost services was over $63 million,[341] which was reportedly over double the network's insurance coverage.[342]

IV.
A Safe Harbor for Ransomware Preparedness

A. *Problems with Regulatory Action Against Ransomware Victims*

It makes sense to combat terrorism by cutting off the flow of funds to the perpetrators. Still, the threat of liability for making a ransomware payment, without a positive incentive, is unlikely to be sufficient. There are better solutions than forcing ransomware victims to choose between the potentially catastrophic loss of the data stored on their computer network and the possibility of regulatory prosecution. Entities, especially those in high-risk sectors like healthcare, education, and local government, need to take all possible steps to avoid and mitigate exposure to ransomware, but that will not always avoid an attack. Ransomware victims may pay simply because, once they have suffered an attack, they have no other viable option.[343] After all, in 2020, multiple U.S. federal government agencies with (supposedly) the best cybersecurity in the world were the victims of cyberattacks.[344]

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340. *See* James Rundle, *Ransomware Poses a Threat to National Security, Report Warns*, Wall St. J. (Apr. 29, 2021), https://www.wsj.com/articles/ransomware-now-seen-as-threat-to-national-security-11619728378#:~:text=government%20officials%20and%20cybersecurity%20experts,cartels%20and%20other%20criminal%20organizations (discussing an Institute for Security and Technology report).

341. Erin Brown, *UVM Health Network Cyberattack Fixes Expected to Exceed $63M,* WCAX3 (Dec. 8, 2020), https://www.wcax.com/2020/12/08/uvm-heath-network-cyberattack-fixes-expected-to-exceed-63m/ (noting the financial impacts were still being assessed).

342. Calvin Cutler, *UVM Health Network Continues to Tally Costs of Ransomware Attack*, WCAX3 (Jun. 17, 2021), https://www.wcax.com/2020/12/08/uvm-heath-network-cyberattack-fixes-expected-to-exceed-63m/ (reporting the network was insured for $30 million, and continues to negotiate with its carriers).

343. Silver et al., *supra* note 5.

344. *See* Isabella Jibilian & Katie Canales, *The US Is Readying Sanctions Against Russia over the SolarWinds Cyber Attack. Here Is a Simple Explanation of How the Massive Hack Happened and Why It's Such a Big Deal*, Bus. Insider (Apr. 15, 2021), https://www.businessinsider.com/solarwinds-hack-explained-government-agencies-cyber-security-2020-12 (explaining that the attack, which went undetected for months, enabled the hackers to spy on the

There is some regulatory acknowledgment of the exigency of a ransomware attack and the possibility of payment. In 2016, federal interagency guidance stated that the U.S. government "does not encourage paying a ransom to criminal actors" but understands that executives will evaluate "all options to protect their shareholders, employees, and customers."[345] However, as discussed above, OFAC and FinCEN have articulated a tougher approach to ransomware payments. In fact, some states, including New York,[346] Pennsylvania,[347] North Carolina,[348] and Texas,[349] have even considered legislation banning or restricting ransomware payments.[350]

"upper echelons" of the U.S. Government, including the Department of Homeland Security and the Treasury Department).

345. FED. BUREAU OF INVESTIGATIONS, RANSOMWARE PREVENTION AND RESPONSE FOR CISOS (2016), https://www.fbi.gov/file-repository/ransomware-prevention-and-response-for-cisos.pdf/view. *See also*, FED. BUREAU OF INVESTIGATIONS, ALERT NO. I-100219-PSA, HIGH IMPACT RANSOMWARE ATTACKS THREATEN U.S. BUSINESSES AND ORGANIZATIONS (2019), https://www.ic3.gov/Media/Y2019/PSA191002; U.S. DEP'T OF JUST., REPORT OF THE ATTORNEY GENERAL'S CYBER DIGITAL TASK FORCE (2018), https://www.justice.gov/archives/ag/page/file/1076696/download.

346. S. 6154, 2021–22 Leg., Reg. Sess. (N.Y. 2021) (barring state and local taxpayer money from being used to pay a ransom); S. 6806A, 2021–22 Leg., Reg. Sess. (N.Y. 2021) (prohibiting business and healthcare entities, as well as state governmental entities, from paying).

347. S. 726, 2021 Gen. Assemb., Reg. Sess. (Pa. 2021) (prohibiting use of taxpayer money or other public money to pay a ransom). The measure was approved by the Senate Judiciary Committee in June 2021 and moved to the Senate floor. Jenni Bergal, *States Weigh Bans on Ransomware Payoffs,* INS. J. (July 27, 2021), https://www.insurancejournal.com/news/national/2021/07/27/624483.htm.

348. H.R. 813, 2021 Gen. Assemb., Reg. Sess. (N.C. 2021) (prohibiting state agencies and local agencies, including state educational institutions, from paying). The bill passed the House unanimously in May 2021. Benjamin Freed, *North Carolina Moves Toward Ban on Ransomware Payments,* STATESCOOP (May 14, 2021), https://statescoop.com/north-carolina-moves-toward-ban-on-ransomware-payments/.

349. H.R. 3892, 87th Leg., Reg. Sess. (Tex. 2021) (prohibiting government entities or political subdivisions from making ransom payments, but currently moot because the bill died in committee).

350. *State Legislatures Consider Bans on Ransomware Payments,* ALSTON & BIRD PRIV., CYBER & DATA STRATEGY BLOG (June 18, 2021), https://www.alstonprivacy.com/state-legislatures-consider-bans-on-ransomware-payments (noting that bans would fall primarily on state agencies and other local government authorities, though in some cases they could apply more broadly); *see also* Bergal, *supra* note 347 (noting that cybersecurity experts

A better solution would be to recognize both the social costs of paying off criminals and the potential damage of ransomware attacks, and to establish a safe harbor system pursuant to which potential targets could be encouraged to take proactive steps to harden their defenses. In return for these preventive measures, victims could rest assured that, if they do suffer an attack despite their compliance efforts, they could call upon professional or regulatory assistance, and neither they nor those who assist them would face prosecution for paying the ransom if needed. The possibility of assistance and immunity from government prosecution could lead entities to implement the cybersecurity best (or at least much better) practices that have proven elusive to date.[351]

Some related ideas have been floated. An April 2021 report from the Institute for Security and Technology included recommendations including mandating reporting and some immunity for victims who pay.[352] On July 27, 2021, Deputy Assistant Attorney General Richard Downing testified before the Senate Judiciary Committee, suggesting that new legislation might grant ransomware victims some sort of protection in exchange for disclosing an attack to law enforcement.[353] The OFAC Advisory discusses prompt reporting as a potential mitigating factor in its enforcement determinations.[354] A safe harbor solution would shift the emphasis to prevention and would facilitate identification of the ransomware hackers by incentivizing disclosure of cyberattacks.

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are skeptical about the state initiatives and have warned that the bans could be "catastrophic" for residents).

351. *See* RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 18 (indicating that adoption of best practices has been "limited").

352. *Id.* at 47 (recommending mandated reporting of ransom payments in return for a limited form of liability protection in which the reported information "cannot form the basis for a regulatory or other enforcement action."); *see also* discussion *infra* Section V.D.

353. Statement of Downing, *supra* note 15, at 8 (arguing for legislation to make cyberattack reporting mandatory)*; see also* discussion *infra* Section V.D.

354. OFF. OF FOREIGN ASSETS CONTROL, U.S. DEP'T OF THE TREASURY, *supra* note 25, at 5 (also broadening the agencies to which reports may be made to include CISA and Department of the Treasury Office of Cybersecurity and Critical Infrastructure Protection).

Waivers of prosecution because of duress and necessity,[355] and safe harbor rules, are not new to U.S. law. For example, U.S. criminal statutes prohibit material support for terrorism, but in 2015 the DOJ waived the threat of criminal prosecutions for citizens who pay terrorist ransoms.[356] More generally, the law often provides an opportunity for entities to comply with statutory and regulatory safe harbors so that they can be sure their business practices will not be subject to sanctions.[357] Entities receive some measure of certainty in exchange for their voluntary ex ante compliance in furtherance of policy.[358] Federal securities laws enable companies to raise capital in certain circumstances with confidence that registration of the offering is not required.[359] Corporation law has articulated the steps a corporation can employ to gain the protection of a lenient business judgment rule-based review for transactions in which a director has a conflict of interest.[360] In the healthcare sector, there are substantial safe harbor regulations under anti-kickback rules and rules regarding beneficiary inducements.[361] The bankruptcy code includes a safe harbor for certain securities transaction payments, which are exempted from avoidance

355. In criminal law, the defenses of necessity and duress rest on the idea that it is better for society that the defendant choose the lesser evil—violating the law but avoiding the greater evil being threatened. *See* Monu Bedi, *Excusing Behavior: Reclassifying the Federal Common Law Defenses of Duress and Necessity Relying on the Victim's Role,* 101 J. CRIM. L. & CRIMINOLOGY 575, 577–78 (2011) (surveying how federal courts have treated duress and necessity defenses).

356. Press Release, U.S. Dep't of Just., Department of Justice Statement on U.S. Citizens Taken Hostage Abroad (June 24, 2015), https://www.justice.gov/opa/pr/department-justice-statement-us-citizens-taken-hostage-abroad (recognizing the "extraordinarily difficult circumstances" being endured by hostages' families).

357. *See, e.g.*, *Safe Harbor*, CORP. FIN. INST., https://corporatefinanceinstitute.com/resources/knowledge/other/safe-harbor/ (last visited Oct. 24, 2021) (defining the term and providing several examples); Peter P. Swire, *Safe Harbors and a Proposal to Improve the Community Reinvestment Act,* 79 VA L. REV. 349, 370–72 (1993) (analyzing the safe harbor mechanism).

358. Swire, *supra* note 357, at 370.

359. *See, e.g.*, 17 C.F.R. § 230.500 (2012) (known as "Regulation D").

360. *See, e.g.*, MODEL BUS. CORP. ACT, § 8.61 (AM. BAR ASS'N 2016) (outlining requirements for Director's Conflicting Interest Transactions).

361. *See, e.g.*, 42 C.F.R. §§ 1001, 1003 (providing background for revisions to the safe harbors).

by the bankruptcy trustee.[362] By creating a clear safe harbor that would allow ransom payments under certain circumstances without fear of prosecution, regulators could make such attacks harder, thereby protecting not only individuals and institutions, but the digital infrastructure itself.

B. *Hardening Potential Targets*

1. *Operational Measures*

There are a number of operational measures that potential ransomware targets can be encouraged to take in order to avail themselves of the safe harbor. They may include, for example:

- *Assessing Data*: Development of a unified view of the network (what information and programs they have and where they are located), along with regular vulnerability scanning, enables entities to reduce clutter and spot vulnerabilities.[363] Knowing what vital information is being stored, and where, can help determine what to back up.
- *Backing Up*: Depending on the scale of the potential ransomware victim, establishment of multiple rotating backups of critical data, at least one off-site, may be needed.[364] In some cases, experts may recommend an offline and encrypted backup of all data.[365]

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362. Sections 546(e) and (g) of the Bankruptcy Code prohibit the avoidance and recovery of preferential and constructively fraudulent transfers made in connection with forward contracts and swap agreements. 11 U.S.C. § 546(e), (g).

363. *America Under Cyber Siege: Preventing and Responding to Ransomware Attacks: Hearing Before the S. Comm. on the Judiciary*, 117th Cong. 5 (2021) (statement of Eric Goldstein, Executive Assistant Director for Cybersecurity, U.S. Dept. of Homeland Sec.) [hereinafter statement of Goldstein].

364. *Security Tip (ST19-001): Protecting Against Ransomware*, U.S. DEPT. OF HOMELAND SEC. CYBERSECURITY & INFRASTRUCTURE SEC. AGENCY (Sept. 2, 2021), https://us-cert.cisa.gov/ncas/tips/ST19-001 ("Best practice is to store your backups on a separate device that cannot be accessed from a network, such as on an external hard drive. Once the backup is completed, make sure to disconnect the external hard drive, or separate device from the network or computer.")

365. *See, e.g.*, statement of Goldstein, *supra* note 363, at 4 ("[W]e encourage our partners to maintain offline and encrypted backups of data; conduct regular vulnerability scanning to identify and address vulnerabilities; regularly patch and update software and operating systems, including

- *Updating and Blocking*: A commitment to keeping operating systems, browsers, and security software up-to-date to maintain current patch levels may also be advisable.[366] This may include ad-blocking software and strong filters, intrusion detection systems,[367] and configuring firewalls to block access to known malicious addresses and sites.[368] Anti-virus and anti-malware programs can be set to conduct regular scans automatically.[369]
- *Controlling Access*: Controlling access to the system using whitelisting and limits on user rights may help.[370] Potential victims may only grant privileges necessary to perform assigned tasks. With the rise of remote work, multi-factor authentication can be required for offsite access to network files or applications, using at least two of the three common verifications: something users know (like a password), something users possess (like a token), and something users are (like a fingerprint).

No amount of cybersecurity improvement will address all of the vulnerabilities in the digital ecosystem,[371] but implementing better security technology, combined with other measures, can help.

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antivirus and anti-malware software; implement a cybersecurity user awareness and training program, including guidance on identifying and reporting suspicious activity; and implement an intrusion detection system (IDS) to detect command and control activity.").

366. *Security Tip (ST19-001): Protecting Against Ransomware*, *supra* note 364.

367. *See, e.g.*, statement of Goldstein, *supra* note 363, at 4.

368. *How to Protect Your Networks from Ransomware*, FED. BUREAU OF INVESTIGATION, https://www.fbi.gov/file-repository/ransomware-prevention-and-response-for-cisos.pdf/view (last visited Oct. 24. 2021).

369. *Id.*

370. Ronny Richardson & Max M. North, *Ransomware: Evolution, Mitigation and Prevention*, 13 INT'L MGMT. REV. 10, 16 (2017).

371. *See* Opinion, *Russia's New Form of Organized Crime Is Menacing the World*, N.Y. TIMES (July 31, 2021), https://www.nytimes.com/2021/07/31/opinion/sunday/russia-ransomware-hacking.html (quoting a ransomware expert predicting, "We're not going to defend ourselves out of this problem. . . . We have too many vulnerabilities.").

2. *Employee Training*

Many ransomware attacks exploit human weakness. An employee opens a suspicious email, or clicks on a questionable website, or is somehow tricked into downloading a fraudulent "system update." Many U.S. workers are accustomed to mandatory compliance training; ongoing cybersecurity user awareness can be incorporated into those programs. To avoid ransomware, employees can be trained in, among other things, appropriate password management, social media usage, and identifying and reporting suspicious activity.

In addition, employees can be encouraged to keep the software on their personal devices up-to-date.[372] Those devices are often connected to an organization's network and should be included in the overall ransomware protection plan.[373]

3. *Periodic Audits*

Entities seeking safe harbor status would need to demonstrate their compliance with the safe harbor periodically, with a possibility of audits. Regulators are experienced with the need to keep compliance measures up to date, and periodic examination or reporting can facilitate that process. For example, banks' AML compliance measures are periodically examined.[374] The Department of Health and Human Services' Office of Civil Rights periodically audits selected covered entities and their business associates for their compliance with HIPAA rules.[375] Cybersecurity can employ similar models.

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372. Mark Adams, *Cyber-Security Basics: Keeping Employee Software Updated*, RED RIVER (Mar. 7, 2019), https://redriver.com/security/cyber-security-basics-software-update-policy (noting that software becomes vulnerable when it is not updated).

373. Danny Palmer, *Ransomware vs. WFH: How Remote Working Is Making Cyberattacks Easier to Pull Off*, ZDNET (Oct. 27, 2020), https://www.zdnet.com/article/ransomware-vs-wfh-how-remote-working-is-making-cyberattacks-easier-to-pull-off/ (discussing the risks created by employees logging onto work networks from home).

374. *See, e.g.*, *BSA/AML Examination Procedures*, FED. FIN. INSTS. EXAMINATION COUNCIL, https://bsaaml.ffiec.gov/examprocedures (last visited Oct. 24, 2021) (providing links to various parts of AML compliance procedure examinations).

375. *HIPAA Privacy, Security, and Breach Notification Audit Program*, U.S. DEP'T OF HEALTH & HUM. SERVS., https://www.hhs.gov/hipaa/for-professionals/compliance-enforcement/audit/index.html (last visited Oct. 24,

C. *Cyber Insurance*

1. *Cyber Insurance Controversy*

Cyber insurance has become a focal point in the struggle to deal with ransomware attacks.[376] Many ransomware victims consult their insurance company as part of their response to an attack and hope to rely on that coverage to help them recover their costs from the disruption.

Arguably, however, cyber insurance may invite information asymmetry issues like adverse selection and moral hazard. A potential ransomware victim, knowing it is particularly at risk for a ransomware attack, may seek insurance rather than improve its cybersecurity (adverse selection).[377] For example, in the wake of the Colonial Pipeline ransomware attack, there are allegations that Colonial Pipeline was aware of defects in its cybersecurity.[378] Similarly, once a potential victim has secured cyber insurance, it may engage in risky behavior or forgo recommended cybersecurity improvements or updates (moral hazard).[379] The worry is that neither ransomware victims nor

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2021). The Health Information Technology for Economic and Clinical Health (HITECH) Act requires such audits. *Id.*

376. In 2016, 26% of insurance clients opted for cyber coverage. That increased to 47% in 2020. U.S. GOV'T ACCOUNTABILITY OFF., GAO-21-477, CYBER INSURANCE: INSURERS AND POLICYHOLDERS FACE CHALLENGES IN AN EVOLVING MARKET 5 (May 20, 2021) (reporting to Congress on the challenges of cyber insurance).

377. *See* Ronen Avraham, *The Economics of Insurance Law—A Primer*, 19 CONN. INS. L.J. 29, 44 (2012) (defining adverse selection as a result of informational asymmetry in which high-risk parties, knowing their "type," seek more insurance coverage than low-risk parties).

378. *See* Alyza Sebenius & Rebecca Kern, *U.S. Lawmakers Chide Colonial Pipeline for Weak Cybersecurity*, BLOOMBERG (June 9, 2021, 2:38 PM) (also noting that the company expected the cost of the ransom to be covered by its cyber insurance); Frank Bajak, *Tech Audit of Colonial Pipeline Found 'Glaring' Problems,* ASSOCIATED PRESS (May 12, 2021), https://apnews.com/article/va-state-wire-technology-business-1f06c091c492c1630471d29a9cf6529d (citing comments from a consulting firm owner who prepared a report on the company's information management practices in 2018). The company is now the subject of a number of lawsuits alleging negligence in its cybersecurity practices. *See* Tim Darnell, *Another Lawsuit Targets Colonial Pipeline After Cyberattack,* ATLANTA J.-CONST. (June 22, 2021) (reporting that the plaintiffs allege that the company failed to protect its pipelines).

379. *See* Alex Younger, Opinion, *Ransomware Attacks Must Be Stopped—Here's How*, FIN. TIMES (June 11, 2021), https://www.ft.com/content/8a26196c-ee82-45ad-a138-16d0884f4f09 (discussing the moral hazard risk).

their cyber insurance companies have a grasp on their ransomware risk.

As attacks grow in frequency and severity, critics have claimed that cyber insurance contributes to the ransomware problem by making it more likely that victims can fund ransoms.[380] In thinking about how cyber insurance is shaping ransomware, some argue that coverage enables victims to pay, and payment demonstrates ransomware profitability, which increases the likelihood of future, increased ransoms.[381] According to one study, "a victim paying the ransom demand imposes a negative externality on peers who now face a higher threat level; victims are more likely to pay if insurers indemnify some or all of the payment."[382] Of course, this assumes that the carrier agrees to pay the claim.

Some regulators are attempting to deter insurance companies from paying policyholders who suffer a ransomware attack. There are restrictions on such payments being considered in Australia[383] and the United Kingdom, where a 2015

But see Katherine Chiglinsky & Jamie Tarabay, *Pipeline Attack Stirs Debate on Whether Insurance Lures Hackers,* BLOOMBERG (May 14, 2021, 6:16 PM), https://www.bloomberg.com/news/articles/2021-05-14/pipeline-attack-stirs-debate-on-whether-insurance-lures-hackers (reporting that some argue that system vulnerabilities drive attacks).

380. *See, e.g.*, Dan Sabbagh, *Insurers 'Funding Organized Crime' by Paying Ransomware Claims,* GUARDIAN (Jan. 24, 2021), https://www.theguardian.com/technology/2021/jan/24/insurers-funding-organised-by-paying-ransomware-claims ("Insurers are inadvertently funding organised crime by paying out claims from companies who have paid ransoms to regain access to data and systems after a hacking attack, Britain's former top cybersecurity official has warned."); Younger, *supra* note 379 (suggesting hackers calibrate their demands to the victim's insurance coverage).

381. *See* Daniel W. Woods & Rainer Böhme, How Cyber Insurance Shapes Incident Response: A Mixed Methods Study (unpublished manuscript) (presented at 20th Annual Workshop on the Economics of Information Security (WEIS 2021)) at 21–22 (June 7, 2021), https://informationsecurity.uibk.ac.at/pdfs/DW2021_HowInsuranceShapes_WEIS.pdf (discussing "ransom inflation").

382. *Id.* (also noting that market concentration in physical kidnap insurance enables the negotiation standards necessary to prevent ransom inflation and improves negotiations).

383. *See, e.g.*, *Locked Out: Tackling Australia's Ransomware Threat*, DEP'T OF HOME AFFS.: CYBER SECURITY INDUSTRY ADVISORY COMMITTEE (Mar. 10, 2021), https://www.homeaffairs.gov.au/cyber-security-subsite/files/tackling-ransomware-threat.pdf (noting that some ransomware payments may violate the instrument of crime provisions of the Australian criminal code); Catalin

law prohibits insurance firms from reimbursing the payment of terrorist ransoms.[384]

Insurance companies are also feeling pressure from the payment of claims. In November 2020, a German insurance company, Alliance, reported that cyber insurance claims for the previous nine months had increased 950% over the prior three years.[385] Premiums are rising; the cost of insurance rose 35% in the first quarter of 2021 and another 56% in the second quarter.[386] Cyber insurance companies are imposing lower limits in high-risk sectors such as healthcare and education.[387] In addition, exactly *what* is covered is increasingly an object of disagreement and litigation.[388] In May 2021, French insurer AXA announced that it will no longer underwrite cyber insurance policies to reimburse companies for ransom payments made to retrieve stolen or locked data, although it will continue to cover losses for responding to and recovering

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Cimpanu, *New Australian Bill Would Force Companies to Disclose Ransomware Payments,* RECORD (June 21, 2021) https://therecord.media/new-australian-bill-would-force-companies-to-disclose-ransomware-payments/ (discussing the Ransomware Payments Bill 2021).

384. *See e.g.*, Frank Bajak, *Ransomware Gangs Get Paid Off as Officials Struggle for Fix*, ASSOCIATED PRESS (June 21, 2021), https://apnews.com/article/joe-biden-europe-government-and-politics-technology-business-3b81e8116c42439566040a052617ad55. BAE Systems' threat intelligence chief claimed, "Ultimately, the terrorists stopped kidnapping people because they realized that they weren't going to get paid." *Id.*

385. Kochman, *supra* note 54 (noting 770 cyberattack claims in the first nine months of 2020, compared with 77 in all of 2016).

386. *See* Irene Madongo, *Ransomware Attacks Drive Up Cyber Insurance Prices*, LAW360 (July 27, 2021), https://www.law360.com/articles/1406913?e_id=359aee12-a668-47f6-bc99-816982fd7073&utm_source=en]gagement-alerts&utm_medium=email&utm_campaign=similar_articles (citing a report by global insurance broker Marsh); U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 376, at 10 (noting that premiums rose 10-30% in late 2020).

387. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 376, at 12–13 (noting reduced coverage limits for certain sectors).

388. *See, e.g.*, G&G Oil Co. of Ind. v. Cont'l W. Ins., 165 N.E.3d 82 (Ind. 2021) (upholding insurance company's refusal to cover ransomware losses because insured's policy covered fraud but not theft); Nat'l Ink & Stitch, LLC v. State Auto Prop. & Cas. Ins., 435 F. Supp. 3d 679 (D. Md. 2020) (requiring insurer to pay insured's losses and damages resulting from decreased efficiency in protective software installed after ransom paid); New Eng. Sys., Inc. v. Citizens Ins., No 3:20-CV-017432, 2021 WL 1978691 (D. Conn. 2021) (holding that insurer acted in bad faith by misrepresenting policy provisions when it allowed the insured to make self-repairs following a cyberattack).

from ransomware attacks.[389] As mentioned with respect to the destructive NotPetya malware, litigation continues over efforts to exclude ransomware and other malware attacks from coverage using the war exclusion.[390]

2. *The Positive Potential of Cyber Insurance*

Despite the adverse selection and moral hazard risks, cyber insurance provides some relief for some ransomware victims. In addition, coverage can help prevent ransomware attacks if insurers require strong cybersecurity before they issue coverage.[391] Some cyber insurance companies already encourage policyholders to implement baseline cybersecurity practices as a standard condition to coverage.[392] In some cases, the insurance process could also provide more checkups on the preventive measures being taken by the insured,[393] although such requirements could raise the cost of insurance coverage. In the event of an attack, the cyber insurance company and its legal counsel can provide expertise and help connect the ransomware victim with digital forensics and incident response companies, along with law enforcement.

In addition, if cyber insurance were required as one of the measures[394] needed to take advantage of the safe harbor, then

389. D. Howard Kass, *French Insurer AXA Drops Ransomware Payment Coverage*, MANAGED SECURITY SERVICES PROVIDERS: MSSP ALERT (May 16, 2021), https://www.msspalert.com/cybersecurity-markets/europe/axa-drops-ransom-payment-coverage/.

390. *See* Santariano & Perlroth, *supra* note 323.

391. *See* Woods & Böhme, *supra* note 381, at 19–21 (discussing cyber insurance as governance).

392. Sasha Romanosky et al., *Content Analysis of Cyber Insurance Policies: How Do Carriers Price Cyber Risk?*, 5 J. CYBERSECURITY 1, 8–11 (2019) (among the cyber security questions asked by carriers, some will ask applicants about prevention measures in place). Others report that insurers are requiring better cybersecurity controls and mitigation measures, and that underwriters are requiring more detailed submissions and incorporating vulnerability scans into their decisionmaking. Shawn Rice, *Ransomware Scourge Isn't Scaring Away Cyber Insurers*, LAW360 (Aug. 13, 2021), https://www.law360.com/articles/1410736/ransomware-scourge-isn-t-scaring-away-cyber-insurers.

393. RANSOMWARE TASK FORCE, INST. FOR SEC. & TECH., *supra* note 107, at 13.

394. Insurance is regulated at the state level, so a federal requirement would require congressional authorization. The relationship between state and federal insurance regulation, however, is beyond the scope of this article.

more policies would be written and insurers could develop more accurate models for the types of coverage and the likely costs.[395] Currently, the take-up of cyber insurance is patchy, with estimates that only about 27% of companies have stand-alone coverage.[396] More widespread coverage would benefit the insurance market, providing more data on the costs of prevention, crisis management, and recovery, as well as data on effective security requirements.[397]

D. *Disclosure*

Use of the safe harbor could also require prompt, detailed disclosure of ransomware attacks. Most ransomware victims do not disclose the hack, which worsens the problem.[398] Prompt disclosure by ransomware victims provides law enforcement with real-time opportunities to identify and track down the cyber-attackers, and may even lead to the recovery of ransom payments.[399] As one federal official recently put it, "[I]f ransomware victims do not report these incidents, we cannot have cybersecurity, and we cannot have national security."[400]

As it stands, disclosure of a ransomware attack is only required piecemeal, and the timing and the content of disclosure are often unclear.[401] Some entities are required to dis-

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395. *See* Andrew Granato & Andy Polacek, *The Growth and Challenges of Cyber Insurance*, 426 CHICAGO FED. LETTER (2019), https://www.chicagofed.org/publications/chicago-fed-letter/2019/426 (noting data deficiencies that challenge price modeling).

396. Martin Croucher, *Almost Half of Firms Hit by Cyberattack in 2020, Report Says*, LAW360 (Apr. 20, 2021), https://www.law360.com/articles/1376896/almost-half-of-firms-hit-by-cyberattack-in-2020-report-says (showing only a 1% increase over 2019).

397. U.S. CYBERSPACE SOLARIUM COMM'N, OFFICIAL REPORT 79–80 (2020), https://drive.google.com/file/d/1ryMCIL_dZ30QyjFqFkkf10MxIXJGT4yv/view (noting the need to identify and price risk created by cybersecurity gaps).

398. *America Under Cyber Siege: Preventing and Responding to Ransomware Attacks: Hearing Before the S. Comm. on the Judiciary*, 117th Cong. 5 (2021) (statement of Bryan A. Vorndran, Assistant Director, Cyber Division, Fed. Bureau of Investigation) [hereinafter statement of Vorndran].

399. *See* discussion *infra* Section V.F.2.

400. *See* statement of Vorndran, *supra* note 398, at 5.

401. *To Stop the Ransomware Pandemic, Start with the Basics*, ECONOMIST (June 19, 2021), https://www.economist.com/leaders/2021/06/19/to-stop-the-ransomware-pandemic-start-with-the-basics (calling U.S. requirements

close based on the sector in which they operate. Under the federal securities laws, reporting companies have to disclose the incident if it is "material."[402] Under HIPAA, as mentioned above, the attack must be disclosed if it qualifies as a "security incident."[403]

The government is currently attempting to increase reporting. Some recent requirements impose ransomware reporting obligations on pipelines,[404] and government information technology contractors.[405] The proposed Cyber Incident Notification Act of 2021 would require federal agencies, federal contractors, and critical infrastructure companies to disclose breaches of their system to the Department of Homeland Security.[406] A proposed amendment to the National Defense Authorization Act for Fiscal Year 2022 would require reporting some ransom payments to the federal government within 24 hours of payment.[407] Attorneys who practice in this area have suggested that, in order to get companies to cooperate, some

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"vague"). Of course, many agencies include self-reporting, disclosure, and cooperation as mitigating factors in enforcement actions, but such "credit" is far from certain. *See, e.g.*, OFAC, U.S. DEP'T TREAS., UPDATED ADVISORY ON POTENTIAL SANCTIONS RISKS FOR FACILITATING RANSOMWARE PAYMENTS, *supra* note 26 (discussing mitigating factors in enforcement actions).

402. *See* Public Company Cybersecurity Disclosures, Exchange Act Release Nos. 33-10459, 34-82746, 17 C.F.R. §§ 229, 249 (Feb. 26, 2018) (suggesting that companies consider the materiality of cybersecurity risks and incidents when preparing required disclosure). In the wake of the SolarWinds Corp. cyberattack, the Securities and Exchange Commission pressed for disclosure by impacted reporting companies. *In the Matter of Certain Cybersecurity-Related Events (HO-14225) FAQs,* U.S. SEC. AND EXCH. COMM'N, https://www.sec.gov/enforce/certain-cybersecurity-related-events-faqs.

403. *See supra* note 140 and accompanying text.

404. Press Release, U.S. Dep't Homeland Sec., DHS Announces New Cybersecurity Requirements for Critical Pipeline Owners and Operators (May 27, 2021), https://www.dhs.gov/news/2021/05/27/dhs-announces-new-cybersecurity-requirements-critical-pipeline-owners-and-operators (requiring reporting to regulators and review of current practices).

405. Exec. Order No. 14,028, 86 Fed. Reg. 26 (May 12, 2021).

406. Cyber Incident Notification Act of 2021, S.2407, 117th Cong. (2021).

407. *Peters, Portman, Warner & Collins Introduce Amendment to Annual Defense Bill to Strengthen Public and Private Sector Cybersecurity,* U.S. SEN. COMM. ON HOMELAND SEC. & GOV'T AFFAIRS (Nov. 4, 2021), https://www.hsgac.senate.gov/media/majority-media/peters-portman-warner-and-collins-introduce-amendment-to-annual-defense-bill-to-strengthen-public-and-private-sector-cybersecurity (summarizing the proposed amendment including its reporting requirements).

incentives need to be offered—not just penalties for non-reporting.[408]

E. *Calibration*

Different targets need different levels of cybersecurity because ransomware attacks do more or less harm to the entity, immediate stakeholders, and society as a whole.[409] Healthcare operations may store more sensitive personal data than meat distributors. It may be more dangerous to force gas pipelines offline than small-town governments. An attack against a big company may be more extensive than an attack against a small company. Regulators have experience with calibrating levels of required compliance with the risk involved.[410]

Although compliance will be most difficult for small businesses and public institutions, those entities may need protection from ransomware attacks most of all. Small businesses are not the most publicized targets, but they are the most common.[411] Small businesses are attractive to ransomware hackers because they "typically lack the budget and resources to prevent, identify, respond to, and recover from threats."[412] A ran-

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408. Ben Kochman, *3 Key Details To Watch As Congress Mulls Breach Report Law*, LAW360 (Nov. 24, 2021), https://www.law360.com/corporate/articles/1426996/3-key-details-to-watch-as-congress-mulls-breach-report-law?nl_pk=72e67b2b-a356-4164-9e1a-22d8437314c9&utm_source=newsletter&utm_medium=email&utm_campaign=corporate (quoting attorneys who advise breach victims).

409. *See generally* Julio Hernandez-Castro et al., *An Economic Analysis of Ransomware and Its Welfare Consequences*, ROYAL SOC'Y OPEN SCI., Mar. 2020, at 4, https://www.researchgate.net/publication/339688144_An_economic_analysis_of_ransomware_and_its_welfare_consequences (analyzing the economic differences among ransomware attacks).

410. Consider security measures at nuclear power plants, water treatment facilities, and biohazard labs.

411. *See* Amrita Khalid, *6 Things Every Small Business Needs to Know About Ransomware Attacks,* INC. MAG. (June 25, 2021), https://www.inc.com/amrita-khalid/ransomware-hackers-crime-cybersecurity-tips.html (encouraging small businesses to back up their data and secure remote workers); Thomas Koulopoulos, *60 Percent of Companies Fail in 6 Months Because of This (It's Not What You Think),* INC. MAG. (May 11, 2017), https://www.inc.com/thomas-koulopoulos/the-biggest-risk-to-your-business-cant-be-eliminated-heres-how-you-can-survive-i.html (noting that more than 70% of attacks target small businesses).

412. *See* Khalid, *supra* note 411.

somware attack may force a small business to close its doors.[413] The threat of federal prosecution of those businesses, and those who assist them in payment of a ransom, may only worsen the situation.

F. *A Safe Harbor May Help Victims, Regulators, and Law Enforcement*

1. *Helping Ransomware Victims*

The proposed safe harbor regime would not only harden potential ransomware targets, making an attack less likely, it would also help targets if an attack nonetheless occurs. A ransomware victim who has followed the safe harbor requirements would, in its discretion, be able to pay a ransom (directly or through an entity assisting it) without the threat of prosecution by the government. For example, OFAC, which would be in the loop because of the disclosure required by the system, could either issue a license or promise no action against the victim and those who assist it.[414]

An entity that successfully meets the safe harbor requirements and nevertheless suffers a ransomware attack may find that its compliance program also serves as a defense to private lawsuits. Terrorist attack victims suing under ATA/JASTA may have difficulty in collecting damages from ransomware victims who paid with the government's assistance, or at least knowledge, in compliance with best practices.

The safe harbor may also be relevant if there is uninsured fallout from the attack and the ransomware victim confronts claims by shareholders or (if it is a healthcare organization)

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413. *See* Koulopoulos, *supra* note 411 (noting that almost 50% of small businesses have experienced a cyberattack). *See also* discussion *supra* Section III.A.

414. As required under AMLA, FinCEN issued a report in June 2021 announcing that it was going to establish a no-action letter process regarding the application of AML to specific conduct. *See* U.S. DEPT. OF TREAS. FIN. CRIMES ENF'T NETWORK, A REPORT TO CONGRESS ASSESSMENT OF NO-ACTION LETTER IN ACCORDANCE WITH SECTION 6305 OF THE ANTI-MONEY LAUNDERING ACT OF 2020 (June 28, 2021), https://www.fincen.gov/sites/default/files/shared/No-Action%20Letter%20Report%20to%20Congress%20per%20AMLA%20for%20ExecSec%20Clearance%20508.pdf. However, the conventional, lengthy, no-action letter process would be unhelpful in a ransomware context and would not limit other regulators from pursuing their own enforcement actions.

patients. The ransomware victim's fulfillment of best practice obligations, and the government's decision not to bring any charges in connection with the attack, may form the basis of a strong defense to such claims.

2. *Helping U.S. Regulators and Law Enforcement*

More information makes better rules. Understanding what entities confront when hit by a ransomware attack requires information from those entities, and their cooperation. If U.S. regulators have better information about attacks, including what worked and what did not work, they can craft more effective compliance, interdiction, and recovery regimes.

In addition, real-time cooperation and disclosure to law enforcement would facilitate efforts to shut down hackers.[415] For example, if U.S. enforcement agencies are involved from the beginning of a ransomware attack, they may be able to use the negotiations to track and stop the hackers.[416] In 2021, law enforcement obtained a decryption key that helped victims of the REvil Kaseya attack recover their data without paying a ransom.[417] Authorities and cyber-specialists also reportedly accessed REvil's computer network, forcing the group offline.[418]

Law enforcement has had some success identifying and prosecuting hackers. As noted, in 2018, the DOJ indicted three Iranians for the SamSam ransomware attacks that crippled entities worldwide, including the MedStar Health hospital system here in the United States.[419] Similarly, in December 2020, a California grand jury indicted three North Koreans for

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415. *See* statement of Downing, *supra* note 15 (noting that reporting would provide "timely access to evidence that could prove critical to identifying and prosecuting offenders.").

416. Daniel Silver et al., *Gov't Authorities Should Assist Ransomware Targets,* LAW360 (May 21, 2021), https://www.law360.com/articles/1386039/gov-t-authorities-should-assist-ransomware-targets.

417. Joseph Menn & Christopher Beng, *EXCLUSIVE Governments Turn Tables on Ransomware Gang REvil by Pushing It Offline,* REUTERS (Oct. 21, 2021), https://www.reuters.com/technology/exclusive-governments-turn-tables-ransomware-gang-revil-by-pushing-it-offline-2021-10-21/ (noting that authorities delayed providing the key to victims in order to pursue the hackers).

418. *Id.* This effort followed an earlier shutdown of the group in July 2021. The group reportedly later restarted operations using backup servers, but some of the group's internal systems were already controlled by law enforcement.

419. *See* discussions *supra* Sections II.C.2 & III.B.3.

malware attacks between 2009 and 2020[420] that included the 2014 Sony Pictures cyberattack[421] and other ransomware.[422] In 2021, U.S. authorities indicted two persons connected with the REvil ransomware attacks, including the hacks of Kaseya in 2021 and those on Texas municipalities in 2019.[423] The United States has offered substantial rewards for information to bring ransomware groups' leadership and participants to justice.[424]

In this respect, the fact that ransomware hackers typically seek payment in cryptocurrencies may be helpful. The public nature of some online financial platforms[425] may enable blockchain tracing firms to match a pseudonym with a particu-

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420. Indictment, United States v. Jon Chang Hyok et al., No. CR 2:20-cr-00614 (C.D. Cal. Dec. 8, 2020) [hereinafter Indictment].

421. *Id.* at ¶ 39; *see also* James Cook, *Here's Everything We Know About the Mysterious Hack of Sony Pictures*, BUS. INSIDER (Dec. 4, 2014) https://www.businessinsider.com/guardians-of-peace-hackers-sony-pictures-2014-12 (reporting that the hackers referred to the movie *The Interview* and threatened to release Sony data).

422. Indictment, *supra* note 420, at ¶ 38 (t).

423. Merrick B. Garland, Attn'y Gen., Dep't of Just., Remarks on Sodinokibi/REvil Ransomware Arrest (Nov. 8, 2021), https://www.justice.gov/opa/speech/attorney-general-merrick-b-garland-deputy-attorney-general-lisa-o-monaco-and-fbi-director (announcing the unsealing of indictments against Yaroslav Vasinskyi and Yevgeniy Polyanin).

424. *See, e.g.* Press Statement, Reward Offers for Information to DarkSide Ransomware Variant Co-Conspirators to Justice, U.S. Dep't of State (Nov. 4, 2021), https://www.state.gov/reward-offers-for-information-to-bring-darkside-ransomware-variant-co-conspirators-to-justice/ (offering up to $10 million for information leading to the identification or location of an individual holding a leadership position in the group, and up to $5 million for information leading to the arrest and/or conviction of one of the group's conspirators); Press Statement, Reward Offers for Information to Bring Sodinokibi (REvil) Ransomware Variant Co-Conspirators to Justice, U.S. Dep't of State (Nov. 8, 2021), https://www.state.gov/reward-offers-for-information-to-bring-sodinokibi-revil-ransomware-variant-co-conspirators-to-justice/ (offering up the same payment terms as the reward announced for DarkSide participants); *Maksim Viktorovich Yakubets*, U.S. DEP'T OF STATE TRANSNAT'L ORGANIZED CRIME REWARDS PROGRAM, https://www.state.gov/transnational-organized-crime-rewards-program-2/maksim-viktorovich-yakubets/ (last visited Nov. 19, 2021) (offering a reward of up to $5 million for information leading to the arrest of the Evil Corp. hacker).

425. The Bitcoin ledger, for example, is public. *See* Custers et al., *supra* note 42. However, some "anonymity enhanced currencies" are designed to make tracing transactions more difficult. *See* statement of Downing, *supra* note 15.

lar terrorist group and identify the wallet sources of particular funds and the exchanges through which they were processed.[426] Cryptocurrencies are not untraceable, and involvement from the beginning of an attack can help law enforcement and regulators uncover the identity of the recipients.

In some cases, law enforcement may even recoup the ransom paid by a ransomware victim. If law enforcement can track the payment from the initial transfer by the ransomware victim or its representative, then some of it may also be recovered.[427] In January 2021, the DOJ reportedly seized almost half a million dollars in cryptocurrency from the ransomware group NetWalker.[428] In June 2021, approximately a month after Colonial Pipeline made the $4.4 million ransom payment, the DOJ announced that $2.3 million (63.7 bitcoins) had been recovered.[429] Using the Bitcoin public ledger and a blockchain explorer, law enforcement was able to track multiple transfers of Bitcoin and, nineteen days later, to identify those that were transferred to a specific address for which the FBI had the private key.[430] In November, 2021, U.S. officials announced the

426. *Cryptocurrency and Other New Forms of Financial Technology: Potential Terrorist Financing Concerns and Liability,* CLEARY GOTTLIEB (June 25, 2021), https://www.clearygottlieb.com/-/media/files/alert-memos-2021/2021_06_25-terrorist-financing-concerns-and-liability-in-cryptocurrency-and-fintech-pdf.pdf (discussing possible tracing).

427. *See* Nicole Perlroth et al., *Pipeline Investigation Upends Idea That Bitcoin Is Untraceable,* N.Y. TIMES (June 9, 2021), https://www.nytimes.com/2021/06/09/technology/bitcoin-untraceable-pipeline-ransomware.html (discussing how tracing the Colonial Pipeline payment led to recovery of some of the funds).

428. *See* David Uberti, *How the FBI Got Colonial Pipeline's Ransom Money Back,* WALL ST. J. (June 11, 2021), https://www.wsj.com/articles/how-the-fbi-got-colonial-pipelines-ransom-money-back-11623403981.

429. About two weeks before the recovery was announced, DarkSide had claimed that its servers had been seized. *Id.*; *see also* Press Release, U.S. Dep't of Justice, Department of Justice Seizes $2.3 Million in Cryptocurrency Paid to the Ransomware Extortionists Darkside (June 7, 2021), https://www.justice.gov/opa/pr/department-justice-seizes-23-million-cryptocurrency-paid-ransomware-extortionists-darkside (explaining that the seized bitcoin were "proceeds traceable to a computer intrusion and property involved in money laundering").

430. Aff. in Support of an Application for a Seizure Warrant, Case 3:21-mj-70945-LB (N.D. Cal. June 7, 2021), ¶¶ 28–33, https://www.justice.gov/opa/press-release/file/1402056/download (chronicling the transfers of the Bitcoin ransom between May 8, 2021 and May 27, 2021).

recovery of $6.1 million traceable to ransom payments received by REvil hackers.[431]

Conclusion

Ransomware is a threat to the operation of our public and private institutions, and national security itself. The law must respond. The United States has recognized the importance of its digital security in many contexts and, with the explosion of ransomware attacks during the last few years, regulators need to create a plan for both public and private actors to ensure security. Simply using existing measures to threaten regulatory enforcement actions against ransomware victims and those who assist them, however, is unlikely to spur adoption of sound security measures or even to stop payments, and may be counterproductive if it leads victims to conceal attacks. A positive incentive, such as a safe harbor for ransomware payments with clear requirements, would encourage potential targets to harden their defenses. The resulting "cyber best practices" would help protect stakeholders, provide operational confidence for U.S. entities, and defend national security.

431. Merrick B. Garland, Attn'y Gen., Dep't of Just., Remarks on Sodinokibi/REvil Ransomware Arrest (Nov. 8, 2021), https://www.justice.gov/opa/speech/attorney-general-merrick-b-garland-deputy-attorney-general-lisa-o-monaco-and-fbi-director (describing the $6.1 million as "tied to the ransom proceeds of [an] alleged REvil ransomware attacker").

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SEC REGIONAL OFFICES

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In recent years, scholars of federalism and administrative law have identified "regional" variations in how administrative agencies implement policies, as staff in regional offices translate and enforce national rules to reflect local norms. A growing number of legal scholars consider federal regions to be promising sites to mediate between national administration, on the one hand, and state and local governance, on the other.

Drawing from a novel data set and qualitative sources, this Article contributes to this literature by surfacing the historical and contemporary enforcement work of the regional offices of the U.S. Securities and Exchange Commission ("SEC"). The SEC—consistent with leading examples in the literature—is not a monolith. SEC regional offices today, as they have historically, vary in how they investigate and enforce violations of the federal securities laws across the different geographic areas of the country.

Our data of SEC regional offices' securities enforcement (FY 2010–FY 2020), however, suggests a more nuanced role for the regional offices than is typically found in the literature: today, geography does not necessarily determine which SEC office investigates or enforces a particular matter. A range of hypotheses might explain this geographic detachment, including advances in technology. In particular, however, we consider structural changes imple-

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mented recently by the SEC—including a matrix-reporting structure—which empowered SEC regional offices to develop specialized subject matter expertise. In short, SEC regional offices today may act not merely as local monitors but also as dispersed laboratories for theories of securities enforcement, with implications not only for improved securities enforcement, but, more broadly, regional administration.

INTRODUCTION

How much discretion should federal agencies allow their staffs in regional field offices? The question implicates the majority of the federal government: 85% of federal employees do not work in Washington D.C., and most administrative agencies are comprised of regional offices located at strategic locations across the United States.[1] This Article considers how the U.S. Securities and Exchange Commission ("SEC" or "Commission"), which has wrestled with how much autonomy to empower its regional staff throughout its history, designed its regional offices to investigate and enforce violations of the federal securities law.

Until very recently, regional offices of federal agencies were understood as homogenous outposts that administered federal law within a particular geographic area.[2] However, this

1. Dave Owen, *Regional Federal Administration*, 63 UCLA L. REV. 58, 61 (2016).

2. *Id.* at 78 ("One could easily conclude, after reading through reams of federalism and administrative law articles and judicial decisions, that legal thinkers all think the federal government is a geographically concentrated monolith."); *see also* Yishai Blank & Issachar Rosen-Zvi, *Reviving Federal Regions*, 70 STAN. L. REV. 1895, 1905 (2018). Blank & Rosen-Zvi observe:

notion—"intuitive, yet impoverished"[3]—is changing. In recent years, legal scholars have observed federal agencies apply law in a non-uniform manner along "regional" (that is, sub–national, but supra–state) lines.[4] A study of the Army Corps of Engineers ("Corps"), for example, found regional variations in the agency's permitting decisions and concluded that Corps staff in different field offices weigh local norms and conditions when interpreting national licensing rules. Examples like the Corps highlight how the "inherent imprecision of statutes and regulations"[5] affords federal agencies, and their staff across the country, significant latitude to set policy goals or develop enforcement priorities and strategies. Administrative law, in particular, has "never pretended to be a complete body of law."[6] In short, in the same way that differences in common law decisions have been empirically identified in different regions of the United States,[7] so too can federal regulation be adapted for different geographic areas of the United States.

For some legal scholars, "regional" administration offers a way to improve governance—a middle ground that transcends the binary of federalism and its "polarity of '[s]tate and [n]ational government.'"[8] Under this conception, the discretion exercised by regional staff of federal agencies is an essen-

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> Since the beginning of the twenty-first century, there has been a revival of interest in using federal regions as more than enforcers and implementers of central policies. The 9/11 attacks, the devastation of Hurricane Katrina, and the Great Recession brought the importance of regions as both coordinators and mediators to the forefront. Nonetheless, federal regions still tend to be seen simply as enforcers of central policies; the renewed attention has not been accompanied by any ideological shift or overarching legal reform.

Id.

3. Blank & Rosen-Zvi, *supra* note 2, at 1900.

4. *See* Owen, *supra* note 1.

5. *Id.* at 89.

6. Martin Shapiro, *Administrative Discretion: The Next Stage*, 92 YALE L.J. 1487 (1983).

7. Yun-chien Chang & Geoffrey Miller, *Regional Common Law*, 45 J. LEGAL PROF. 151, 153–54 (2021).

8. Jessica Bulman-Pozen, *Our Regionalism*, 166 U. PA. L. REV. 377, 380–81 (2018) (quoting Younger v. Harris, 401 U.S. 37, 44 (1971)); *see also* David Fontana, *Federal Decentralization*, 104 VA. L. REV. 727, 735 (2018) ("Rather than disproving that federal decentralization deserves a place alongside federalism and the separation of powers, these complications

tial feature by which administrators translate national rules to reflect local norms. Regional offices of federal agencies, thus, are "Janus-faced: [t]hey simultaneously decentralize and centralize power."[9] In this way, regional offices can foster, at the federal level, virtues the conventional wisdom imputes to state or local governance: responsiveness, accountability, innovation, inter-governmental competition, and governmental legitimacy.[10]

Theories regarding the potential of federal regions are not new. As Jessica Bulman-Pozen recently demonstrated, the administrative state was designed during the apex of American Regionalist ideology and amidst widespread fears of government centralization as fascism loomed in Europe. Regional offices, thus, were *intentionally* conceived not only as instruments for policy administration, but also substantive shields against federal centralization.[11]

The U.S. Securities and Exchange Commission—one of the most respected, if not tenured, independent agencies—shares this history. Since its inception in 1934, the SEC has carried out its investigative and enforcement functions in the United States through its various regional offices. Today, the SEC has eleven regional offices, which report to the SEC's headquarters in Washington D.C. Each regional office has examination and enforcement jurisdiction over a particular geographic region.[12] For example, the Atlanta Regional Office has jurisdiction in Georgia, North Carolina, South Carolina, Tennessee, and Alabama; the New York Regional Office has jurisdiction in New York and New Jersey; and so forth.[13] Like many

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prove that federal decentralization raises similar questions to those facing the two traditional pillars of structural constitutional law.").

9. Blank & Rosen-Zvi, *supra* note 2, at 1907.

10. Owen, *supra* note 1, at 60.

11. *See* Bulman-Pozen, *supra* note 8, at 395, 397. For Bulman-Pozen, the regional structure "sprang from [its] perceived utility in resisting centralization," and for proponents of regional organization, "regional governance could empower the states and forestall centralization by addressing problems that exceeded individual states' capacity without resort to federal intervention." *Id.*

12. *See generally What We Do*, SEC, https://www.sec.gov/Article/whatwedo.html (last visited Apr. 5, 2022).

13. *See* U.S. SEC. & EXCH. COMM'N, AGENCY FINANCIAL REPORT: FISCAL YEAR 2019, https://www.sec.gov/files/sec-2019-agency-financial-report.pdf#mission.

other administrative agencies, the SEC originally designed its regional offices to perform two general functions. First, SEC regional offices facilitated *administration* of the securities laws across a massive country by performing a monitoring and enforcement function: uncovering information about the local securities practices, institutions, markets, and frauds[14]—they were the "eyes and ears and enforcement arms of the Commission."[15] Second, regional offices facilitated *accommodation* by affording the SEC flexibility and localized discretion in applying the securities laws to different parts of the country and enabling the SEC's enforcement program to respond to regional norms, markets, and trading practices.

The dual-functions of the SEC regional offices—regional *administration* and *accommodation*[16]—have existed in tension and evolved throughout the SEC's history. During the first few decades of the SEC's existence, the Commission's regional offices operated independently. Each office—responsible for monitoring, investigating and enforcing securities violations in its specific geographic area—developed unique operating procedures, instigative methods, and even theories of prosecuting the federal securities laws.[17] Starting in the 1960s, however, the SEC progressively centralized its enforcement functions and weakened the discretion of the regional offices, in part, in response to perceived failures at certain regional offices.[18]

The history of the SEC regional offices illustrates the significant challenges in calibrating and balancing benefits and drawbacks of regional discretion. Throughout its history, the SEC has faced sharp criticism that certain regional offices failed to detect, prevent, or prosecute securities violations. Most recently, if not famously, the SEC's failure to detect the Ponzi scheme perpetrated by Bernie Madoff, which defrauded investors of billions of dollars, was blamed in part on the failures of regional staff in the SEC's Boston and New York offices.[19] This and other high-profile scandals prompted serious questions about the enforcement activities of the regional of-

14. *See infra* Part I.

15. Andrew Downey Orrick, *Organization Procedures and Practices of the Securities and Exchange Commission*, 28 GEO. WASH. L. REV. 50, 82 (1959).

16. *See* Bulman-Pozen, *supra* note 8, at 401–09.

17. *See infra* Section I.A.

18. *See infra* Section I.A.

19. *See infra* Section I.B.

fices;[20] disparate enforcement of federal law is rarely viewed positively.[21] Indeed, "[p]art of the rationale and purpose of federal (as opposed to state) regulation is the desire for greater uniformity in standards and their application across the states," without which an agency will face "questions of fairness and accountability."[22] Magnifying these challenges is the fact that, unlike other agencies that focus on natural (and thus ostensibly regional) issue areas, like wildlife, the nature of the SEC's work is decidedly national: the securities markets are not only largely borderless and national (if not international), but they are also increasingly detached from physical space.

The SEC has grappled with these challenges throughout its long history and undertaken extensive reforms to address structural problems concerning regional offices, and yet we still know very little about the SEC regional offices today. Even though 40% of the SEC's 4,500+ staff are located in regional offices,[23] the workings of these regional offices remain underexamined in the literature, perhaps unsurprisingly given that SEC investigative and enforcement activities are frequently referred to as a black box, and the SEC publishes only limited information about the activities of its regional offices.[24] Ac-

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20. *See infra* Section I.B; *see also* David Stout, *Report Details How Madoff's Web Ensnared S.E.C.*, N.Y TIMES (Sept. 2, 2009), https://www.nytimes.com/2009/09/03/business/03madoff.html ("The inspector general revisited the failure of the S.E.C.'s Boston office to take seriously the warnings of Harry Markopolos, a private fraud investigator who had been trying since 1999 to get the agency to investigate Mr. Madoff."); Edward Wyatt, *S.E.C. Head Admits Misstep in a Madoff Ethics Issue*, N.Y. TIMES (Mar. 10, 2011), https://www.nytimes.com/2011/03/11/business/11sec.html ("[T]he S.E.C. should reconsider its regional model, which leaves some but not all enforcement and oversight functions in regional offices rather than at S.E.C. headquarters.").

21. *See* Rachel E. Barkow, *Overseeing Agency Enforcement*, 84 GEO. WASH. L. REV. 1129, 1148 (2016).

22. David M. Hedge & Saba Jallow, *The Federal Context of Regulation: The Spatial Allocation of Federal Enforcement*, 71 SOC. SCI. Q. 786, 787 (1990).

23. *See* U.S. SEC. & EXCH. COMM'N, AGENCY FINANCIAL REPORT: FISCAL YEAR 2018 13, https://www.sec.gov/files/sec-2018-agency-financial-report.pdf.

24. *See* Verity Winship, *Enforcement Networks*, 37 YALE J. ON REG. 274, 277 (2020) (noting that "enforcement and investigation can be a black box"); Lorien Stice-Lawrence, Monitoring Decisions and Frictions at the SEC 1 (Apr. 2021) (unpublished manuscript), https://ssrn.com/abstract=3485468 ("[W]e know very little about the SEC's internal decision-making process.").

cordingly, the SEC regional offices remain largely unremarked, and the legal literature, as well as a related strain of finance scholarship, generally assumes that these offices are simply instrumental outposts that enforce the securities laws in a particular region.[25]

This Article opens this black box up by offering an institutional account of the SEC regional offices, and in doing so, contributes to our understanding of federal regional administration. First, in Part I, this Article provides a brief history of the role of regional offices in the SEC enforcement program. The history of the regional offices not only illustrates the perils and potential of discretionary regional administration, but also shows how for years the SEC has used structural change as a tool to respond to crisis. Having established this historical context, this Article turns in Part II to the contemporary SEC, and examines a proprietary dataset that traces more than 10 years of regional office enforcement following significant structural reorganizations undertaken by the agency in the wake of the financial crisis of 2008. Our data suggest a more nuanced role for the regional offices than is typically found in the literature: geography does not necessarily determine which SEC office investigates or enforces a particular matter today. In fact, only a slim majority of regional offices' investigations and enforcement actions in our sample were determined by geographic region in recent years, and instead, the surveillance and enforcement functions of the regional offices appear increasingly detached from geographic place.

A range of explanations can be offered for this phenomenon of geographic decoupling. One plausible hypothesis, for example, rests on advances in communications technology, which have accelerated in lockstep as securities markets become increasingly detached from physical space. This Article, however, identifies an alternative, complementary explanation: the SEC's post-crisis reorganizations, which imposed a matrix-reporting structure and created specialized subject mat-

25. *See, e.g.*, Bonsall et al., Wearing Out the Watchdog: SEC Case Backlog and Investigation Likelihood 14 (June 29, 2021) (unpublished manuscript), https://ssrn.com/abstract=3912645 ("Consistent with the local office usually, but not always, handling investigation of firms headquartered in their geographic nexus, we find that 73 percent of the investigations opened after a restatement are opened by the SEC regional office that has geographic purview over a firm's headquarters location.").

ter units. As told by SEC officials, these structural changes empowered SEC regional offices to develop differentiated *subject matter expertise.*[26] Our data, while limited in this respect, suggest that SEC regional offices today offer specialized expertise in specific market areas, which the SEC then disseminates to its other regional offices. To explain this theory, this Article provides parallel case study analysis of one regional office in particular, the SEC's Philadelphia office. The SEC's Philadelphia Regional Office has a long and specific history investigating frauds in the municipal securities market dating back to at least the early 1990s. In 2010, the Philadelphia Regional Office became the home of the SEC's Municipal Securities and Public Pension Unit. The Municipal Securities and Public Pension Unit, under its SEC leadership in the Philadelphia Regional Office, initiated various novel prosecutions in the municipal securities space, even the SEC's first case against a state.[27] As the Philadelphia Regional Office case illustrates, these offices exhibited characteristics typically associated with state or local governance: experimentation, inter-office competition, and nimbleness.

Taken together, these observations suggest that SEC regional offices today may act not merely as local monitors, but also as dispersed laboratories for developing and testing novel theories of securities enforcement. In a recent article, Dave Owen and Hannah J. Wiseman proposed a theory of administrative agencies as "federal laboratories of democracy," contending that experimentation "can, often does, and should occur at multiple levels, including the federal level."[28] In this vein, this Article suggests in Part III that SEC regional offices have the potential to develop, experiment, and ultimately test novel theories of enforcement. In this way, regional offices

26. *See infra* Section II.C.

27. Press Release, U.S. Sec. & Exch. Comm'n, SEC Names New Specialized Unit Chiefs and Head of New Office of Market Intelligence (Jan. 13, 2010) [hereinafter SEC Names New Specialized Unit Chiefs], https://www.sec.gov/news/press/2010/2010-5.htm; Steven M. Witzel & Daniel C. Fishbein, *Increasing Enforcement In Municipal Bond Market*, N.Y. L.J. (May 3, 2018), https://www.law.com/newyorklawjournal/2018/05/02/increasing-civil-and-criminal-enforcement-in-the-municipal-bond-market/ ("Since the creation of the Public Finance Abuse Unit, the Division has engaged in a number of 'first-of-their kind' actions.").

28. Hannah J. Wiseman & Dave Owen, *Federal Laboratories of Democracy*, 52 U.C. DAVIS L. REV. 1119, 1119 (2018).

may be ideal nodes for optimizing enforcement and for keeping regulators up to date with complex and ever-evolving financial markets.

I.
SEC Regional Offices: Origins, Purpose, and Legal Landscape

The history of the SEC regional offices is one of contested forces of centralization and devolution. As law professor and former SEC official David L. Ratner put it, regional offices bolstered the SEC's "political acceptability because of their responsiveness to local conditions and attitudes."[29] However, the discretion exercised by SEC regional offices, which at times produced uneven enforcement of the federal securities laws, came at the expense of "the development and implementation of new or uniform enforcement programs."[30] These opposing values—the self-determination of decentralized governance, on the one hand, and the efficiency, rationalization, and standardization of centralized control, on the other—shaped the structure of the SEC today. Throughout its history, the SEC experimented with structural reforms to maximize the benefits of both centralized oversight and localized discretion. The structure of the contemporary SEC is the evolutionary product of these design choices.

A. *The Origins of the Regional Offices*

Broadly speaking, since Congress created the SEC in 1934 to administer the federal securities laws, the basic structure of the Commission has not changed. As it has since its inception, the SEC staff in Washington D.C.—including the agency's leadership of five Commissioners appointed by the U.S. President, as well as the Directors of each Division—perform policymaking and oversight functions. The SEC's headquarters are supported by various regional offices throughout the country.[31] While the number, location, and reporting lines of the SEC regional offices have changed over time, their basic func-

29. David L. Ratner, *The SEC: Portrait of the Agency as a Thirty-Seven Year Old*, 45 St. John's L. Rev. 583, 591 (1971).

30. *Id.*

31. *Compare* Chester T. Lane & Robert M. Blair-Smith, *The SEC and the "Expeditious Settlement of Disputes,"* 34 Ill. L. Rev. 699, 702 (1939), *with* U.S.

tions persist: undertaking the day-to-day fieldwork of investigating and prosecuting violations of securities laws.[32] As Joseph P. Kennedy, the SEC's first Chairman, put it, the regional offices were established "at strategic points throughout the country to provide for adequate surveillance."[33] These regional offices carried out the SEC's responsibility to "investigate and police violations of the statutes it administers."[34]

One element of the SEC's structure that has changed over time, however, is the degree of autonomy the SEC grants its staff in regional offices to set enforcement priorities, strategies, and procedures. The federal securities laws grant the SEC broad discretion to investigate and prosecute potential violations of securities laws.[35] In practice, this discretion entails the authority to, among other things, decide whether to commence an investigation, institute an enforcement action, or negotiate a settlement. Each of these determinations implicates a wide range of subsidiary judgments, such as, whether to respond to a tip or complaint in the first instance, how many resources to devote to any investigation, what violations to charge a defendant, what venue to bring the charges in, whether to settle the charges, and so on and so forth. SEC staff

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SEC. & EXCH. COMM'N, AGENCY FINANCIAL REPORT: FISCAL YEAR 2021, at 8, https://www.sec.gov/files/sec-2021-agency-financial-report.pdf.

32. Lane & Blair-Smith, *supra* note 31, at 702–04.

33. Letter from Joseph P. Kennedy, Chairman, U.S. Sec. & Exch. Comm'n, to Nat'l Emergency Council (Nov. 23, 1934), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/papers/1930/1934_11_23_JPK_to_National_t.pdf (last visited Feb. 3, 2022). Kennedy was writing about the OTC markets, but his sentiments are consistent with the administrative vision for the agency more broadly at the time.

34. Thomas L. Hazen, *Administrative Enforcement: An Evaluation of the Securities and Exchange Commission's Use of Injunctions and Other Enforcement Methods*, 31 HASTINGS L.J. 427, 434 (1979).

35. Ralph C. Ferrara, *SEC Division of Trading and Markets: Detection, Investigation and Enforcement of Selected Practices That Impair Investor Confidence in the Capital Markets*, 16 HOWARD L.J. 950, 953 (1971) ("Section 20(a) of the 1933 Securities Act, Section 21(a) of the 1934 Securities Exchange Act, Section 18(a) of the 1935 Public Utility Holding Company Act, Section 321(a) of the 1939 Trust Indenture Act, Section 42(a) of the 1940 Investment Company Act, and Section 209(a) of the 1940 Investment Advisors Act all authorize the Commission to conduct investigations to determine whether the Federal securities laws have been violated."); Susan Peggy Shapiro, Detecting Illegalities: A Perspective on the Control of Securities Violations 166 (May 1980) (Ph.D. dissertation, Yale University) (ProQuest).

in regional offices, as the primary sites through which the SEC polices securities markets, have significant influence over each step of the securities enforcement process.[36] Over the course of its history, the SEC developed extensive internal guidelines that constrain and standardize, to some degree, how its staff undertake investigations and enforcement actions.[37] These protocols, however, did not exist during the first few decades

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36. U.S. Sec. & Exch. Comm'n, Hist. Soc'y Oral Histories Comm., Roundtable on Enforcement: A Brief History of the SEC's Enforcement Program 1934–1981 (Daniel M. Hawke ed. 2002), at 2, [hereinafter Hawke] http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c 579b45?.r81.cf1.rackcdn.com/collection/papers/2000/2002_0925_enforcementHistory.pdf (The SEC "vested the Regional Offices with primary responsibility for conducting investigations and bringing enforcement actions."); Walter G. Holden, Assistant Dir., U.S. Sec. & Exch. Comm'n, & W. Victor Rodin, Assoc. Dir., Office of Opinion Writing, U.S. Sec. & Exch. Comm'n, Training Program Lectures: Commission's Enforcement Program, and Functions of the Office of Opinion Writing 4 (May 29, 1957) [hereinafter Holden & Rodin], https://www.sechistorical.org/collection/papers/1950/1957_0529_CommissionHoldenT.pdf. Holden & Rodin state:

> The actual investigations, for the most part, are carried on by the Regional Offices. They have accountants, attorneys, investigators, who are experienced and work under the direction of the Regional Administrator to develop the necessary evidence to determine whether or not a violation has occurred. Based upon that, they recommend what action, if any, should be taken.
>
> Our relations with the Regional Offices in that respect are that we have general administrative supervision over enforcement activities. We have the power of making suggestions as to certain avenues of investigation, and of terminating investigations that don't appear to be fruitful. These the Regional Administrator usually accept, although we do not have the power of direction. We cannot tell them what to do, we can only suggest. They keep us apprised of the developments of an investigation by means of a quarterly progress report.

Id.

37. The creation of the Division of Enforcement in 1972 was a major shift towards standardizing investigation and enforcement procedure. In June 1972, the SEC created a training manual which details best practices and emphasizes a "systematic" approach to investigations. *See, e.g.*, U.S. SEC. & EXCH. COMM'N, 1972 ENFORCEMENT TRAINING PROGRAM 1 (1972), https://?www?.sechistorical.org?/museum/search/?q-first=enforcementmanual. Some of these changes are evidenced by the evolution of the SEC's enforcement manual. As the original Enforcement Manual from 1938 concedes: "[c]hanges in the original form of the Manual will be made from time to time as experience dictates and additions are contemplated." U.S. SEC. &

of the SEC's existence, during which the regional offices operated nearly autonomously.

In this early period, SEC personnel in Washington D.C. only had the power of "general administrative supervision" over the regional offices.[38] In practice, the SEC's home office was originally little more than a "clearinghouse,"[39] and its supervisory authority was limited to "making suggestions as to certain avenues of investigation, and . . . terminating investigations that don't appear to be fruitful."[40] While regional offices would typically accept recommendations from the home office, the regional offices retained ultimate control. As put by a representative of the home office: "[w]e cannot tell them what to do, we can only suggest."[41] Indeed, Stanley Sporkin described the SEC's home office as "really not much of an oversight office" and "much more of a receiving office, where it received the files."[42] Illustrating how the regional offices were "really independent operators" and how "in practice there was no control from the home office," one SEC official recounted the following anecdote: when SEC staff from Washington D.C.

EXCH. COMM'N, ENFORCEMENT MANUAL (1938), https://www.sechistorical.org/collection/papers/1930/1938_0415_SECEnforcement?.pdf.

38. Holden & Rodin, *supra* note 36, at 4. Originally, the SEC divided the United States into nine regions, each overseen by a regional office established "in the principal financial center of each." Robert E. Kline, Jr., Assistant Gen. Couns., U.S. Sec. & Exch. Comm'n, Accounting and the Commission's Enforcement Program, Address Before the Chi Chapter of Delta Sigma Pi, Johns Hopkins University 2 (Oct. 12, 1939), https://www.sechistorical.org/collection/papers/1930?/1939?_1012?_KlineEnforcementT.pdf; *see also* Hester M. Peirce, Comm'r, U.S. Sec. & Exch. Comm'n, The Why Behind the No: Remarks at the 50th Annual Rocky Mountain Securities Conference (May 11, 2018), https://www.sec.gov/news/speech/peirce-why-behind-no-051118.

39. SUSAN P. SHAPIRO, WAYWARD CAPITALISTS: TARGET OF THE SECURITIES AND EXCHANGE COMMISSION 138 (Yale Univ. Press 1984) ("The home office, as this unit of enforcement coordinators was called, served primarily as a clearinghouse. Its staff tracked regional office cases, kept the commission apprised of regional enforcement activities and secured commission authorization of enforcement action, assigned personnel to assist in substantial regional office investigations, and spent a considerable amount of time answering letters from the public.").

40. Holden & Rodin, *supra* note 36, at 4.

41. *Id.*

42. U.S. Sec. & Exch. Comm'n Hist. Soc'y, The Roundtable on Regional Administrators 7 (May 29, 2003), https://www.sechistorical.org/collection/programs/regAdmin0529Transcript.pdf.

visited a broker–dealer in Atlanta, the broker–dealer called the head of the SEC's Atlanta Regional Office who advised the broker–dealer to throw out the SEC's D.C. examiners and call the police.[43] In short, "in the area of enforcement, the regions were pretty much omnipotent."[44]

The near-complete discretion of the regional offices to pursue investigations and prosecutions in their respective zones manifested in various ways. Certain regional offices developed their own procedures for handling enforcement matters, such as reviewing corporate filings and handling cases.[45] A former Associate Enforcement Director at the SEC noted:

> Some of the regional offices had their own chief litigation counsel and worked like the home office model where the cases would be handed off. Some of the offices had, and still have a different model where basically the people that did the investigation are also the people who take the lead in the litigation.[46]

Above all else, each regional office calibrated its enforcement efforts to regional market conditions, which varied sig-

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43. Interview by David Silver with Irving Pollack (Jan. 16, 2002), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45?.r81?.cf1?.rackcdn?.com?/collection?/oral-histories??/20020116_Pollack_Irving_T.pdf.

44. *Id.* at 6.

45. For example, Glavin notes:

> From the time of the first Regulation A the notifications were filed in the regional offices as they are today. In the early years the processing was not too uniformly performed, and it wasn't 'till about the late 1940's that, seemingly, anyone gave much thought to determining whether any of those offerings required investigation, much less action. Offerings under the regulation were just not considered of sufficient importance to require much attention – except in very isolated instances.

James T. Glavin, Chief, Branch of Small Issues, Div. of Corp. Fin., U.S. Sec. & Exch. Comm'n, Training Program Lectures: Filings under Regulation A, at 2 (May 15, 1957), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1?.rackcdn.com?/collection?/papers/1950/1957_0515_FilingsGlavinT.pdf.

46. Interview by Harwell Wells with Thomas Newkirk, Partner, Jenner & Block, in Washington, D.C. (Apr. 5, 2019), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45?.r81?.cf1?.rackcdn?.com?/collection/oral-histories/2019_0405_Newkirk_Oral_History_T.pdf.

nificantly.[47] As David Ratner observed, "aggressive sales practices which are standard in Los Angeles would evoke cries of horror in Boston," or conversely, "[t]rading practices in penny mining stocks that are considered a normal aspect of speculation in the Northwest would probably be looked upon as outright manipulation in other parts of the country."[48]

This variability often enhanced enforcement. Susan Shapiro, a sociologist who spent time embedded in the SEC regional offices during the 1970s, produced one of the few academic studies of the regional offices. According to Shapiro, SEC regional offices informally developed differentiated approaches to investigations. Certain regional offices undertook "special intelligence efforts", that while "nowhere officially documented," responded to, and relied on, to local constituencies.[49] For example, the Seattle Regional Office[50] developed a working partnership with the local Better Business Bureau, which resulted in a number of cases in connection with the Bureau's consumer protection mandate; similarly, the San Francisco Regional Office reported a relatively high number of case referrals from California's state securities enforcer.[51] Moreover, the regional offices generated various novel legal theories of enforcement. As Irving Pollack notes:

> Whether it was registration or whether it was broker dealers, they were establishing the principles for shingle theory, for the mark-ups, for self-regulation. All of that was pretty much being generated by the staff.

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47. Irving Pollack, former Dir. of Enf't Div., U.S. Sec. & Exch. Comm'n, Remarks at the SEC Historical Society Fireside Chat on the SEC Division of Enforcement 2 (Sept. 23, 2008), https://www.sechistorical.org/collection/programs?/Transcript?_2008?_0923?_FC?.pdf; Mary Keefe & Michael Wolensky, U.S. Sec. & Exch. Comm'n Historical Society Fireside Chat: SEC Regional Offices 9 (May 20, 2008), https://www.sechistorical.org?/collection??/programs/Transcript_2008_0520_FC.pdf (stating that "[e]ach office really has its own character that it has developed.")

48. SHAPIRO, *supra* note 39, at 141 (quoting Ratner, *supra* note 29, at 590).

49. *Id.* at 69.

50. The SEC's Seattle Regional Office was consolidated into the Commission's Los Angeles and San Francisco Regional Offices in 1994. Seattle Times News Servs., *SEC Says It Will Close Seattle Office in July*, SEATTLE TIMES (Jan. 14, 1994), https://archive.seattletimes.com/archive/?date?=19940114?&slug?=1889682.

51. SHAPIRO, *supra* note 39, at 69.

> And, as I said before, the regions were very effective in going after all these local crime things and also establishing criminal principles in the area of fraud.[52]

The grassroots enforcement strategies incubated in the regional offices illuminated the benefits of decentralized administration, and the promise of "regionalism." Regionalism, as a normative ideal, underwrote much of the organization of the administrative state and reflected a belief in decentralized governance. Regionalism in the 1920s and 1930s, as an artistic and intellectual movement, was ignited by many of the same forces reviving regional consciousness today: economic transformations, urbanization, and technological change. Regional philosophies emerged, in search of local identity that resisted homogenization on a national scale.[53] As Blank and Rosen-Zvi note:

> [R]egional thinking was in vogue in the practice and theory of public administration . . . . The idea that administrative regions should enforce and implement federal policies in a way that mediates between central mandates and regional and local needs and conditions was especially dominant in these decades and was a conception held by many academics as well as senior officials in the administration of Franklin Delano Roosevelt.[54]

The SEC regional offices embodied these principles of decentralized governance by engaging with the business community in the regions they oversaw—a policy described as "an attempt to decentralize its activities and bring its services more directly to the public."[55]

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52. Interview by David Silver with Irving Pollack, *supra* note 43.

53. For a discussion of regionalism, see Bulman-Pozen, *supra* note 8.

54. Blank & Rosen-Zvi, *supra* note 2, at 1922, 1926.

55. Letter from Richard B. McEntire, Acting Chairman, U.S. Sec. & Exch. Comm'n, to Burnet R. Maybank, Chairman, Comm. on Bank & Currency, U.S. Senate 7 (May 1, 1950), https://www?.sechistorical?.org??/collection/papers/1950/1950_0501_McEntireMaybankT.pdf; *see also* A.K. Scheidenhelm, Exec. Dir., U.S. Sec. & Exch. Comm'n & Thomas G. Meeker, General Couns., U.S. Sec. & Exch. Comm'n, Report on Cooperation by Commission Employees with State Governments in Connection with State Securities Litigation (June 12, 1959), https://?www?.sechistorical?.org??/collection?/papers/1950/1959_0612_SECStateCooperationT.pdf.

Large-sample SEC enforcement data from 1948–1972 underscores the localized and dispersed character of the SEC enforcement program during this period, finding "considerable variability" among the regional offices, in terms of amount of cases initiated, docketing procedures, types of violations prosecuted, and other factors, including recordkeeping procedures ("some regional offices kept better records than others").[56] Enforcement patterns reflected the particular nature of the local securities markets. New York, for example, brought 30% of all investigations from 1932–1962, no doubt reflective of the large amount of stock trading and related activity relative to the rest of the country.[57] In addition, enforcement data also indicated variability by violation type, finding "more problems with the conduct of broker–dealers and of securities listed on the exchanges in New York, oil and gas cases in Ft. Worth, gold and silver mining cases in Seattle and Denver, [and] problems with land and real estate in Atlanta (especially Florida) and California."[58] As Susan Shapiro concluded:

> SEC regional offices are so distinctive that after several months of coding SEC investigations, I was usually able to guess the regional office conducting an investigation from characteristics of the alleged offenders under investigation, their modi operandi and styles of violation, their strategies for recruitment of victims and the kinds of victims they touched, and especially by the kinds of investigative strategies and practices adopted and enforcement priorities articulated by regional office personnel.[59]

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56. Shapiro, *supra* note 35, at 85, 117.
57. *Id.* at 165.
58. *Id.* at 165–66.
59. SHAPIRO, *supra* note 39, at 140. Shapiro writes:

> Sometimes the trademarks were more esoteric, for example, the involvement of other law enforcement or self-regulatory agencies in investigative activity, the way in which an offense was detected, the kind of evidence gathered, the amount of time it took to complete the investigation, or the quality of care taken in documenting investigative activities. Even though these investigations span twenty-five years and reflect the efforts of hundreds and perhaps thousands of individuals, regional offices and their constituencies leave such a distinctive mark on investigative caseload that they can often be blindly identified.

Id.

When applied properly, the enforcement discretion of the regional offices reflected the virtues of public administration. As put by William O. Douglas, "discretion, tempered by fairness and reasonableness and protected by constitutional safeguards, permits elasticity and flexibility. Case by case, group by group, problems can be solved with particular reference to the merits of each."[60]

But discretion is not always without challenges. In the case of the SEC, it threatened uneven enforcement of the federal securities laws—at times at the expense of defrauded investors. A congressional study of the SEC, published in 1952, illustrates some of these challenges. The study included four case studies of investigations where "the Commission's performance . . . [was] far from satisfactory," in certain respects, due to the operations of regional offices.[61]

One case included in the 1952 study concerned the botched investigation of a securities broker, Richard C. Badger, by SEC staff in the Denver Regional Office. Badger, a prominent member of the community, had defrauded his clients for years, and this fraudulent activity ultimately culminated with his suicide.[62] One month prior to his death, SEC staff had examined Badger's books.[63] Despite various warning signs in preceding years—repeated failures to make required annual filings and improper book-keeping—the SEC regional staff instituted no enforcement proceedings.[64] Even after Badger's death prompted a renewed SEC inquiry, the Denver regional administrator concluded that Badger was "in

60. William O. Douglas, Virtues of the Administrative Process, Talk Before Eighth Annual Forum of Current Problems (Oct. 1938), https://www.sechistorical.org/collection/papers/1930/1938_1000_Douglas_Virtues.pdf.

61. SEC. & EXCH. COMM'N SUBCOMM. AND COMM. ON INTERSTATE & FOREIGN COM., 82D CONG., STUDY OF THE SECURITIES AND EXCHANGE COMMISSION 1 (SUBCOMM. PRINT 1952).

62. *Id.* at 12 (describing Badger as "a respected member of the community and active in church, social, and civic activities in Salt Lake City and Ogden").

63. *Id.* at 10, 11.

64. *Id.* at 13 ("[M]ore pertinent to a discussion of preventing frauds. . . is the necessity for a more adequate and more thorough inspection program . . . You will recall that our inspections of the Badger firm did not include a financial examination; that such examination was not made.").

pretty good shape financially."[65] The congressional subcommittee investigation revealed that the SEC staff in Denver did not properly investigate the broker–dealer's financials, which showed serious issues:

> Facts developed in this case, however, and other matters which have come to our attention emphasize the absolute necessity for a thorough review of the work of the Commission's regional offices, which we have been unable to undertake. It is in these field offices that much of the important work of the Commission, particularly the inspection of brokers and dealers, and the investigation of manipulative and fraudulent practices in the securities markets, is conducted.[66]

The Badger case underscored issues with the SEC's structure. The SEC report detailed "evidences of internal lack of coordination, between Divisions and between regional and home offices, of duplication of effort, such as preparation of legal actions in the field and in Washington," and concluded that a "reexamination of past practices and tightening up of procedures well may assist in meeting the Commission's personnel problem."[67] The Badger example illustrates one risk inherent to limited centralized oversight of regional offices: uneven enforcement, the burdens of which were borne by unsuspecting investors.[68] It also signaled changes to come. The localized regional discretion that characterized the early SEC regional offices began to erode in the mid-20th century. The SEC's original structure endured through the late 1950s, up to which point nearly all of the SEC's investigations were instituted by the regional offices.[69] High-profile enforcement issues in the 1950s and 1960s, culminating with the failure to prosecute abuses at the American Stock Exchange, "would redirect the focus of the enforcement program back to the home office, and would trigger a series of events at the Commission that, eventually, led to the creation of the Division of Enforcement more than a decade later," noted Stanley Sporkin and Irving M. Pollack, who would go on to become

65. *Id.* at 11.
66. *Id.* at 2.
67. *Id.* at 124.
68. *Id.*
69. Hawke, *supra* note 36, at 14.

the first of the two Directors of the Division of Enforcement.[70] Thus, as political pressure began to mount on the SEC, the home office began to assert more and more control over the regional offices. This reflected a broader appetite for centralization, across U.S. administrative agencies, that would intensify through the 1980s.[71]

The creation of the Division of Enforcement was the first major step to centralizing and standardizing the SEC's enforcement efforts.[72] Created in 1972, the Division of Enforcement served to "concentrate resources by focusing all enforcement and investigative activity in one division."[73] Today, the enforcement and investigative activities of each regional office are overseen by the SEC's Division of Enforcement, based in Washington D.C. The Division of Enforcement is responsible for conducting investigations into potential securities laws violations and prosecuting the SEC's enforcement actions. The Division of Enforcement employs over 1,100 personnel and is the SEC's largest division.[74] Today, the SEC conducts its investigations through its Division of Enforcement, whose staff are located both in the SEC home office in Washington, D.C., as

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70. *Id.* at 2–3.

71. *See* Randall P. Bezanson, *The Myths of Formalism*, 69 IOWA L. REV. 957 (1984).

72. Irving Pollack, Remarks at the Past Enforcement Directors Roundtable (June 14, 2006), https://www.sechistorical.org/collection/papers/2000/2006_0614_SECEnforcement.pdf. Pollack states:

> Prior to that time all of the enforcement activities were fairly well done in the regional offices and the home office served nearly as a service entity for the regional offices. It's hard to believe but in those days the regional offices had to ask another regional office to do any work that was outside of their region. There were on resources to pay the regions to travel outside of their own region.
>
> Indeed, when I first joined the Division of Enforcement that part of the Division of Trading Exchanges they had a rule that that nobody could make a long distance call without the permission of an Assistant Director. In those days too we didn't have electronic records. If you were going to do an investigation you would have to get long distance post slips from the telephone company.

Id.

73. U.S. SEC. & EXCH. COMM'N, ANNUAL REPORT XXVII (1972), https://www.sec.gov/about/annual_report/1972.pdf.

74. DIV. OF ENF'T, U.S. SEC. & EXCH. COMM'N, ANNUAL REPORT (2017), https://www.sec.gov/files/enforcement-annual-report-2017.pdf.

well as in the SEC's eleven regional offices. These enforcement division staff are responsible for instituting investigations in response to complaints and tips, the majority of which today are received in electronic form, and then forwarded to the appropriate regional office or home office.[75] The SEC also receives many tips or complaints from members of Congress or their constituents, which, in similar fashion, are then directed to the relevant regional office.[76]

The 1960s saw the SEC home office develop from a "small, reactive, caretaker office to a large, specialized, proactive, self-initiating office, constantly expanding the boundaries of enforcement policy and serving as a leader and model for the enforcement activities of the regions."[77] Indeed, since then, the SEC home office "dramatically and consistently" increased its caseload relative to the regional offices.[78] Enforcement data bears this out: in the 1950s, the SEC home office instituted less than 1% of all investigations; after 1972, the D.C. office accounted for over 15% of the Commission's investigations.[79]

The cycle of crisis followed by remedial reorganization is a persistent theme in the evolution of the SEC regional office structure.

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75. *See* U.S. SEC. & EXCH. COMM'N, SEC ENFORCEMENT MANUAL 8 (Nov. 28, 2017) [hereinafter 2017 SEC ENFORCEMENT MANUAL], https://www.sec.gov/divisions/enforce/enforcementmanual.pdf ("The vast majority of complaints and tips received by the Division are in electronic form and the Division encourages the public to communicate with it through the online web form. Every complaint is carefully reviewed by Division staff for apparent reliability, detail and potential violations of the federal securities laws. After review, the complaint or tip generally is processed according to the guidelines below. . . . Complaints that appear to be serious and substantial are usually forwarded to staff in the Home Office or the appropriate regional office for more detailed review and may result in the opening of a MUI.").

76. *See id.* at 11 ("The SEC frequently receives complaints and other information from members of Congress on behalf of the constituents whom they represent. Most of these letters are directed to the Office of Legislative Affairs or the Office of the Chairman and then assigned to the appropriate SEC division or regional office.").

77. SHAPIRO, *supra* note 39, at 140.

78. *Id.* at 138.

79. *Id.*

B. *Crisis and Reorganization*

The Division of Enforcement was instrumental in ushering the SEC enforcement program out of its so-called "Dark Ages" into a more modern, technologically competent, and national regime.[80] But, issues persisted.

Notwithstanding the SEC's progressive centralization of its enforcement program since the 1960s described above, the SEC regional offices still retained some autonomy. Enforcement Division staff at each regional office, for example, had the discretion to open a so-called "Matter Under Inquiry" or "MUI."[81] These staff members retained, as they still do today, the responsibility for conducting the initial analyses as to whether there might be a potential violation of the securities laws that warrants an investigation, and then, for seeking approval from the Regional Office's Director or Associate Director to open the investigation.[82] The determination regarding whether to open an investigation is a multi-faceted one: Enforcement Division staff at each regional office must determine whether such office opening the investigation "will be the best use of resources for the Division of a whole."[83]

Unsurprisingly, challenges relating to the discretion of each regional office persisted. While the Division of Enforce-

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80. Hawke, *supra* note 36, at 22.

81. Roundtable on Regional Administrators, *supra* note 42, at 6 (describing the relationship between the home office and regional offices in opening MUI).

82. The SEC Enforcement Manual details the specific procedures for opening a matter under investigation, or "MUI":

> Opening a MUI requires that the staff assigned to a MUI (at the Assistant Director level and below) first conduct preliminary analyses to determine: (1) whether the facts underlying the MUI show that there is potential to address conduct that violates the federal securities laws; and (2) whether the assignment of a MUI to a particular office will be the best use of resources for the Division as a whole. If the preliminary analyses indicate that a MUI should be opened, then the staff should follow the procedures below for opening a MUI within the internal system and seeking approval of the assigned Associate Director or Regional Director . . . . Prior to opening a MUI, the assigned staff (Assistant Director and below) should determine whether the known facts show that an Enforcement investigation would have the potential to address conduct that violates the federal securities laws.

2017 SEC ENFORCEMENT MANUAL, *supra* note 75, at 12.

83. *Id.*

ment created some degree of oversight, the structure of the regional offices led to other problem areas: inadequate enforcement expertise at certain regional offices, at times, and coordination issues among offices. For example, reports surfaced in the late 1980s about ineffective enforcement efforts at the New York Regional Office. In 1987, a senator on the Committee on Banking, Housing and Urban Affairs sent a letter to SEC Chairman Ruder regarding "bothersome" reports about the New York Regional Office and demanded that the SEC prioritize "cleaning up the reported mess in the New York regional office."[84] In 2003, the Boston Regional Office underwent restructuring and personnel changes following the high-profile Putnam case involving "market-timing"—a fraudulent trading practice utilized by investment funds that provoked public outcry in the wake of investigations by New York Attorney General Eliot Spitzer.[85] As reported by *The Wall Street Journal* at the time, "the SEC is looking into why a tip from a Putnam employee wasn't taken more seriously by the SEC's Boston regional office" and is "trying to determine why its most recent inspection of Putnam didn't turn up problems."[86]

Concerns about each regional office's ability to police and prosecute increasingly complex financial markets continued to escalate and would come to a head in the 2000s. In 2004, David Silver, a senior SEC official, issued an urgent warning that the "internal organization of the SEC is in dire need of substantial reorganization and improvement to meet current and future challenges."[87] Silver cited two key issues: first, the

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84. Letter from William Proxmire, U.S. Senator, to David Ruder, Chairman, Sec. & Exch. Comm'n (Aug. 13, 1987), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/papers/1980/1987_0813_RuderComplaint.pdf.

85. Tom Lauricella et al., *Mutual Funds Face Overhaul as Spitzer, SEC Fight for Turf,* WALL ST. J. (Oct. 31, 2003), https://www.wsj.com/articles/SB1067550989858256 00.

86. *Id.*

87. David Silver, *What Went Wrong at the SEC?*, Remarks in Milan, Italy 3 (Apr. 23, 2004) http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/papers/2000/2004_0423_Silver.pdf (last updated Nov. 2004) ("As the securities industry developed, the SEC's three traditional operating Divisions, Investment Management, Market Regulation and the Division of Corporation Finance, organized along the lines of the three major federal securities statutes remain conceptually and functionally isolated from each other, each as it were, in its own silo.

lack of a single body within the Commission with systemic oversight of the market as a whole, and second, the "centralization of enforcement and inspections by the creation of the Division of Enforcement and OCIE, [that] has had the unintended consequence of taking away the eyes and ears of the operating Divisions thus adding another degree of insularity."[88] As another SEC official put it: "To understand how the SEC operates, think of Germany prior to Bismarck: a series of semi-autonomous feudal states that operate autonomously in most ways and occasionally compete amongst themselves, except when a common enemy appears at the border."[89]

Two high-profile frauds would force the SEC into action. In December 2008, the SEC charged Bernie Madoff for perpe-

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They report upwards to a five member Commission which has no real coordinating and integrating facilities of its own, although in recent Senate testimony Chairman Donaldson stated that an Office of Risk Assessment not bound by divisional lines is being created as well as inter-divisional task forces to work on special problems. I should also note that the Director of the Division of Enforcement also promised better communication in the future with the operating divisions. While these are laudable steps, even if fully implemented, more fundamental changes may be needed.").

88. *Id.* at 4. Silver notes:

> Let me give very two examples of what I am talking about. On January 14, a New York Times article indicated that the Division of Enforcement was taking a hard look and might be planning enforcement actions against mutual fund organizations that are not adequately disclosing non-sales charge compensation paid to fund retailers through payments for shelf space, etc. Yet, four years ago the SEC's General Counsel's Office filed an amicus brief in a lawsuit then pending in New York, indicating that certain very general prospectus disclosures provided an adequate legal blessing to these payments.
>
> The second instance involves market timing. I believe that between 1993 and 2003 there was at least six reported lawsuits in which market timers, complaining about efforts by mutual funds to curtail their activities, sued insurance and mutual fund organizations. The SEC did not file an amicus brief in any of these cases. I believe that any careful study of these two examples and others would substantiate that the view that the regulatory voids which followed action in the one case and inaction in the other helped create a false image of regulatory tolerance in two extremely important and problematic areas. I strongly believe that the internal fragmentation I have described played a significant role.

Id.

89. Jonathan G. Katz, *Reviewing The SEC, Reinvigorating The SEC*, 71 U. PITT. L. REV. 489, 503 (2010).

trating a more than $50 billion Ponzi scheme—the largest in history.[90] Stunningly, internal investigations would later reveal that between 1992 and 2008 the SEC "received more than ample information in the form of detailed and substantive complaints" that Madoff was operating a Ponzi scheme.[91] Moreover, as early as 2001, popular publications like *Barron's* were openly questioning the performance of Madoff's investments.[92] In response to perceived failures of the New York and Boston Regional Offices to identify the fraud, the SEC Office of Inspector General ("OIG") launched an internal probe regarding the handling of the Madoff case.[93]

A few months later, the Commission was dealt another blow. In spring 2009, the SEC filed charges against Allen Stanford for operating a $7 billion Ponzi scheme—among the largest in history.[94] Reportedly, a Fort Worth examination official warned her branch chief to "keep your eye on these people because this looks like a Ponzi scheme to me and someday it's going to blow up," but the Fort Worth Regional Office was unable to prevent the fraud.[95] Writing in *Business Insider*, Henry Blodget excoriated the SEC: "After years of ignoring ex-employees who said that Stanford Financial was a massive Ponzi

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90. Diana B. Henriques, *Bernie Madoff, Architect of Largest Ponzi Scheme in History, Is Dead at 82*, N.Y. TIMES (Apr. 15, 2021), https://www.nytimes.com/2021/04/14/business/bernie-madoff-dead.html.

91. OFFICE OF INSPECTOR GEN., U.S. SEC REPORT NO. OIG-509, INVESTIGATION OF FAILURE OF THE SEC TO UNCOVER BERNARD MADOFF'S PONZI SCHEME – PUBLIC VERSION 20–21 (2009) [hereinafter SEC REPORT NO. OIG-509].

92. *Id.* at 27. The SEC's OIG report quotes one article, noting the "MARHedge article, written by Michael Ocrant and entitled 'Madoff tops charts; skeptics ask how,' stated how many were 'baffled by the way [Madoff's] firm has obtained such consistent, nonvolatile returns month after month and year after year.'" *Id.* at 27–28 (internal citations omitted).

93. *Id.* at 133; *see* Interview by William Thomas with David Bergers, in Boston, Mass. (Aug. 4, 2015), https://www.sechistorical.org/collection/oral-histories/20150804_Bergers_David_T.pdf (describing the relationship between the Boston and New York Regional Offices in connection with the Madoff investigation and contesting the OIG's findings).

94. Daniel Gilbert & Tom Fowler, *Stanford Guilty in Ponzi Scheme*, WALL ST. J. (Mar. 6, 2017), https://www.wsj.com/articles/SB10001424052970203458604577265490160937460.

95. OFFICE OF INSPECTOR GEN., U.S. SEC, CASE NO. OIG-526, REPORT OF INVESTIGATION OF THE SEC'S RESPONSE TO CONCERNS REGARDING ROBERT ALLEN STANFORD'S ALLEGED PONZI SCHEME 33 (2010) [hereinafter SEC REPORT NO. OIG-526], https://www.sec.gov/files/oig-526.pdf.

scheme, the SEC now concludes that Stanford was . . . a massive Ponzi scheme."[96] The OIG launched a second investigation, focused on the Fort Worth Regional Office's investigation of Stanford.[97] As Senator Dodd summarized in Congressional hearings:

> [A] central problem was the failure of the SEC Fort Worth District Office Enforcement staff to heed the warning of the Examination staff. The IG report shows that the examiners at the Fort Worth District Office raised red flags about Mr. Stanford's operation in four exams conducted over 8 years, beginning in 1997, concluding in each examination that Stanford's CDs were likely a Ponzi scheme or a similar fraudulent scheme. However, the Enforcement staff disregarded the examiners' repeated warnings, continually turning a blind eye for nearly a decade.[98]

The Madoff and Stanford cases highlighted underlying issues in the regional office structure, key among them a severe lack of inter-office communication. Structural issues pervaded the findings of the OIG reports, which cited "insufficient expertise, training, experience and supervision by management; inadequate internal communication and coordination among and within various SEC divisions; deficiencies in investigative planning and prioritization; lack of follow-through on leads; and insufficient resources."[99] The OIG concluded that internal organizational and communication issues contributed to the SEC's failure to detect the fraud.[100] As former Chairman David Ruder noted: "Each division operated on its own. The

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96. Henry Blodget, *SEC: We Are Shocked To Discover Stanford Was A Ponzi Scheme*, BUS. INSIDER (Feb. 28, 2009), https://www.businessinsider.com/sec-okay-okay-stanford-was-a-ponzi-scheme-2009-2.

97. SEC REPORT NO. OIG-526, *supra* note 95.

98. *Oversight of The SEC Inspector General's Report on the "Investigation of the SEC's Response to Concerns Regarding Robert Allen Stanford's Alleged Ponzi Scheme" and Improving SEC Performance: Hearing Before the S. Comm. on Banking, Hous., and Urb. Affs.*, 111th Cong. 3 (2010) (statement of Sen. Christopher Dodd, Chairman, S. Comm. on Banking, Hous., and Urb. Affs.).

99. *Oversight of the Securities and Exchange Commission's Failure to Identify the Bernard L. Madoff Ponzi Scheme and How to Improve SEC Performance: Hearing Before the S. Comm. on Banking, Hous., and Urb. Affs.*, 111th Cong. (2009) (statement of Robert Khuzami, Dir., Div. of Enf't & John Walsh, Acting Dir., Office of Compliance Inspections and Examinations).

100. *See* SEC REPORT NO. OIG-509, *supra* note 91, at 29.

divisions didn't talk to each other very much."[101] Harry Markopolos—the tipper who provided the SEC with detailed accounting evidence of Madoff's fraud—blamed the failure to identify the Madoff case on "regional turf rivalries" between the Boston and New York Regional Offices.[102]

More alarmingly, the OIG reports made clear that the SEC prosecutors did not appear to have the requisite market knowledge to identify and prosecute the frauds, a critical blind spot as financial markets became more and more complex. As the Madoff OIG report notes, SEC regional office staff conducted various investigations of Madoff's investment operations prior to 2008 without diagnosing the Ponzi scheme.[103] The SEC investigation in 2006, following a tip from a "concerned citizen," was terminated without finding any violations of the securities laws, and the SEC's examiner in question received high marks for their "ability to understand and analyze the complex issues of the Madoff investigation."[104]

The Madoff and Stanford cases—and the ensuing OIG investigations—catalyzed sweeping organizational change. In response, the SEC underwent a comprehensive restructuring of its regulatory and enforcement functions, including the further reorganization of its regional office structure.[105]

Certain SEC reforms were centralizing and echoed steps taken by the agency in response to the crises of the 1950s and 1960s, namely consolidating and centralizing oversight of enforcement[106] to "tear down the silos."[107] The SEC flattened re-

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101. Interview by William Thomas with David Ruder, in Chicago, Ill. (May 27, 2015), http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/oral-histories/20150527_Ruder_David_T.pdf.

102. *Madoff Whistleblower: SEC Failed to Do the Math*, NPR (Mar. 2, 2010, 12:00), https://www.npr.org/templates/story/story.php?storyId=124208012.

103. SEC Report No. OIG-509, *supra* note 91 (describing OCIE examinations in 2004 and 2005). Of particular note is the investigation in 2005 by the "Northeast Regional Office," which today is the New York Regional Office. *Id.*

104. *Id.* at 40–41.

105. *The Securities and Exchange Commission Post-Madoff Reforms*, U.S. Sec. & Exch. Comm'n, https://www.sec.gov/spotlight/secpostmadoffreforms.htm (last modified July 15, 2019).

106. *See* Regional Office Reorganization, Exchange Act Release No. 57877, 17 C.F.R. § 200.11 (2021).

107. Dean V. Shahinian, Senior Couns., U.S. Sen. Banking, Hous., and Urb. Affs. Comm., Remarks at the SEC Historical Society Fireside Chat: View

porting structures, standardized training across regional offices, and consolidated a range of enforcement functions.[108] As put by Robert Khuzami, "[t]he examination program in other regional offices has been consolidated under the leadership of a single senior manager to ensure consistent supervision on their coordination, collaboration and communication."[109] One SEC staffer noted:

> [R]egional chief counsels reported to one of three Washington chief counsels who also had their day job to run the enforcement centers here in [D.C.] . . . so, part of the reorganization was to create this one person who was responsible for the regional enforcement program in Washington and everybody would report up to that person.[110]

Additionally, in 2008, the SEC published its enforcement manual for the first time ever, in a move designed to, among other goals, standardize investigation and enforcement procedures across all offices.[111]

And yet, while certain of the reorganizations were clearly centralizing, the SEC also instituted structural changes that *decentralized* authority and autonomy to the regional offices. One of the main reforms was the creation of national specialized units in 2010, a move that the SEC's Division of Enforcement called the "most significant reorganization since its establishment in 1972."[112] These national specialized units would focus on specific issue areas of the securities markets in order to—as Robert Khuzami, the program's architect noted—"foster a

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From Congress (Mar. 27, 2007), https://www.sechistorical.org/collection/programs/Transcript_2007_0327_FC.pdf.

108. *See Oversight of the Securities and Exchange Commission's Failure To Identify the Bernard L. Madoff Ponzi Scheme and How to Improve SEC Performance: Hearing Before the S. Comm. On Banking, Hous., and Urb. Affs.*, 111th Cong. 95 (2009) (statement of Robert Khuzami, Dir., Div. of Enf't & John Walsh, Acting Dir., Office of Compliance Inspections and Examinations).

109. *Id.* at 99.

110. Interview by William Thomas with Emily Gordy, former Deputy Chief Couns., Div. of Enf't, U.S. Sec. & Exch. Comm'n (Sept. 23, 2013), https://www.sechistorical.org/collection/oral-histories/20130923_Gordy_Emily_T.pdf.

111. Harold K. Gordon & Tracy V. Schaffer, *Release of 'Red Book' a Move Toward SEC Transparency*, LAW (Dec. 11, 2008, 12:00 AM), https://www.law.com/almID/1202426646812/.

112. SEC Names New Specialized Unit Chiefs, *supra* note 27.

more comprehensive and coherent national program that encourages communication and collaboration."[113]

Notably, each subject matter unit was staffed by personnel across the various regional offices, and many of the units were actually headed by SEC directors in regional offices.[114] Describing this new "matrix reporting" structure, Khuzami noted:

> [T]he SEC had historically only been organized regionally, the New York region, the San Francisco region, the Dallas/Fort Worth region, and each regional director was in charge of everything that happened in that region whatever the nature of the case. We laid over that structure with this regional structure, these specialized units which were across the country. They may have had a chief in New York and a deputy chief in Atlanta and staff in the unit in five of those regions. You had regional directors who no longer have full autonomy over their cases. In fact, people in their region will now be reporting still to the regional director for some cases, but to the head of the unit in New York.[115]

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113. *See Oversight of the Securities and Exchange Commission's Failure to Identify the Bernard L. Madoff Ponzi Scheme and How to Improve SEC Performance: Hearing Before the S. Comm. on Banking, Hous., and Urb. Affs.*, 111th Cong. 99–100 (2009) (statement of Robert Khuzami, Dir., Div. of Enf't) (observing, "[f]or example, the New York Regional Office already has adopted a protocol under which a single team of examiners, drawn from the broker–dealer and investment management units, will jointly examine selected firms to ensure that the examination team includes those most expert in the subject of the examination").

114. For example, the Asset Management Unit was originally co-headed by Bruce Karpati in the New York Regional Office; the Market Abuse Unit was originally led by Daniel M. Hawke, who was the director of the Philadelphia Regional Office; and the Municipal Securities and Public Pensions Unit was originally headed by Elaine C. Greenberg, Associate Regional Director of the Philadelphia Regional Office. *See* SEC Names New Specialized Unit Chiefs, *supra* note 27.

115. Interview by Dr. Harwell Wells with Robert Khuzami, former Dir. of the Div. of Enf't, U.S. Sec. & Exch. Comm'n, in New York, N.Y. (Feb. 15, 2019), https://www.sechistorical.org/collection/oral-histories/2019_0215_Khuzami_Oral_History_T.pdf.

From time to time, leadership of these units has transferred from one region to another.[116] Additionally, in response to the emergence of novel financial products and trading strategies, the SEC has created new or expanded existing specialized units. As Khuzami notes: "They were never designed to be static. They can shrink if that subject matter is no longer a significant priority for the division."[117]

SEC leadership has highlighted the significant reforms that the Commission has undergone in recent years and praised the Commission for taking comprehensive action. In 2012, Chair Schapiro looked back on the agency's reforms, calling the recent reorganizations "one of the most productive periods in the agency's history," citing "improvements in culture, management approach, and attitude."[118] Former Chair Breeden noted more recently, "[i]t's really exciting to see the agency move past the terrible era of the Madoff collapse and past 2008 and the attempts to dismember the agency. The SEC flag is flying as proudly as I've seen it in decades and that's a wonderful thing."[119] The Division of Enforcement, thus, has sought "to avoid such turf battles by pressing supervisors to work with their counterparts in other offices to make sure that investigations are being conducted by the appropriate regional offices."[120]

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116. For example, in 2016, C. Dabney O'Riordan was announced as co-chief of the Asset Management Unit, realigning the group's leadership from New York to Los Angeles, where O'Riordan was based. *See* Press Release, U.S. Sec. & Exch. Comm'n, C. Dabney O'Riordan Named as Co-Chief of the Asset Management Unit (June 28, 2016), https://www.sec.gov/news/press-release/2016-134.html.

117. Interview by Dr. Harwell Wells with Robert Khuzami, *supra* note 115.

118. Mary Schapiro, former Chairman, U.S. Sec. & Exch. Comm'n, Remarks at the SEC Historical Society 13th Annual Meeting Program, A Creative Irritant: The Relationship between the SEC and Accounting Standard Setters (June 7, 2012), https://www.sechistorical.org/collection/programs/sechistorical_060712_transcript.pdf.

119. Richard Breeden, former Chairman, U.S. Sec. & Exch. Comm'n, Remarks at the SEC Historical Society 17th Annual Meeting Program, At the Crossroads of the White House and the SEC (June 2, 2016), https://www.sechistorical.org/collection/programs/sechistorical-060216-transcript.pdf.

120. Luke Cadigan, *The Role Of Regional Offices In the SEC FCPA Unit*, LAW360 (Sept. 30, 2011), https://www.law360.com/articles/274598/the-role-of-regional-offices-in-the-sec-fcpa-unit?copied=1.

II.
THE CONTEMPORARY SEC: A MATRIX ORGANIZATION

The evolution of the SEC regional office structure illustrates how institutional structures—specifically, arrangements that centralize or devolve discretion—impact administrative enforcement. As described in Part I, the SEC has historically responded to public outcry following high-profile scandals with structural reorganizations. In the aftermath of 2008, however, unlike previous crises responses, the SEC opted for a middle ground approach: a reorganization that was both centralizing *and* decentralizing, known as a "matrix" structure.[121] In this way, the SEC sought to overcome the problems endemic to decentralized enforcement: capture, information siloes, and disparate enforcement. At the same time, however, the SEC also preserved devolutionary structures that sought to recall the benefits that characterized the early regional offices: experimentalism, competition, and responsiveness, each in their own regard tools to keep up with transforming market practices.[122]

Despite these changes—described as "pretty radical" by SEC officials—very little data has been compiled on the enforcement patterns of regional offices.[123] Given this lack of information, one might question if the predominant assumption found in the securities law and related finance literatures today, that SEC regional offices primarily serve to investigate and enforce violations in a particular geographic area, still holds,[124] and, more broadly, how these regional offices con-

121. Interview by Dr. Harwell Wells with Robert Khuzami, *supra* note 115.

122. *See id.* at 10–12 (describing the intent and benefits of the matrix reporting structure).

123. *See* CTR. FOR STRATEGIC & INT'L STUDS, THE FUTURE OF THE SECURITIES AND EXCHANGE COMMISSION IN A CHANGING WORLD 13 (2015), http://ssrn.com/abstract=2715143 ("The Enforcement Division, now with 1,300 staff members, has undergone 'pretty radical' changes in the past five to ten years, with 'tremendous impact' on how it functions. The Division now has industry experts that allow it to cover a broader swath of the securities markets and to do so fairly.").

124. Bonsall et al., *supra* note 25, at 14 ("Consistent with the local office usually, but not always, handling investigation of firms headquartered in their geographic nexus, we find that 73 percent of the investigations opened after a restatement are opened by the SEC regional office that has geographic purview over a firm's headquarters location.").

tribute to, and fit within, the interlocking layers of the securities enforcement ecosystem.

Part II is a first step in addressing this lack of data, and in turn, understanding how the discretion of each SEC regional office impacts securities enforcement today. While our data is only suggestive, it offers an entryway to theorize about not only the contemporary purposes of the SEC regional offices, but also the potential for current design choices to remedy longstanding questions about securities enforcement.

A. *Descriptive Statistics*

Data about regional office enforcement is scarce: the SEC does not publish enforcement data by regional office in its annual report. Therefore, we provide a snapshot of SEC regional office participation in the investigation and/or enforcement of actions in the past decade.

To determine which SEC regional office participated in the investigation and/or enforcement of a case, we rely on documents published by the SEC where the SEC indicates which regional office participated—typically press releases, but also litigation releases, administrative summaries or court documents (such as a complaint). Our sample tracks enforcement actions initiated from October 1, 2009, through September 30, 2020, (consistent with the SEC's fiscal calendar) by the SEC against public companies and subsidiaries.[125] Our sample consists of 348 enforcement actions from the Securities Enforcement Empirical Database (SEED).[126]

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125. The sample consists of enforcement actions against defendants that are public companies and their subsidiaries. Public companies are defined as those that traded on a major U.S. exchange as identified by the Center for Research in Security Prices (CRSP) at the time the enforcement action was initiated, or otherwise within the five-year period preceding the initiation. Thus, public companies that traded over-the-counter or only on major non-U.S. exchanges are excluded, as are companies that did not become public until after the enforcement action was initiated. Subsidiaries are those entities that had a publicly traded parent company at the time the enforcement action was initiated, or otherwise within the five-year period preceding the initiation. Enforcement actions solely against natural person defendants, entities other than public companies and subsidiaries, and relief defendants were excluded from the sample.

126. *Securities Enforcement Empirical Database*, N.Y.U. POLLACK CTR. FOR L. & BUS. & CORNERSTONE RSCH., https://research.seed.law.nyu.edu/ (last visited Mar. 9, 2022) [hereinafter SEED].

SEED identifies 698 SEC actions from FY 2010 through FY 2020.[127] Of these actions, 157 are civil actions, 539 are administrative proceedings, 2 are reports of investigation. We capture 157 out of 157 civil actions in SEED, from FY 2010 through FY 2020, because the SEC specifies the enforcing offices in its complaints.[128] We capture 191 out of 539 administrative proceedings in SEED, from FY 2010 through FY 2020, because the SEC does not always provide information about its investigating offices or enforcing offices in administrative proceeding documents.[129] We capture 0 out of 2 report of investigation. In the aggregate, we capture 348 SEC enforcement actions (157 civil actions and 191 administrative proceedings). Therefore, the SEC indicated which regional office participated in the matter for about half of the total enforcement actions brought in the same period. We consider the "Participating SEC Office" to be the regional office that conducted the investigation that led to the prosecution and/or prosecuted the enforcement action.

A close look at the enforcement activities of regional offices in the last decade suggests, in the aggregate, the persistence of historic geographic patterns of enforcement. As noted below, for example, the New York Regional Office participated in the greatest number of actions outside of the home office, consistent with its activity dating back to 75 years ago. Consistent with historical data, the New York Regional Office also participated in the most actions against securities broker–dealers and investment advisers, as well as the most actions targeting market manipulation, unsurprisingly reflecting

127. N.Y.U. Pollack Ctr. for L. & Bus. & Cornerstone Rsch., SEC Enforcement Activity: Public Companies and Subsidiaries: Fiscal Year 2020 Update 11 (2020), https://www.cornerstone.com/wp-content/uploads/2021/12/SEC-Enforcement-Activity-FY2021-Update.pdf. This report mentions 697 (and not 698) enforcement actions because one action was added to SEED after the release of the report due to the fact that the SEC posted a press release announcing the initiation of this additional enforcement action only after the release of the report.

128. For some civil cases, the SEC also expressly provides information about the investigating offices in its press releases and litigation releases.

129. When the SEC *does* provide information about the investigating offices and/or enforcement offices for a given administrative proceeding, this information is provided in SEC press releases, litigation releases, and administrative releases. Consequently, this Article captured the 191 administrative proceedings based on the review of these three types of documents.

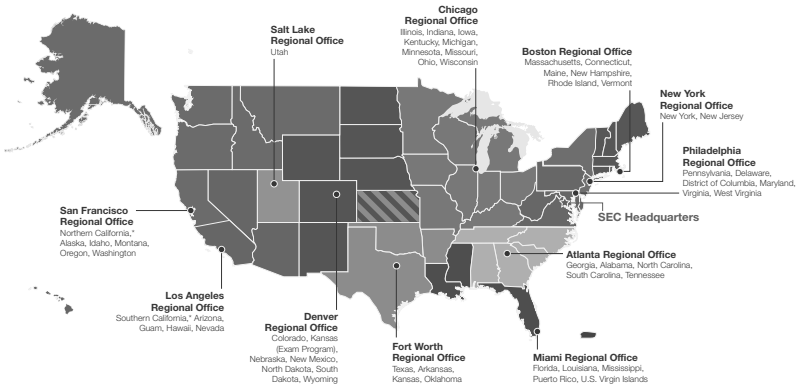
the high concentration of financial services in the state (see Figure 1 below). Conversely, the Salt Lake Regional Office brought only a small percentage of the enforcement actions in our sample—consistent with the office's historical output and the types of actions it brings (i.e., typically localized affinity fraud that would not be captured in a data set focused on public companies and subsidiaries). Outside of these outliers, however, most of the other regional offices participated in roughly comparable numbers of enforcement actions.

FIGURE 1: NUMBER OF ACTIONS BY SEC OFFICE AND ALLEGATION TYPE[130]

SEC Offices	Issuer Reporting and Disclosure	Foreign Corrupt Practices Act	Investment Advisors/ Investment Companies	Broker Dealer	Public Finance Abuse	Securities Offering	Market Manipu-lation	Insider Trading	Other	Total
Atlanta	4	0	3	0	0	1	0	0	0	8
Boston	11	8	4	3	16	1	1	0	1	45
Chicago	13	1	5	5	4	1	0	0	1	30
Denver	7	1	5	1	0	2	0	0	3	19
Fort Worth	11	8	1	0	0	2	0	0	2	24
Los Angeles	10	4	4	3	0	0	0	0	1	22
Miami	4	7	4	5	0	1	0	0	0	21
New York	27	4	12	21	1	3	4	0	5	77
Philadelphia	7	0	6	5	5	0	0	0	1	24
Salt Lake City	0	3	0	0	0	0	0	0	0	3
San Francisco	12	6	2	0	2	0	0	0	0	22
Washington D.C.	39	31	0	1	2	7	0	0	4	84

130. SEED, *supra* note 126.

FIGURE 2: SEC REGIONAL OFFICES' JURISDICTIONS[131]



In some ways, the persistence of historical geographic enforcement patterns across regional offices reflects the SEC's normative design choices. The SEC continues to acknowledge that the regional offices do reflect, and benefit from, the character of their regional constituencies. The SEC touts that regional offices "tailor their efforts to the needs of the regions they serve."[132] The SEC has even acknowledged that these regional differences might benefit enforcement. Recently, SEC Commissioner Hester Peirce maintained that "staff on the ground throughout the country is essential to our ability to fulfill our responsibilities" because the "regional staff gets to know the areas they serve, the local securities bar, their fellow regulators in the region, and local law enforcement. They also get to know the types of problems that are unique to, or concentrated in, the area they serve."[133]

And yet, while certain regional office enforcement patterns mirror those of fifty years ago, the presumption that regional offices focus primarily on their geographic region is qualified by our data. Our data suggest that the link between regional office and in-region enforcement may not be all that clear cut. Indeed, despite the limitations of our sample—which only covers actions against public companies and their subsidiaries—it appears that, in the last decade, geography was

131. U.S. SEC. & EXCH. COMM'N, AGENCY FINANCIAL REPORT: FISCAL YEAR 2018, *supra* note 23, at 9.

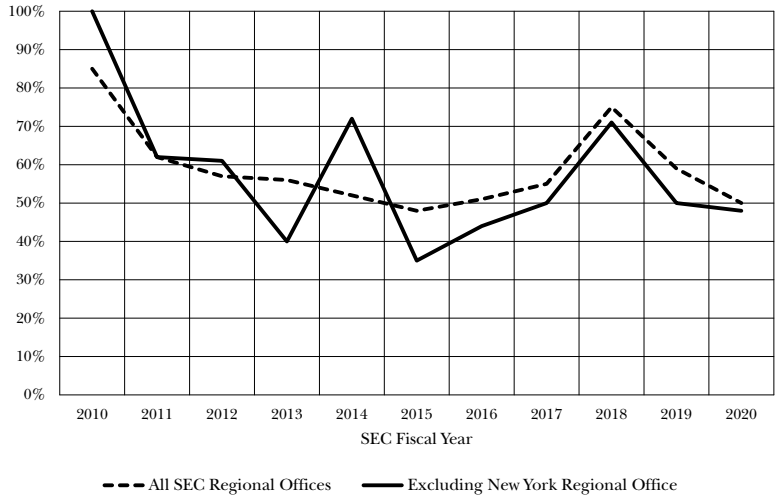
132. *Id.* at 13.

133. Peirce, *supra* note 38.

not the overriding determinant of SEC regional office participation in the investigation and/or enforcement of cases for violations of the federal securities laws.

We analyzed whether or not SEC regional offices primarily investigate and/or enforce actions against companies in their geographic region. To this end, we report on the number of enforcement actions each regional office participated in *within* and *outside* its respective geographic location. To determine whether a Participating SEC Office brought an enforcement action *within* or *outside* its jurisdiction, we look at the SEC regional office jurisdiction as prescribed by Section 200.11 of the Code of Federal Regulations (see Figure 2 above)[134] and at the headquarter of the defendant/respondent as specified in the SEC's complaint or in the SEC's order instituting administrative proceedings. In those cases where the SEC's complaint or the SEC's order does not mention the headquarters, we collect this information from Capital IQ. For California, which is divided into two SEC regions, we roughly estimated location based on the SEC's map above (see Figure 2 above).

FIGURE 3: PERCENTAGE OF IN-REGION ACTIONS[135]



134. 17 C.F.R. § 200.11 (2015).

As shown in Figure 3 above, outside of FY 2018, in-region participation by SEC regional offices in our sample has hovered near 50% in recent years. Even excluding the New York Regional Office (the solid black line in Figure 3 above), which is often viewed as a regional office with a national scope due to its nexus to markets, geographic detachment is evident.

The above data are only suggestive in a few ways. Because our data set focus only on actions against public companies and subsidiaries—which primarily consist of only the largest companies—it is possible that the data simply reflect that in the most significant enforcement matters (measured by impact to investors) geography matters less. In addition, we lack enforcement data prior to the SEC's restructurings in 2008, and accordingly, we make no claims regarding any shift flowing from the post-Madoff reorganizations.

B. *Contextualizing the Data: Technology*

One possible explanation for the geographic detachment in our sample is simply a change in communications technology. Technological advancements have created conditions that enable regional offices to monitor greater geographic areas today than they ever could. It is unlikely that geography will cease to matter, at least in the near future, because SEC officials still benefit from spatial proximity to witnesses and companies in the course of investigations and enforcement actions. However, the COVID-19 pandemic has forced the Commission to rethink its deposition process, which is now conducted by videoconference, as well as other aspects of investigations and enforcement, which are increasingly being undertaken remotely.[136] Indeed, some commentators have suggested that the SEC's remote-work response to the COVID-19 pandemic will usher an era of data-driven investigations, as well as "mission-driven initiatives such as broad investigations into pricing, compensation, and disclosure that are detectible

135. SEED, *supra* note 126.

136. Boris Feldman, *Reinventing Depositions,* HARV. L. SCH. F. ON CORP. GOVERNANCE (May 14, 2020), https://corpgov.law.harvard.edu/2020/05/14/reinventing-depositions/; *see also* Margaret Meyers, Daniel Zinman & Lee Richards, *Defending Remote Testimony in White Collar, Securities Cases,* LAW360 (May 27, 2020), https://www.law360.com/articles/1273949/defending-remote-testimony-in-white-collar-securities-cases.

through data analytics, similar to last year's share class selection disclosure cases."[137]

Even much of the SEC's historic monitoring function has been offloaded to technology. Across all of the administrative agencies, data-driven technologies have transformed in administrative governance, as has predictive modeling technology,[138] and the SEC has invested heavily in these technologies over the last decade.[139] Indeed, among the various federal agencies, the SEC ranks near the top in deploying new technologies.[140] For example, the SEC is in the process of rolling out algorithmic enforcement tools which target trading abnormalities, like the Advanced Relational Trading Enforcement Metrics Investigation System (ARTEMIS) and the Abnormal Trading and Link Analysis System (ATLAS).[141] In 2016, the SEC and FINRA adopted a consolidated audit trail (CAT) to bolster

137. G. Jeffrey Boujoukos, Ariel Gursky & Ben A. Indek, *SEC Examinations and Enforcement in the COVID-19 Era*, MORGAN LEWIS (Apr. 21, 2020), https://www.morganlewis.com/pubs/sec-examinations-and-enforcement-in-the-covid-19-era-cv19-lf.

138. *See* Irina Pencheva, Marc Esteve & Slava J. Mikhaylov, *Big Data and AI – A Transformational Shift for Government: So, What Next for Research?*, 35 PUB. POL'Y & ADMIN. 24, 25 (2020).

139. Mariusz Maciejewski, *To Do More, Better, Faster and More Cheaply: Using Big Data in Public Administration,* 83 INT'L REV. ADMIN. SCIS. 123–24, 126 (2017) (describing the use of predictive modeling technology in public administration and the SEC's use of big data in detecting irregularities in financial markets); Cary Coglianese & David Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, 105 GEO. L.J. 1147, 1164–66 (2017) (noting the SEC's use of cloud computing technology and recognition of machine-learning approaches to fraud detection).

140. *See* DAVID FREEMAN ENGSTROM, DANIEL E. HO, CATHERINE M. SHARKEY & MARIANO-FLORENTINO CUÉLLAR, GOVERNMENT BY ALGORITHM: ARTIFICIAL INTELLIGENCE IN FEDERAL ADMINISTRATIVE AGENCIES, REPORT SUBMITTED TO THE ADMINISTRATIVE CONFERENCE OF THE UNITED STATES 16 tbl.2, 22–23 (2020).

141. Mary Jo White, Chairman, U.S. Sec. & Exch. Comm'n, Remarks at the International Institute for Securities Market Growth and Development (Apr. 8, 2016), https://www.sec.gov/news/statement/statement-mjw-040816.html (discussing the Division of Enforcement's use of ARTEMIS); Jay Clayton, Chairman, Sec. & Exch. Comm'n, Keynote Remarks at the Mid-Atlantic Regional Conference (June 4, 2019), https://www.sec.gov/news/speech/clayton-keynote-mid-atlantic-regional-conference-2019 (discussing the Division of Enforcement's use of the data analytics tool ATLAS).

the agency's information collection function.[142] The SEC cites the *Ieremenko* case as one where technology enabled the Commission to levy an enforcement action that it previously would not have been able to.[143] As put by the Co-Director of the SEC's Division of Enforcement, "[*Ieremenko*] is a type of case that, quite frankly, might not have been possible a few years ago due to the geographical dispersal and technological sophistication of the perpetrators."[144]

These technological advancements have enabled more offices to conduct investigations from a distance. Today, the SEC makes resource-based determinations about which regional offices participate in enforcement. In making these decisions, the SEC weighs five factors in determining whether one or another regional office will participate in an investigation. Four of the factors are explicitly geographic, which include: the location of the alleged violation, the location of the alleged wrongdoer, the location of the relevant business, and the location of the relevant witnesses or victims.[145] However, today, the SEC also considers "the resources and expertise of the office."[146]

In addition, some evidence suggests that new technology is making the regional offices more homogenous. First, the SEC is taking steps to ensure that its technological initiatives are uniformly applied across its offices, and the SEC's Office of Information Technology oversees the regional offices to standardize technology implementation.[147] Second, in a report authored for the Administrative Conference of the United States, professors Engstrom, Ho, Sharkey and Cuellar predict the "displacement of [SEC] enforcement discretion," as "[c]ontinued

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142. Press Release, U.S. Sec. & Exch. Comm'n, SEC Approves Plan to Create Consolidated Audit Trail (Nov. 15, 2016), https://www.sec.gov/news/pressrelease/2016-240.html.

143. DIV. OF ENF'T, U.S. SEC. & EXCH. COMM'N, ANNUAL REPORT 13 (2019), https://www.sec.gov/files/enforcement-annual-report-2019.pdf.

144. Steven Peikin, Co-Dir., Div. of Enf't, U.S. Sec. & Exch. Comm'n, Keynote Speech at Southeastern Securities Conference (Sept. 6, 2019), https://www.sec.gov/news/speech/peikin-keynote-speech-southeastern-securities-conference-2019.

145. *See* 2017 SEC ENFORCEMENT MANUAL, *supra* note 75, at 13.

146. *Id.*

147. U.S. SEC. & EXCH. COMM'N, AGENCY FINANCIAL REPORT: FISCAL YEAR 2014, at 12, 43, https://www.sec.gov/reportspubs/annual-reports/about-secafr2014shtml.html.

technological advances may eventually cause much of enforcement decision-making, from monitoring to initiation of enforcement actions to agency adjudication, to be an entirely machine-driven process."[148] Indeed, technology appears to be supplanting the discretion of agency staffers at all levels, both "in some cases displacing the decisions of more senior agency decision-makers" but also "increasingly displacing the smaller scale and more numerous decisions of the 'street-level bureaucrats' that perform much of the visible, citizen-facing work of government."[149]

C. *Contextualizing the Data: Enforcement Laboratories*

While the sheer number of cases in which SEC regional offices participate outside of their region may indeed be a product of technological change, data points from our sample indicate that SEC regional offices participate in clusters of actions in a particular subject area, at times outside of their region. These patterns might be supported by a complementary, but separate, theory, one that fits with the stated goals of the SEC's post-Madoff reorganizations: certain regional offices developing subject matter expertise sanctioned by top-down initiatives.

As noted in Part I, the relatively unchecked autonomy of the SEC regional offices enabled a sort of bottom-up laboratories to form.[150] As Shapiro notes, different regional offices developed informal ties with local institutions.[151] These grassroots efforts facilitated investigations and resulted in prosecutions, but made coordination and standardization between offices difficult.

The development of differentiated practice areas of expertise at regional offices is suggested by the nature and structure of the SEC's national specialized units. As mentioned above, the Division of Enforcement consists of five national specialized units: "the Asset Management Unit, the Municipal Securities and Public Pension Unit, the Complex Financial In-

148. *See* ENGSTROM, HO, SHARKEY & CUÉLLAR, *supra* note 140, at 27–28. The authors do qualify this vision, noting that "line-level" SEC enforcers tend to be skeptical of this technology. *Id.* at 28.

149. *Id.* at 11.

150. *See supra* notes 35–44 and accompanying text.

151. *See* SHAPIRO, *supra* note 39, at 69 (observing the Seattle Regional Office's "ties" with the city's Better Business Bureau).

struments Unit, the Foreign Corrupt Practices Unit and the Market Abuse Unit."[152] Each specialized unit consists of personnel from different regional offices. For example, the Foreign Corrupt Practice Act Unit consists of the following regional offices: Boston, Los Angeles, Miami, Salt Lake City, San Francisco, and Fort Worth.[153] One effect of the national specialized units has been the mitigation of inter-office coordination issues. As Luke Cadigan, former Assistant Director in both the Boston Regional Office and the Foreign Corrupt Practices Act Unit of the SEC Enforcement Division, noted:

> The Enforcement Division has sought, with some success, to avoid such turf battles by pressing supervisors to work with their counterparts in other offices to make sure that investigations are being conducted by the appropriate regional offices.
>
> Given the budgetary restrictions under which the Enforcement Division staff has had to operate, and the need to avoid travel costs where at all possible, the division has reinforced the importance of a geographic nexus to the region. Thus, if an FCPA matter concerns a company within a geographic area traditionally covered by a regional office that has unit membership, there will be a preference within the unit that the matter be handled by that office.[154]

In this way, regional office staff working in national specialized units mitigated some territorial detachment. This mitigating effect on territorial dispersion is corroborated by our data when, for example, we consider the Fort Worth Regional Office, which is part of the Foreign Corrupt Practice Act Unit and has territorial jurisdiction in Texas, Oklahoma, Arkansas, and Kansas.[155] Indeed, when––from our dataset of 348 enforcement actions from FY 2010 through FY 2020––we consider enforcement actions for violations of the Foreign Corrupt Practice Act against public companies and subsidiaries located in the territorial jurisdiction of the Fort Worth Regional

152. *See* 2017 SEC ENFORCEMENT MANUAL, *supra* note 75, at 5.
153. *See* Cadigan, *supra* note 120.
154. *Id.*
155. Fort Worth Regional Office, U.S. Sec. & Exch. Comm'n, sec.gov/regional-office/fort-worth.

Office, we see (in Figure 4 below) that the Fort Worth Regional Office kept (i.e., was a "Participating SEC Office" in) eight out of eleven of those actions, while for the other three actions the SEC Participating Office was Washington, D.C.

FIGURE 4: FOREIGN CORRUPT PRACTICES ACT ACTIONS WITHIN FORT WORTH REGIONAL OFFICE JURISDICTION[156]

SEC Regional Office	Defendant Headquarters	In-Region
Fort Worth	Houston, Texas	Yes
Fort Worth	Houston, Texas; Geneva	Yes
Fort Worth	Houston, Texas	Yes
Fort Worth	Houston, Texas	Yes
Fort Worth	Sugar Land, Texas	Yes
Fort Worth	Houston, Texas	Yes
Fort Worth	Houston, Texas	Yes
Fort Worth; Los Angeles	Lewisville, Texas	Yes
Washington, D.C.	Springdale, Arkansas	No
Washington, D.C.	Texas	No
Washington, D.C.	Houston, Texas; Cayman Islands	No

On the other hand, the participation of SEC regional offices in the enforcement activities of the national specialized units may contribute to territorial detachment. As mentioned above, in the past, out-of-region office participation occurred when a regional office lacking a territorial nexus would start the investigation before any other regional office—a mere accident. Today, regional office participation in investigations and enforcement appears more intentional. The work of the SEC's national specialized units within regional offices points to "expertise"—as described in the SEC's enforcement manual[157]—as the most likely explanation for the territorial detachment shown by our data. One of the most striking exam-

156. SEED, *supra* note 126.

157. 2017 SEC ENFORCEMENT MANUAL, *supra* note 75, at 13–14. The manual also states that "[c]omplaints that appear to be serious and substantial are usually forwarded to staff in the Home Office or the appropriate regional office for more detailed review and may result in the opening of a MUI." *Id.* at 8.

ples of this involves 15 enforcement actions in our data set in which the Boston Regional Office was the Participating Office. In 2014, the SEC announced the "Municipal Continuing Disclosure Cooperation Initiative."[158] The initiative was coordinated by the home office and sought to encourage municipal securities issuers to self-report violations by offering "favorable settlement terms to municipal bond underwriters and issuers that self-reported violations."[159] The Boston Regional Office participated in a significant percentage of these enforcement actions—actions, in our data set, where the issuers were not located in the territorial jurisdiction of the Boston Regional Office. More specifically: of the 32 actions in the Municipalities Continuing Disclosure Cooperation Initiative captured on SEED, the Boston Regional Office participated in 15; none of the respondents in those 15 enforcement actions, however, were in the Boston territorial jurisdiction.[160] At the time of the sweep, the head of the SEC's Municipal Securities and Public Pensions Unit was situated in Boston (previously, it was housed in Philadelphia).[161] The SEC's more-recent Share Class Selec-

158. Andrew Ackerman, *SEC Charges Municipal Underwriters with Making False Statements*, WALL ST. J. (Sept. 30, 2015), https://www.wsj.com/articles/sec-charges-municipal-underwriters-with-making-false-statements-1443625175.

159. Press Release, U.S. Sec. & Exch. Comm'n, SEC Completes Muni-Underwriter Enforcement Sweep (Feb. 2, 2016), https://www.sec.gov/news/pressrelease/2016-18.html.

160. The SEC's Municipalities Continuing Disclosure Cooperation (MCDC) Initiative is detailed in the following SEC press releases, in which the SEC announced settled actions. Press Release, U.S. Sec. & Exch. Comm'n, SEC Charges California School District with Misleading Investors (July 8, 2014), https://www.sec.gov/news/press-release/2014-133; Press Release, U.S. Sec. & Exch. Comm'n, SEC Charges 36 Firms for Fraudulent Municipal Bond Offerings (June 18, 2015), https://www.sec.gov/news/pressrelease/2015-125.html; Press Release, U.S. Sec. & Exch. Comm'n, SEC Sanctions 22 Underwriting Firms for Fraudulent Municipal Bond Offerings (Sept. 30, 2015), https://www.sec.gov/news/pressrelease/2015-220.html; SEC Completes Muni-Underwriter Enforcement Sweep, *supra* note 159; Press Release, U.S. Sec. & Exch. Comm'n, SEC Charges 71 Municipal Issuers in Muni Bond Disclosure Initiative (Aug. 24, 2016), https://www.sec.gov/news/pressrelease/2016-166.html. Of all the actions described in the foregoing releases which constitute MCDC Initiative, 32 are captured on SEED (because they fall within the SEED criterion described in footnote 125 *supra*).

161. By 2016, the SEC renamed the Municipal Securities and Public Pensions Unit the "Public Finance Abuse Unit." *See* Andrew J. Ceresney, former Dir., Div. of Enf't, U.S. Sec. & Exch. Comm'n, The Impact of SEC Enforce-

tion Disclosure Initiative was conducted under the leadership of Chief of the Asset Management Unit out of the Los Angeles Regional Office, where the Co-Chief of the Asset Management Unit is situated.[162]

Although our dataset is too small to have statistical power in this regard, supplemental evidence strongly suggests that the creation of specialized units within the regional offices—both which have their own reporting lines to D.C., but also which leverage non-unit staff in their respective regional offices—enabled subject matter expertise to develop within certain regional offices. SEC officials, for example, have touted the Commission's "specialized" approach to monitoring and prosecuting complex areas of the market.[163] These dynamics are better illustrated with a case study of how the SEC's national specialized units institutionalize knowledge to optimize investigations and enforcement at regional offices. We focus on the Philadelphia Regional Office, which has a unique, yet largely unexamined, history of prosecuting municipal securities cases—and participated in various out-of-region municipal securities actions in our dataset. The history of the Philadelphia Regional Office helps clarify how enforcement patterns emerge, and how organizational structures help harness and institutionalize market knowledge developed over time to optimize enforcement.

The Philadelphia Regional Office is viewed internally by SEC staff as a "foothold" of municipal securities cases.[164] Since

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ment on Public Finance: Keynote Address at Securities Enforcement Forum 2016 (Oct. 13, 2016), https://www.sec.gov/news/speech/speech-ceresney-10132016.html/

162. Press Release, U.S. Sec. & Exch. Comm'n, SEC Share Class Initiative Returning More Than $125 Million to Investors (Mar. 11, 2019), https://www.sec.gov/news/press-release/2019-28. This press release does not mention any SEC regional office involved in the initiative; therefore, we were unable to capture any enforcement actions related to the same initiative. Several enforcement actions mentioned in the press release as part of the same initiative, however, are included in SEED. *See* N.Y.U. POLLACK CTR. FOR LAW & BUS. & CORNERSTONE RSCH., SEC ENFORCEMENT ACTIVITY: PUBLIC COMPANIES AND SUBSIDIARIES: FISCAL YEAR 2019 UPDATE (2019) https://www.law.nyu.edu/sites/default/files/NYU-Cornerstone%20Report-FY%202019.pdf.

163. *See* Ceresney, *supra* note 161.

164. Interview by William Thomas with Fiona Philip, former Enf't Couns. to Chairman, U.S. Sec. & Exch. Comm'n, in Washington, D.C. (June 19, 2015).

at least the early 1990s, the Philadelphia Regional Office developed repeated experience—and thus, expertise—in prosecuting violations in municipal securities markets.[165] For example, one notable set of enforcement actions spearheaded by the Philadelphia Regional Office involved the prosecution of yield burning.[166]

"Yield burning" was a phenomenon that emerged in complex municipal-bond refinancing during the early 1990s.[167] Municipal securities brokers engaged in this practice by replacing older, higher-yielding bonds with new bonds sold with lower interest rates.[168] Yield burning was—as put by popular accounts—"protected by a far-reaching network of secrecy and quid pro quo."[169]

Philadelphia Regional Office officials were able to penetrate these networks through specific, local market experience. As Paul Maco of the SEC recounts, people were beginning to "drop[ ] dimes" and tell the SEC about this practice through whisper networks.[170] While yield burning is likely an issue that was widespread nationally, SEC officials in other regional offices were not necessarily identifying the practice. As one SEC official recounted, "[w]hen you said yield burning . . . I didn't

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165. *See* Interview by William Thomas with Elaine Greenberg, former Chief, Mun. Sec. & Pub. Pensions Unit, Enf't Div., U.S. Sec. & Exch. Comm'n, in Washington, D.C. (July 17, 2014), https://www.sechistorical.org/collection/oral-histories/20140717_Greenberg_Elaine_T.pdf (describing the formation of the specialized unit for municipal securities in the Philadelphia Regional Office); *see also* Interview by William Thomas with Paul Maco, former Dir., Office Mun. Sec., U.S. Sec. & Exch. Comm'n, in Washington, D.C. (May 12, 2014), https://www.sechistorical.org/collection/oral-histories/20140512_Maco_Paul_T.pdf (describing the formation and growth of the Philadelphia Regional Office).

166. *See* Interview with Elaine Greenberg, *supra* note 165.

167. *See* Michael McCarthy, Chairman, Bond Mkt. Found. & Christopher Taylor, Exec. Dir., Mun. Sec. Rulemaking Bd., Remarks at the SEC Historical Society Fireside Chat: Municipal Securities (Apr. 20, 2004) ("As we move into the 1990s, we have one more high-visibility scandal, Orange County, as well as yield burning and a variety of other things that made the news.").

168. *See* Charles Gasparino & John Connor, *Agencies Near Rescue Plan for Yield-Burning Victims*, WALL ST. J. (Feb. 19, 1998) ("Yield burning occurs when underwriters slap excessive mark-ups on securities used to complete complex municipal-bond deals known as advanced refunding.").

169. *See* HENRY SCAMMELL, GIANT KILLERS: THE TEAM AND THE LAW THAT HELP WHISTLE-BLOWERS RECOVER AMERICA'S STOLEN BILLIONS 157 (2005).

170. Interview with Paul Maco, *supra* note 165.

remember what it was about. The guys in New York weren't doing this, believe me."[171]

Crucially, staff in the Philadelphia Regional Office were instrumental not only in identifying the violations, but also in developing the necessary theories to prosecute the violations. Prosecuting yield burning presented problems of first impression, and accordingly, required novel theories to enforce. As Elaine Greenberg—a staffer in the Philadelphia Regional Office who would eventually serve as the head of the specialized unit—explained:

> [T]he anti-fraud provisions are fairly broad, intentionally. . . . so there is latitude to be able to look at novel fact patterns, novel situations, instances where there was really no precedent, and be able to apply a lawyerly analysis to determine that there were in fact violations of the federal securities laws.[172]

In the case of yield burning, staff in the Philadelphia Regional Office relied on an SEC enforcement action from 1939 to argue that the broker-dealers participating in yield burning owed a broad fiduciary duty.[173] As Paul Maco notes, "[t]he judge came back and found that there was a duty there that had been breached, and that again strengthened the ability of the Enforcement Division to be more aggressive and feel more confident in pushing other yield burning cases."[174] In short, novel theories of enforcement, specifically relating to municipal securities, were being cultivated out of the Philadelphia Regional Office. In particular, these cases speak to how the office tapped into what was once the defining feature of the regional offices.

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171. *See* Interview by William Thomas with David Clapp, former Chairman, Mun. Sec. Rulemaking Bd., in Fla. (Apr. 21, 2014), https://www.sechistorical.org/collection/oral-histories/20140421_Clapp_David_T.pdf.

172. Interview with Elaine Greenberg, *supra* note 165.

173. Interview with Paul Maco, *supra* note 165 ("And we began looking at old fiduciary cases or instances where a respondent had been both a broker and an adviser, to see what came out of them and to see if there was any case law that would be helpful. And we came across this 1939 case, Arleen Hughes, who was a broker but she acted in an advisory capacity in certain instances, and therefore when she did so the circuit court, I believe it was, said that she had a fiduciary duty.").

174. *Id.*

Yield burning represented just one of many issues of first impression in the municipal securities markets that the Philadelphia Regional Office prosecuted. As Elaine Greenberg notes:

> [M]ost of the municipal securities cases that I was involved in, most of them were cases of first impression. There were novel issues. They were situations where the SEC had never brought an action in this area before, so we were developing a lot of the case law, which was an extraordinary opportunity as a lawyer to be part of that effort, to develop the case law and to bring cases of first impression. Of course, they had to be legally sound and have a basis for applying the law to the facts.[175]

The institutional knowledge developed by Philadelphia over time was sanctioned, formalized, and institutionalized by the SEC's restructuring in the wake of 2008, which formally created a "Municipal Securities and Public Pensions Unit" led from the Philadelphia Regional Office.[176] Greenberg describes the creation of the unit as follows:

> The units were created to address, in some respect, some of the criticism that the SEC had been getting in the post-Madoff, post-financial crisis world, and it was a way for the Division of Enforcement to really have a self-assessment and figure out: is there a way that we can address these concerns and better position ourselves to be smarter about how we go about our business? These units were created with that in mind . . . .[177]

The Municipal Securities and Public Pensions Unit enhanced the SEC's enforcement efforts in the municipal securities space. The number of municipal enforcement actions increased exponentially following the creation of the specialized unit.[178] Moreover, many of these actions were cases of first im-

175. Interview with Elaine Greenberg, *supra* note 165.

176. SEC Names New Specialized Unit Chiefs, *supra* note 27.

177. *See* Interview with Elaine Greenberg, *supra* note 165.

178. *See* Ceresney, *supra* note 161 ("The Commission is bringing actions against more municipal issuers and public officials. For example, since the beginning of 2013, the Commission has brought enforcement actions against 76 state or local government entities (including 4 U.S. states), 13

pression. One example was a settlement achieved by the SEC against State Street involving a "pay-to-play scheme in a corner of the market where such schemes had not been previously found—custodial services for public pension funds."[179] Other notable "firsts" involved the SEC's first prosecution of a state (New Jersey),[180] as well as the revival of new enforcement tools, like temporary restraining orders deployed in a matter involving the city of Harvey, Illinois.[181] Perhaps the most significant effort led by the Municipal Securities and Public Pensions Unit was the SEC's first "self-reporting" sweep since the creation of the Division of Enforcement.[182]

The Municipal Securities and Public Pensions Unit in the Philadelphia Regional Office disseminated knowledge across other regional offices. The Municipal Securities and Public Pensions unit created a muni "boot camp" for SEC Enforcement personnel[183] "and graduates contributed new tiles to the mosaic defining the boundaries of acceptable municipal market conduct."[184] This knowledge would facilitate prosecutions by other regional offices. The Miami Regional Office, for example, brought, and won, a municipal securities case against the city of Miami, "the first federal jury trial by the SEC against a municipality or one of its officers for violations of the federal securities laws."[185] Prior to the enforcement action, how-

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obligated persons and 16 public officials. In contrast, for the entire 10 year period from 2002 to 2012, there were enforcement actions brought against 6 government entities, 6 obligated persons and 12 public officials.") (internal citations omitted).

179. *Id.*

180. Edith Honan & Karen Pierog, *SEC Charges New Jersey with Securities Fraud*, REUTERS (Aug. 10, 2010), https://www.reuters.com/article/us-sec-newjersey/sec-charges-new-jersey-with-securities-fraud-idUS-TRE67H58S20100818.

181. *See* Ceresney, *supra* note 161.

182. *See id.* ("It is the first self-reporting initiative undertaken by the Enforcement Division since the 1970s.").

183. *See* Interview with Elaine Greenberg, *supra* note 165 ("The first thing that we set about doing was to train everyone, and we had a muni boot camp that we held for everyone in Philadelphia.").

184. *The Municipal Securities Rulemaking Board Gallery on Municipal Securities Regulation*, SEC HISTORICAL SOCIETY, https://www.sechistorical.org/museum/galleries/mun/mun_06b_less_than_level.php (last visited Jan. 5, 2022).

185. *See* Andrew Ceresney, former Dir., Div. of Enf't, U.S. Sec. & Exch. Comm'n, Statement on Jury's Verdict in Trial of the City of Miami and

ever, there was disagreement within the SEC at the time about bringing the action, and this disagreement was rooted in misunderstandings about the municipal market and the relevant legal authority.[186] Elaine Greenberg has spoken about the instrumental role the Municipal Securities and Public Pensions Unit played in educating other regional offices and preparing them to prosecute violations in this area.[187] More broadly, Greenberg has reiterated the role of the regional offices: "it's in line with what I was saying about looking at people's expertise and capabilities as opposed to just being locked into where they are in the country and that certain cases should be brought in certain particular offices because that's where the conduct is."[188]

These sketches, while only descriptive, are consistent with our data and SEC staff statements. Robert Khuzami has emphasized how the new structure has "created great cartilage" across the SEC, emphasizing a renewed regional office autonomy, as well as knowledge dissemination.[189] As Khuzami put it, one could now have a "staff unit in San Francisco working with somebody in Boston, who was in the asset management."[190] Per Khuzami, a core design principle of the units was that they would *explicitly* serve to not only develop novel theories of subject matter expertise, but also disseminate it:

> When we did that, you had the unit there as a source of competence and excellence and expertise that

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Michael Boudreaux (Sept. 14, 2016), https://www.sec.gov/news/statement/ceresney-statement-2016-09-14.html.

186. Interview by William Thomas with Martha Haines, former Chief, Off. of Mun. Sec., U.S. Sec. & Exch. Comm'n, in Bethesda, Md. 31 (Mar. 4, 2014) ("There was considerable misunderstanding among other parts of the Commission about municipal financial statements, and there was one attorney who insisted that this couldn't be fraud because they were required by law to have balanced financial statements, a balanced budget. It's like, yes, but not by fooling with the numbers and claiming that you're going to get a billion dollars in federal grants this year which you know you won't get until the following year, and other things. So that took a lot of time, working with others on the Commission to educate them about how the muni world, the governmental world operated, and then they could see that this was clearly wrong.").

187. *See* Interview with Elaine Greenberg, *supra* note 165.

188. *Id.*

189. *See* Interview with Robert Khuzami, *supra* note 115.

190. *Id.*

> others could consult with, but you didn't want to vacuum up every case across the division because you didn't want to create a two-tiered system where somehow the specialized units were viewed as where the real action was and where the best cases were.[191]

III.
Implications

This Article has shown that the SEC regional offices are not, and have never been, interchangeable sites of securities enforcement. Instead, each regional office—with its specific history, market knowledge, and human experience—represents a dynamic node for policing the various institutions, individuals, and transactions that constitute the ecosystem of the securities markets. Our account of the SEC regional offices, thus, has at least two implications for legal scholars.

First, and at the most basic level, the SEC regional offices complicate prevailing accounts of the securities enforcement ecosystem. In the way that evidence of regional variation in federal administration has pushed some scholars of administrative law and federalism to rethink the benefits—and drawbacks—of federal versus state and local governance, research of securities regulation may benefit from similar nuance.

The securities law enforcement ecosystem is, as various legal scholars have observed, complex. It is comprised of an array of regulatory actors navigating overlapping jurisdictional boundaries. Unlike rulemaking, where the federal government enjoys "near-exclusive" authority to create regulations and set policy, responsibility for upholding the rules is split between federal and state securities enforcers, which share "roughly equal, and concurrent, enforcement jurisdiction."[192]

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191. *Id.*

192. Andrew K. Jennings, *State Securities Enforcement*, 47 BYU L. Rev. 67, 69, 76 (2022); *see also* Renee M. Jones, *Dynamic Federalism: Competition, Cooperation and Securities Enforcement*, 11 Conn. Ins. L.J. 107, 114–15 (2004) (describing how following a political movement towards preemption in the 1990s "focused on limiting state authority over securities registration and private litigation of fraud claims" but "left intact state power to publicly enforce their securities fraud statutes"). For a clarification on the difference between rulemaking and enforcement, see Harvey L. Pitt & Karen L. Shapiro, *Securities Regulation by Enforcement: A Look Ahead at the Next Decade*, 7 Yale J. on Reg. 149, 167 (1990) ("[R]egulations prescribe, in advance of their application,

Within this "multi-enforcer" regime,[193] criminal securities enforcement responsibility is shared between the Department of Justice, on the one hand, and Attorneys General and state-level and local prosecutors, on the other; civil enforcement duties are shared primarily between the SEC, and state securities regulators, as well as the private securities bar.[194]

Legal scholars have written extensively about this parallel track system, the site of "significant jurisdictional skirmishing for nearly a century."[195] In recent years in particular—perhaps in response to the growing complexity and digitization of finance, which has made jurisdictional boundaries blurrier—legal scholars have focused on the institutional and regulatory structures designed to enforce securities laws, and in particular, the normative question of "who should enforce the rules?"[196] Many, for example, have approached the question through the theoretical lens of federalism—for example, offering competitive federalism as a tool to maximize enforcement[197] or grappling with the potential and risks of devolving

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normative standards of conduct to which persons subject to agency jurisdiction must adhere in the future. Enforcement powers apply existing rules to past facts, to assure compliance with regulatory standards, both by the entity subject to the standard (but accused of noncompliance) and by other entities similarly situated.") (footnotes omitted).

193. *See* Wendy Gerwick Couture, *Principles for State Prosecution of Securities Crime in a Dual-Regulatory, Multi-Enforcer Regime*, 22 U. PA. J. BUS. L. 30 (2019).

194. There are other federal enforcers. The Securities Enforcement Manual notes:

> The handling of securities investigations and enforcement actions is complicated by the overlapping jurisdiction of the different agencies that are charged with enforcing federal and state securities laws. An investigation by one regulator frequently arouses the enforcement interest of other regulators. A company or individual may be under investigation by the SEC, by several state securities regulators, and by one or more SROs for alleged violations arising out of the same or related transactions.

THE SECURITIES ENFORCEMENT MANUAL: TACTICS AND STRATEGIES 6 (Michael J. Missal & Richard M. Phillips eds., 2nd ed., 2007).

195. Donald C. Langevoort, *Federalism in Corporate/Securities Law: Reflections on Delaware, California, and State Regulation of Insider Trading*, 40 U.S.F. L. REV. 879, 879 (2006).

196. Brian Knight, *Federalism and Federalization on the Fintech Frontier*, 20 VAND. J. ENT. & TECH. L. 129, 204–06 (2017).

197. *See* Jones, *supra* note 192.

enforcement duties.[198] Some have analyzed the impact of the present fintech moment on enforcement.[199] More recently, legal scholars have offered institutional accounts of state securities enforcers, the long-undertheorized "local cops on the securities beat" that complement the SEC's monitoring and enforcement functions.[200] This is a rich and sophisticated literature that is not easily summarized; by and large, it traces the familiar contours of broader debates over federalism: state-level securities enforcement offers experimentalism, risk-taking, competition, and responsiveness, but risks balkanization. Federal enforcement benefits from more resources, expertise and centralized oversight, but falters where states can be nimbler and more responsive.[201]

The work of the SEC regional offices—largely unconsidered in this literature—offers a way to move beyond the binary conceptions of federalist securities enforcement. Specifically, the SEC's institutional structure may offer a potential pathway for meeting this central challenge of securities enforcement, which is, as John Coates writes, "achiev[ing] the benefits of regulatory competition without incurring all of the costs, by retaining federal regulation of securities but establishing some form of competition among federal regulators, as currently exists in part in the sphere of banking regulation."[202] More empirical and theoretical research on this point is needed, but it's a start.

Beyond securities law, however, the SEC regional offices offer lessons for scholars of administrative and regulatory design. If, as our institutional account above suggests, the SEC regional offices today indeed do not simply administer law in their regions, but also act as laboratories of enforcement, this observation has implications for administrative and regulatory policy.

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198. *See, e.g.*, John C. Coates IV, *Private vs. Political Choice of Securities Regulation: A Political Cost/Benefit Analysis*, 41 VA. J. INT'L L. 531 (2001) (discussing the costs of devolving securities enforcement to state-level or private enforcers).

199. *See, e.g.*, Knight, supra note 196.

200. *See* Jennings, *supra* note 192, at 82; *see also* Couture, *supra* note 193, at 56–62.

201. *See generally* Jones, *supra* note 192, at 116, 126–27.

202. *See* Coates, *supra* note 198, at 536.

First, our institutional account affirms that "regional" administration need not be determined by, or restricted to, physical space. In a recent article, Jessica Bulman-Pozen theorized that in part due to advances in communications technologies, the future of "regionalism" was a "regionalism without regions."[203] Bulman-Pozen argues that contemporary regionalism is not defined by geographic space, but instead by "collaborations among state and federal actors [that] need not involve contiguous areas"—like blue states cooperating with other like-minded blue states, for example.[204] Our findings fit neatly alongside this, and related, research about federal administration that displaces, or at least qualifies, the primacy of geography with network theory. In the area of securities enforcement, Verity Winship has demonstrated—using SEC enforcement data and leveraging network theory—a "networked response" by securities enforcers to securities violations.[205] The SEC regional offices illustrate how decentralized, discretionary enforcement practices can, and have, developed in the Commission's regional offices. At times, these practices have emerged in response to conditions in the regional office's correspondent geographic area. In other cases, however, regional offices have exercised their enforcement discretion in response to certain market practices or segments that correspond to the regional office's market experience or the specific expertise of staffers.

Second, it shows that "regionalism"—that is, administration involving some level of discretionary, decentralized control, be it geographically determined or otherwise—can work in the enforcement context. Law enforcement is one of, if not the, central part of the work of administrative agencies.[206] An agency's institutional design choices "can make it more or less

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203. *See* Bulman-Pozen, *supra* note 8, at 432.

204. *Id.* at 432, 435. Bulman-Pozen also states: "[r]egionalism has been, first, a means of preserving state vitality in the face of perceived need for larger-scale governance. Today, as in the past, the state is most powerful when it stands with others, but there is no need for it to stand next to these others; proximity is not required for mutual identification or for coordination. Regionalism has also diversified exercises of federal power as it has been incorporated into federal programs. In recent years, party-inflected difference has become a more plausible basis than geography for instantiating pluralism in many national programs." *Id.* at 437.

205. *See* Winship, *supra* note 24.

206. Barkow, *supra* note 21, at 1130.

prone to over- or underenforcement,"[207] and implementing effective structures at the agency level is particularly important, because, as Rachel Barkow has noted, "[m]ost aspects of agency enforcement policy generally escape judicial review" and the "judiciary takes a similarly hands-off approach to an agency's broader plans for how it will proceed with enforcement, [and] changes in its nonbinding enforcement policies."[208] In a recent article, Roberta Romano asked if agency structure affects agency decision-making.[209] Analyzing data on the practices of the Consumer Financial Protection Bureau, Romano concluded that "agency structure influences regulatory strategy."[210] While Romano was focused on the relationship between Congress and regulatory agencies—and the independence that Congress grants agencies—the basic point is reaffirmed by our observations of SEC regional offices. In designing enforcement programs, administrative agencies grapple with—in addition to basic issues of efficient case administration and adjudication[211]—three central problems: underenforcement (and the related issue of agency capture), overenforcement, and selective enforcement.[212] The SEC regional offices illustrate how a structure typically associated with disparate enforcement can bolster enforcement outcomes through experimentalism and inter-agency competition between regional offices.

In particular, the SEC regional office matrix structure suggests an organizational model for administrative agencies deal-

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207. *Id.* at 1142.

208. *Id.* at 1130, 1132.

209. *See* Roberta Romano, *Does Agency Structure Affect Agency Decisionmaking? Implications of the CFPB's Design for Administrative Governance*, 36 YALE J. ON REG. 273, 274 (2019); *see also* B. Dan Wood & John Bohte, *Political Transaction Costs and the Politics of Administrative Design*, 66 J. POLITICS 176, 176 (2004) (noting that "ideally" administrative agencies should be "designed for efficient and effective policy implementation, as well as democratic accountability").

210. Romano, *supra* note 209, at 330.

211. *See, e.g.*, Lane & Blair-Smith, *supra* note 31.

212. *See* Barkow, *supra* note 21, at 1139–59. Barkow also notes that "[w]hile selective prosecution claims can be raised in court, the bar for succeeding on them is a high one, particularly when the agency can explain that it makes difficult selection decisions based on resource constraints, the overall strength of the case, and the government's enforcement priorities." *Id.* at 1150 n.91.

ing with complexity. "Complexity," argues Steven Schwarcz, is "the greatest financial-market challenge of the future."[213] To keep up with fast-moving and complex markets, "[r]egulators need information from industry to remain relevant,"[214] and moreover, the expertise to process and understand the information. Eric Pan has noted:

> Regulators must manage complexity. The development of new financial products stresses the capacity of regulators to keep up and understand how to regulate these instruments. Thus, regulators need to develop the relevant expertise to understand how financial transactions are conducted, the terms of those transactions, the legal and financial obligations of the different parties, and, in the case of prudential regulation and systemic-risk regulation, the level of risk taken on by financial firms.[215]

Robert Khuzami, the SEC Enforcement Director that spearheaded the post-Madoff reorganizations, cites his experience with complicated derivatives as the genesis for the post-Madoff reorganizations.[216] Moreover, even after identifying complex frauds, prosecuting them is difficult because as Donald Langevoort notes, "[g]iven the inherent ambiguity and complexity of risk in financial firms, the truth is always contestable."[217] Accordingly, John Coffee notes, "[o]rganizational crime and misconduct cannot be effectively addressed without designing a system that can investigate complex matters thoroughly and in a manner that neither compromises the integrity of the study nor imposes unacceptably high costs on the government."[218]

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213. Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 213 (2009).

214. *Id.* at 264.

215. Eric J. Pan, *Understanding Financial Regulation*, 2012 UTAH L. REV. 1897, 1934 (2012).

216. Interview with Robert Khuzami, *supra* note 115 ("It gave me a great appreciation for the expertise. I think it's that idea that eventually spawned the decision to go forward and create specialized units in part of the Enforcement Division.").

217. DONALD C. LANGEVOORT, SELLING HOPE, SELLING RISK: CORPORATIONS, WALL STREET, AND THE DILEMMAS OF INVESTOR PROTECTION 148 (2016).

218. JOHN C. COFFEE, CORPORATE CRIME AND PUNISHMENT 10 (2020).

The SEC's matrix structure offers a method of carrying out a federal centralized enforcement function, where Washington D.C. maintains its oversight and coordination roles, but the creation of theories of prosecution becomes dispersed through the regional laboratories. The SEC's structure provides another example supporting the emergent literature of federal regionalism—but one in the enforcement sphere.

Conclusion

The structural reorganizations throughout the SEC's history—which modulated the discretion of the regional offices, and most recently, created and institutionalized market-area specializations within regional offices—suggest that, at the very least, SEC officials believe that organizational design impacts enforcement outcomes. SEC regional offices were originally designed as semi-autonomous sites of securities law enforcement, but, over time, enforcement authority was progressively consolidated and centralized in Washington D.C. While generally understood as regional monitors today, descriptive data and evidence from post-Madoff reorganizations suggest that, while still local enforcers, regional offices have evolved into laboratories for the creation of new theories of enforcement that are then adopted nationwide. With the creation of subject matter specific units in the aftermath of the Madoff case, the SEC has reanimated the historical and specific institutional knowledge of regional offices with new reporting lines that both diffuse knowledge and disperse authority throughout the SEC's various offices. The work of the Philadelphia Regional Office, which ultimately led the SEC's municipal securities unit, illustrates how the new regional structure facilitates, channels, institutionalizes, and disseminates knowledge.

The design of the SEC regional offices has policy implications. Other regional agencies may consider implementing the SEC's matrix reporting structure. The SEC's new anatomy offers a method of carrying out a federal centralized enforcement function, where D.C. maintains its oversight and coordination roles, but the creation of theories of prosecution becomes dispersed through the regional laboratories. The SEC's structure provides another example supporting the emergent literature of federal regionalism—but one in the enforcement sphere. In short, the history and recent evolution of SEC re-

gional office enforcement offer a novel model for regional decentralized administration, as well as support for broader normative theories regarding federal governance. Moreover, a close look at the SEC's office structure raises a host of questions and paths for further research regarding the role of the regional administrative office.

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SOVEREIGN DIGITAL CURRENCIES: PARACHUTE PANTS OR THE CONTINUING EVOLUTION OF MONEY

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Advances in FinTech resulting in the increase of electronic payments and corresponding decrease in the use of cash, along with the growing interest in cryptocurrencies following the 2008 financial crisis, led central banks to explore the viability of issuing their own sovereign digital currencies (SDC). However, it was Facebook's Libra proposal to create its own cryptocurrency in 2019 that fast-tracked governments around the world to begin test pilots of SDCs over concerns regarding the government's ability to enact monetary policy and retain monetary sovereignty. Although China launched its own SDC in 2020, the U.S. Federal Reserve (the Fed) justified its slower response with the need to get an SDC "right rather than quickly." As money and payment systems keep evolving, and the divergence between money and legal tender becomes greater, it is important to determine not only the effects a potential SDC would have on the financial system, including the possible disintermediation of banks, but also its impact on privacy and data security.

In this Article, we delve into the evolution of money and why the government finds itself at a crossroads with regard to the establishment of an SDC. Although numerous reasons have been given in support of establishing an SDC, the one aspect that must be acknowledged is the potential for a global stablecoin to displace any potential SDC due to the network effect. We explore money alternatives, types of sovereign digital currencies, and the design decisions involved with creating an SDC. Whether direct or indirect, token-based or account-based, there are risks that must first be discovered

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and addressed. After discussing the global impact of SDCs, including the potential first-mover advantage and impact on reserve currency status, we explore the future of money alternatives and conclude that policymakers in the United States have an unbelievably difficult series of decisions to make. This Article endeavors to highlight some of the most pressing issues.

INTRODUCTION

In a recent speech, former Federal Reserve Board Governor Randal K. Quarles talked about parachute pants, an unfor-

tunate fashion craze of the 1980s that is, thankfully, no more.[1] Why? He drew a potential parallel between that craze and the current hype surrounding central bank digital currencies. In retrospect, additional caution regarding the pants was warranted. This Article focuses on sovereign digital currencies (SDCs) and discusses why some are ready to embrace this monetary novelty and others are more hesitant.

Throughout history, a plethora of physical items have served as money: shells, gold nuggets, leather, and strings of beads. Historically, the U.S. dollar was backed by gold (a commodity money), but today it is backed by the reputation of the government (fiat money).[2] Western Union first introduced electronic wire transfers in 1871 that permitted money exchanges between those who were geographically dispersed.[3] Today money can be transferred via mobile apps on a cell phone. Hence, the types and forms of money have evolved over time. SDCs are a next step in this evolution.

The names "cryptocurrency" and "stablecoin" suggest that cryptocurrencies and stablecoins should also be included in this monetary development. However, as this Article explains, while some stablecoins might eventually join the monetary ranks, cryptocurrencies are unlikely to do so (at least anytime soon). Nevertheless, the explosion of both has catalyzed a focus by central banks around the world on developing their own digital currencies.[4] Whether central banks such as the Federal Reserve (Fed) should create their own digital currencies is a timely and tremendously important question. This Article argues that in considering this momentous policy issue, it is important to understand what money is, why this question

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1. Randal K. Quarles, Vice Chair for Supervision, Bd. of Governors of the Fed. Rsrv. Sys., Parachute Pants and Central Bank Money, Remarks at the 113th Annual Utah Bankers Association Convention (June 28, 2021).

2. Maria Hasenstab, *Here's Why the U.S. No Longer Follows a Gold Standard*, FED. RSRV. BANK OF ST. LOUIS: OPEN VAULT BLOG (Nov. 8, 2017), https://www.stlouisfed.org/open-vault/2017/november/why-us-no-longer-follows-gold-standard.

3. Lawrence H. White, *Should the State or the Market Provide Digital Currency?*, 41 CATO J. 237, 239 n.4 (2021).

4. *See* Codruta Boar & Andreas Wehrli, *Ready, Steady, Go? Results of the Third BIS Survey on Central Bank Digital Currency*, 114 BANK FOR INT'L SETTLEMENTS PAPERS 1, 3 (2021), https://www.bis.org/publ/bppdf/bispap114.pdf (noting that over 86% of central banks are exploring the possibility of a digital currency).

has become so urgent, the plethora of design issues and choices surrounding SDCs, and the developing global landscape in this space. Hence, this Article illuminates these areas and concludes with an assessment of how such SDCs are likely to impact concerns such as privacy, security, and the structure of the banking system.

Policymakers at the Fed, understandably, seem to have conflicting viewpoints on how far the government should get involved in regulating cryptocurrencies, stablecoins, or in creating an SDC. While Fed Governor Lael Brainard has pressed for a "digital dollar" backed by the Fed,[5] Fed Chair Jerome Powell has been more hesitant to move forward,[6] though this might be changing.[7] Former Fed Governor Randal K. Quarles has asked, "what problem would an [SDC] solve?"[8] In January 2022, the Federal Reserve released its much anticipated discussion paper on a potential U.S. central bank digital currency.[9]

In this Article, we first delve into the evolution of money and the growing influence of money alternatives, including cryptocurrencies and stablecoins. We then explore the question posed by Quarles as to what problems the establishment of an SDC would address. Although proponents of a U.S. SDC have provided numerous reasons for its creation, we explain

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5. Jeff Cox, *Fed's Lael Brainard Pushes Digital Dollar as Central Bank Currency Race Heats Up*, CNBC (May 24, 2021), https://www.cnbc.com/2021/05/24/feds-lael-brainard-pushes-digital-dollar-as-central-bank-currency-race-heats-up.html.

6. *See* Jeff Cox, *Powell Calls Cryptocurrencies 'Not Really Useful Stores of Value' and Says Fed Will Move Slowly*, CNBC (Mar. 22, 2021), https://www.cnbc.com/2021/03/22/cryptocurrencies-are-not-useful-stores-of-value-says-feds-powell.html.

7. *See* Ann Saphir & Dan Burns, *Fed's Powell 'Legitimately Undecided' on Central Bank Digital Currency*, REUTERS (Jul. 15, 2021), https://www.reuters.com/business/finance/feds-powell-says-hes-undecided-central-bank-digital-currency-2021-07-15/ (noting that Powell is undecided and weighing the pros and cons).

8. Quarles, *supra* note 1.

9. BD. OF GOVERNORS OF THE FED. RSRV. SYS., MONEY AND PAYMENTS: THE U.S. DOLLAR IN THE AGE OF DIGITAL TRANSFORMATION (2022), https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf (explaining that an SDC could result in greater financial inclusion and easier cross border payments helping to maintain the U.S. dollar's role as an international reserve currency, and detailing the potential downsides, including risks involving privacy, money laundering, financial stability, cybersecurity and the disintermediation of commercial banks).

why a global stablecoin could potentially displace any prospective SDC that looms large. We then investigate the main types of SDCs, and the primary design decisions involved. After discussing the global impact of SDCs, including the potential first-mover advantage and impact on reserve currency status, we look at the future of money alternatives, concluding that policymakers in the United States have an unbelievably difficult series of decisions to make.

I.
WHAT IS MONEY?

In its most basic form, money is anything that can be used as a medium of exchange. However, the *function of money* goes beyond this definition of money as a medium of exchange; requiring money to serve as a unit of measure and a store of value.[10] While most economists rely on the three functions of money as its definition (i.e., medium of exchange, unit of measure, and store of value), the concept of money is still difficult to grasp. When you consider a dollar bill, it is simply a piece of paper that you trust will be accepted as a medium of exchange. You receive it for your work (primarily in digital form directly deposited into your bank account) or spend it through any number of ways (cash, debit card, or peer-to-peer app). While some argue money only has value because the government says it has value, others are of the view that it has value because the community agrees that it has value and is willing to accept it in exchange for goods or services.[11] In exploring the origin of money in this next section, we shed some light on how money and value are related.

A. *Origin of Money*

Anthropologists and archaeologists have argued that the concept of money began as an idea, not a token—that money

10. *See* The Economic Lowdown Podcast Series, *Functions of Money*, FED. RSRV. BANK OF ST. LOUIS, https://www.stlouisfed.org/education/economic-lowdown-podcast-series/episode-9-functions-of-money (last visited Feb. 1, 2022).

11. *See* Brendan Greeley, *Let's All Please Stop Calling Dollars 'Fiat Money'*, FIN. TIMES (July 3, 2021), https://www.ft.com/content/5e5b2afb-c689-4faf-9b47-92c74fc07e66.

was a journal entry before it ever became a tangible thing.[12] Economists, on the other hand, have long suggested that money evolved from the self-interest of people as a way to obtain most efficiently that which they desire, through the use of a token.[13] This theory evolved from historical accounts of ancient Mesopotamia and its bartering system.[14] While initially, people within a community used a bartering system for obtaining goods, they quickly discovered that the "double coincidence" of wants was not sustainable.[15] It works if Kathryn has a cow and wishes to trade milk for eggs and Jamillah has chickens and wishes to trade eggs for milk, but it is incredibly unlikely that everything that Kathryn wants can be exchanged for milk. What was needed was a third token to serve as a medium of exchange. Carl Menger, founder of the Austrian school of economics, described this phenomenon in his work *The Origins of Money*, explaining that using this token eliminated the inefficiency of bartering, made the division of labor desirable, and the satisfaction of wants attainable.[16] These tokens could be anything: nuggets of gold, slabs of salt, or even cowrie shells.[17] It was not required that the token have an intrinsic value, just that the community agreed that it had value in serving as a token.

In exploring the origin of money, Menger sought to answer the question: Why would someone accept an item which they did not need, like a shell, in exchange for something of value that they brought to the marketplace, like a liter of

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12. Bruce Bower, *Money's Murky Origins*, SCIENCE NEWS, Aug. 4, 2018, at 16 ("[M]oney grew out of older systems of credit and debt . . . .").

13. *See id.* At least those economists adhering to the Austrian school of economics like Mises and Hayek.

14. *See id.* at 17 (describing how in Mesopotamia, shekels were used as a basic monetary measure, equivalent to a bushel of barley).

15. *See* W. STANLEY JEVONS, MONEY AND THE MECHANISM OF EXCHANGE 3–4 (New York, D. Appleton & Co. 1875).

16. *See* Douglas E. French, *Foreword* to CARL MENGER, THE ORIGINS OF MONEY 8–9 (C.A. Foley trans., Ludwig von Mises Inst. 2016) (1892). For an alternative view, see Cameron Harwick, *Money and Its Institutional Substitutes: The Role of Exchange Institutions in Human Cooperation*, 14 J. INSTITUTIONAL ECON. 689, 690 (2018), http://dx.doi.org/10.2139/ssrn.2707833 ("This paper offers an alternative approach both evolutionary and historical, unlike the evolutionary-but-ahistorical Mengerian approach and the historical-but-constructivist state money approach.").

17. MENGER, *supra* note 16, at 12.

milk?[18] He posited that it was the acknowledgement that the token, the shell, could be exchanged for something of value contributed by someone else.[19] Menger argued against the idea that the token itself had to be a valuable item, such as a precious metal.[20] He speculated how the barter system most likely evolved.[21] If Kathryn brings her milk to the marketplace and Jamillah does not need milk that day, Kathryn would have to find a third party who wanted milk and could exchange it for something Jamillah would be willing to trade her eggs for. Menger named this a "mediate exchange."[22] Menger described the third party's goods as "more saleable" than Kathryn's goods.[23] Those attending the marketplace each day would eventually learn from their own "economic interest" to barter their less "saleable goods" for the "more saleable" goods to purchase something.[24] Goods that had the quality of "superior saleableness" became tokens, mediums of exchange, over a period of time.[25] Menger speculated that this discovery of money would arise naturally.[26] He concluded that "[i]n its origin [money] is a social, and not a state institution."[27]

Today there is some disagreement on whether cryptocurrencies qualify as money. For example, if Kathryn wants to trade her old car for a new car, but the dealership does not want her old car, she would need a token that the dealership

18. *See id.* at 12–13.
19. *See id.* at 20.
20. *See id.* at 11–12.
21. *See id.* at 19–21.
22. *Id.* at 34.
23. *Id.* at 34–36.
24. *Id.* at 35. ("These wares would be qualified by their costliness, easy transportability, and fitness for preservation (in connection with the circumstance of their corresponding to a steady and widely distributed demand), to ensure to the possessor a power, not only 'here' and 'now' but as nearly as possible unlimited in space and time generally, over all other market-goods at economic prices.").
25. *Id.* at 35–36.
26. *Id.* at 38. Menger then explains how precious metals became money due not only to their utility, but also because they are scarce, fungible, and divisible. *See id.* at 45–50.
27. *Id.* at 51. Interestingly, some scholars argue that central bank money, discussed *infra*, should be considered "social equity." *See* Michael Kumhof et al., *Central Bank Money: Liability, Asset, or Equity of the Nation?* 1 (Cornell L. Sch. Rsch. Paper, Paper No. 20-46, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3730608.

does want. That token could be a bag of cash she physically hands to the salesperson at the dealership, an electronic transfer from her bank account to the dealership's bank account, or the transfer of Bitcoin from her wallet to the car dealership's wallet. The key is what the dealership will accept.[28] The dealership knows that the cash, the electronic transfer, and/or the Bitcoin can be used by it to pay its rent, hire a new employee, or purchase more cars. The dealership can also choose to hold onto the cash, the electronic transfer (a ledger entry in the dealership's bank account), or the Bitcoin. However, unlike the cash and the journal entry showing a credit in the dealership's bank account, both of which maintain their value over time absent inflation, the Bitcoin does not serve as a store of value. The generally accepted definition of money relies on its three functions—that it is a medium of exchange, store of value, and unit of measure[29]—can be used as a test to see whether Bitcoin qualifies as such. Although Bitcoin can be used as a medium of exchange to purchase a car, it does not work as a unit of measure. First, Kathryn would have difficulty comparing the price of one car to another in terms of how many Bitcoins it would require, because the car would be priced differently from moment to moment due to Bitcoin's fluctuation in value.[30] It also does not function well as a store of value because its volatility puts it at risk of being worth less in the future, making it undesirable as a "super saleable" token.

Chicago School economists Milton Friedman and Anna Jacobson Schwartz define money as "the sum of currency held by the public plus adjusted deposits of commercial banks, both

28. There are a number of dealerships that do accept Bitcoin. *See* Clifford Atiyeh, *Tesla Backtracked on Accepting Bitcoin, but There Are Car Dealers That Take It*, CAR & DRIVER (May 16, 2021), https://www.caranddriver.com/news/a36434628/tesla-bitcoin-wont-accept/.

29. The Economic Lowdown Podcast Series, *supra* note 10.

30. On May 22, 2010, Lazlo Hanyecz purchased two pizzas for 10,000 Bitcoins (approximately $41). On May 22, 2021, those 10,000 Bitcoins were worth $380 million. Mark DeCambre, *Bitcoin Pizza Day? Laszlo Hanyecz Spent $3.8 Billion on Pizzas in the Summer of 2010 Using the Novel Crypto*, MKT. WATCH (May 22, 2021), https://www.marketwatch.com/story/bitcoin-pizza-day-laszlo-hanyecz-spent-3-8-billion-on-pizzas-in-the-summer-of-2010-using-the-novel-crypto-11621714395.

demand and time [deposits]."[31] By contrast, behavioral economists such as Richard Thaler, focus on how the subjective value of money impacts financial decision making, challenging the classical economic theory that one dollar is the same as any other dollar.[32] However, behavioral economists would argue that the psychology behind how people view money demonstrates that one dollar (in one form or from one source) can be viewed as more or less valuable than another dollar (in a different form or from a different source).[33] This viewpoint suggests that the adoption of a money alternative or SDC may depend on trust *in the issuer* rather than assuming a new digital currency from any source would be widely accepted.

The terms "money" and "currency" are often used interchangeably but are technically distinct. Economists consider currency to be "a tangible aspect of money when in actual use as a medium of exchange, especially in the form of circulating notes and coins."[34] Currency or cash is a bearer instrument, meaning that the possession implies ownership.[35] Cash contains no information about its owner and is anonymous, and its transfer can be anonymous.[36] Anonymity is one of the primary advantages of using cash. A disadvantage of cash is that if it is misplaced, an individual or business cannot recreate it. In addition, it can be very heavy.[37] Currency is also fungible,

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31. MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, MONETARY STATISTICS OF THE UNITED STATES: ESTIMATES, SOURCES, METHODS 92 (Nat'l Bureau of Econ. Rsch. 1970), https://www.nber.org/system/files/chapters/c5279/c5279.pdf.

32. *See* Richard H. Thaler, *Mental Accounting Matters*, 12 J. BEHAV. DECISION MAKING 183 (1999) (arguing that due to bias-inducing heuristics, people do not consider money as fungible (that one dollar is the same as any other dollar)). While other economists view people as rational decision makers, Thaler, relying on findings by Daniel Kahneman and Amos Tversky, notes that in fact many decisions regarding money are illogical. *Id.*

33. *Id.* at 196–97.

34. Ferdinando M. Ametrano, Hayek Money: The Cryptocurrency Price Stability Solution 4 (Aug. 13, 2016), https://ssrn.com/abstract=2425270.

35. Mitch Cohen, *CBDC and Privacy Concerns*, ECURRENCY (Sept. 21, 2020), https://www.ecurrency.net/post/cbdc-and-privacy-concerns.

36. *See* Charles M. Kahn, James McAndrews & William Roberds, *Money Is Privacy*, 46 INT'L ECON. REV. 377, 377 (2005) ("Without cash, purely anonymous transactions are not possible.").

37. $1,000,000 in $1 bills would weigh over 900 kilograms or 2,000 pounds and, if stacked, would reach the height of a 30–35 story building. *How Much Does One Million Dollars Weigh?*, REFERENCE (July 23, 2020), https:/

meaning my dollar bill can be exchanged for your dollar bill. There is no difference in value.

Both the U.S. dollar and the euro are sovereign currencies; the Fed issues the U.S. dollar and the European Central bank issues the euro. A sovereign currency is money issued by a government which serves as legal tender within that jurisdiction. Legal tender is money that has been identified by the law of a particular jurisdiction that must be accepted for the payment of debts.[38] In the United States, however, persons, private businesses, and organizations are generally free to decide whether to accept cash or coins as payment for goods or services.[39] Sovereign money can be cash, a coin or bank note, or non-cash reserves held by the central bank. An SDC is a digital form of money which is legal tender in the jurisdiction issuing it and backed by the central bank.

Although cryptocurrencies are not legal tender in the United States, the Financial Crimes Enforcement Network (FinCEN) has stated that cryptocurrency exchanges are legally money transmitters subject to the Bank Secrecy Act (BSA), because cryptocurrency tokens are a type of other "value that substitutes for currency."[40] Interestingly, although the Internal Revenue Service (IRS) indicates that cryptocurrency is "a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value," which is the definition of money, the IRS actually classifies cryptocurrencies as property, not money, and is taxing it as such.[41] Even though cryptocurrency is not considered legal tender in the United States, its use has not been prohibited.[42] States, on the

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/www.reference.com/science/much-one-million-dollars-weigh-7ab82498c203efdb.

38. *See generally Legal Tender Status*, U.S. DEP'T OF THE TREASURY, https://www.treasury.gov/resource-center/faqs/currency/pages/legal-tender.aspx (last visited July 12, 2021).

39. *Id.* No federal statute mandates the acceptance of cash or coins by such entities, but a state law conceivably could. *Id.*

40. FIN. CRIMES ENF'T NETWORK, U.S. DEP'T. OF THE TREASURY, FIN-2019-G001, FINCEN GUIDANCE: APPLICATION OF FINCEN'S REGULATIONS TO CERTAIN BUSINESS MODELS INVOLVING CONVERTIBLE VIRTUAL CURRENCIES 7, 12 (May 9, 2019), https://www.fincen.gov/sites/default/files/2019-05/FinCEN%20CVC%20Guidance%20FINAL.pdf.

41. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938.

42. El Salvador, on the other hand, has made Bitcoin legal tender in addition to the U.S. dollar. Nelson Renteria, Tom Wilson & Karin Strohecker,

other hand, have been more active in defining cryptocurrencies. Wyoming, for example, recognizes cryptocurrencies as a "new asset class," exempts them from money transmitter regulations, and permits state banks to hold cryptocurrencies on behalf of their customers.[43]

B. *The U.S. Federal Reserve System*

As discussed, the U.S. dollar is "fiat money," and, therefore, a "fiat currency," meaning that rather than being backed by a valuable asset, such as a precious metal like gold, it is backed by the reputation of the federal government. Commodity money has an intrinsic value derived from the material from which it is made, such as with a gold coin. Most fiat currencies have a floating value, although some, such as the Chinese yuan, do not. Fiat money provides the Fed and other central banks with control over the money supply, which impacts interest rates and the availability of credit.[44]

Although the United States Constitution dates back to 1789, the Fed's birth occurred only in 1913 with the Federal Reserve Act of 1913.[45] One reason why the United States did not create a central bank until 1913 was a wariness by some,

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In a World First, El Salvador Makes Bitcoin Legal Tender, REUTERS (June 9, 2021), https://www.reuters.com/world/americas/el-salvador-approves-first-law-bitcoin-legal-tender-2021-06-09/. Some speculate that El Salvador's decision "may change global finance." Stuart Russell, *Coercion and Coexistence: How El Salvador's Bitcoin Law May Change Global Finance*, COINTELEGRAPH MAG. (July 20, 2021), https://cointelegraph.com/magazine/2021/07/20/how-el-salvadors-bitcoin-law-change-global-finance?.

43. Tho Bishop, *Wyoming Is Challenging the Fed, Can It Become America's "Crypto Valley"?*, MISES INST. (Mar. 27, 2018), https://mises.org/power-market/wyoming-challenging-fed-can-it-become-americas-crypto-valley. The Wyoming Money Transmitters Act provides an exemption for virtual currency. WYO. STAT. ANN. § 40-22-104(a) (2018) (amended 2021).

44. *See* Laurence H. Meyer, Member of the Bd. of Governors of the Fed. Rsrv. Sys., The Future of Money and of Monetary Policy, Remarks at the Distinguished Lecture Program (Dec. 5, 2001), https://www.federalreserve.gov/boarddocs/speeches/2001/20011205/. In the United States, monetary policy consists of "the Federal Reserve's actions and communications to promote maximum employment, stable prices, and moderate long-term interest rates—the economic goals the Congress has instructed the Federal Reserve to pursue." *Monetary Policy*, FED. RSRV., https://www.federalreserve.gov/monetarypolicy.htm (last visited July 21, 2021).

45. Federal Reserve Act, Pub. L. No. 63-43, 38 Stat. 251 (1913) (codified as amended in scattered sections of 12 U.S.C.).

that continues to this day, about such a significant centralization of government power.[46] The Fed primarily consists of the Board of Governors, an independent federal administrative agency, twelve regional Federal Reserve banks, and the Federal Open Market Committee (FOMC), which is responsible for monetary policy.[47] Each Reserve Bank encompasses a specific geographic region, operates independently, and is overseen by the Board of Governors.[48] The Fed has five primary responsibilities: monetary policy, financial market stability, supervision of certain financial institutions, specific payment and settlement systems, and "consumer protection and community development."[49]

Most countries have a central bank or a "bankers' bank." A core function of a central bank, such as the Fed, is to act as a lender of last resort; that is, to lend to banks in need of emergency funding.[50] To be a bank in the United States, an institution must apply for and be granted a charter by the Office of the Comptroller of Currency (national banks) or by a state government (state banks).[51] In the United States, only institutions that have been granted a federal or state banking charter are legally "banks." Central banks generally play additional roles in the financial system, such as in the payments, regulatory, or financial stability arenas. However, individual central

46. *See* Colleen Baker, *The Federal Reserve as Last Resort*, 46 U. MICH. J.L. REFORM 69, 80–82 (2012) (providing a brief history of the Federal Reserve System).

47. For a detailed discussion of the Federal Reserve System, see FED. RSRV. SYS., THE FEDERAL RESERVE SYSTEM PURPOSES & FUNCTIONS 2–3, 15 (10th ed. 2016), https://fraser.stlouisfed.org/title/federal-reserve-system-5298 [hereinafter PURPOSES & FUNCTIONS].

48. *Id.* at 3 fig.1.3. These Reserve Banks are in Boston, New York, Philadelphia, Cleveland, Richmond, Chicago, Atlanta, Kansas City, Dallas, Minneapolis, St. Louis, and San Francisco. *Federal Reserve Banks*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/aboutthefed/federal-reserve-system.htm (last modified Apr. 24, 2017).

49. *See About of the Federal Reserve System*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/aboutthefed/structure-federal-reserve-system.htm (last modified Sep. 10, 2021).

50. Baker, *supra* note 46, at 84–86.

51. *How Can I Start a Bank?*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/faqs/banking_12779.htm (last modified Aug. 2, 2013).

bank mandates, which provide for the extent of their powers, vary.[52]

A global bank for central banks also exists: the Bank for International Settlements (BIS).[53] Unlike national central banks, the BIS does not act as a lender of last resort. Instead, its "mission is to support central banks' pursuit of monetary and financial stability through international cooperation, and to act as a bank for central banks."[54]

The Fed provides accounts and services, primarily to banks (also termed "depository institutions"), and oversees certain payment systems. To facilitate payments, the Fed creates money, distributes paper currency and coins to commercial banks, and provides check clearing, ACH services (an automated electronic clearinghouse payment system for interbank operations), and wholesale payment services through FedWire (a wire transfer mechanism for large transactions on behalf of commercial banks).[55] The Fed's role in the payment system is set to expand with the advent of its FedNow Service, which "will be available to depository institutions in the United States and will enable individuals and businesses to send instant payments through their depository institution accounts."[56] This new payment system is the first innovation by the Fed in more than 40 years.[57] The Fed also acts as banker to the U.S. government.

Legal scholars have referred to the U.S. financial system as a "franchise" arrangement.[58] This is because both the Fed and commercial banks create money. In the United States, money exists in physical form (cash or currency) and digital

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52. *See generally* Christina Parajon Skinner, *Central Banks and Climate Change*, 74 VAND. L. REV. 1301 (2021).

53. *See About BIS - Overview*, BANK FOR INT'L SETTLEMENTS, https://www.bis.org/about/index.htm.

54. *Id.*

55. *See* PURPOSES & FUNCTIONS, *supra* note 47, at 119 fig.6.1.

56. *FedNow℠ Service*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/paymentsystems/fednow_about.htm (last modified Apr. 28, 2021).

57. *Real-Time Payments: Everything You Need to Know*, PAYMENTSJOURNAL (Mar. 23, 2021), https://www.paymentsjournal.com/real-time-payments-everything-you-need-to-know/.

58. Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143, 1147 (2017).

form (central bank money and commercial bank money).[59] The U.S. Mint produces coins, and the Bureau of Engraving and Printing (part of the U.S. Treasury) produces paper cash.[60] The Fed buys the currency at cost and distributes it to banks, exchanging it for worn currency and selling it.[61] It also accepts cash deposits from banks, which increases the bank's reserve account balance at the Fed.[62]

The Fed creates money by making an accounting entry on its balance sheet. To do this, it electronically credits (increases) the balance of an account holder such as a bank and makes a corresponding asset entry such as for a loan or a U.S. Treasury security.[63] For example, if the Fed loaned money to Bank A, it would record a loan on the asset side of its balance sheet and increase Bank A's account balance (a liability[64] for the Fed) by a corresponding amount. Or, if the Fed bought U.S. Treasury securities from Bank A, it would record these securities as an asset and increase Bank A's account balance by a corresponding amount.

Similarly, banks (depository institutions) also create money (commercial bank money) via electronic accounting entries by crediting a customer deposit account (a deposit liability) and recording a corresponding asset (such as a loan). For example, to make a loan, Bank A would record a loan to a borrower on the asset side of its balance sheet and increase the balance in the borrower's account by a corresponding amount. When an account holder deposits/withdraws cash,

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59. Aleksander Berentsen & Fabian Schär, *The Case for Central Bank Electronic Money and the Non-Case for Central Bank Cryptocurrencies*, 100 FED. RSRV. BANK ST. LOUIS REV. 97, 97–98 (2018).

60. *How Currency Gets into Circulation*, FED. RSRV. BANK OF N.Y., https://www.newyorkfed.org/aboutthefed/fedpoint/fed01.html (July 2013).

61. *Id.*

62. *Id.*

63. *See, e.g.*, William J. Luther, *How the Federal Reserve Literally Makes Money*, CATO INST. (June 10, 2020), https://www.cato.org/publications/commentary/how-federal-reserve-literally-makes-money. For a snapshot of the Fed's balance sheet, see FED. RSRV., STATISTICAL RELEASE H.4.1, FACTORS AFFECTING RESERVE BALANCES OF DEPOSITORY INSTITUTIONS AND CONDITION STATEMENT OF FEDERAL RESERVE BANKS (last modified Jan. 27, 2022), https://www.federalreserve.gov/releases/h41/current/h41.htm.

64. *But see* Kumhof et al., *supra* note 27, at 2 (noting that central bank money is generally regarded as a liability of the central bank and challenging this traditional characterization).

Bank A would increase/decrease its cash assets and increase/decrease the account holder's balance. Bank A's deposit balances are only backed by the bank itself. However, almost all banks have Federal Deposit Insurance Corporation (FDIC) deposit insurance, which guarantees that amounts up to $250,000 "are as sound as a central bank liability."[65]

C. *Banks as Payment System Intermediaries*

The rise in the use of electronic transfers of money coincides with the decrease in the use of cash. Over the past decade, developments in FinTech have made it easier and less costly to buy things without leaving your home or by waving your phone in front of a payment terminal. For the most part, these electronic transfers rely on the banking system where users hold accounts. Banks are able to verify users (and the funds available to them), permitting merchants and others to rely on these electronic payments. No longer are people regularly handing over dollar bills to one another.[66] The pandemic saw the increased use of contactless payments.[67] In the United States, in the third quarter of 2020, digital retail sales were 37% higher than in 2019.[68] Cash use over that same period declined from 26% to 19%.[69] These electronic payments work through the banking system using legal tender. In other words, although it is classified as a peer-to-peer (P2P) payment system, there is no currency on your phone. Before you can send anyone money from a P2P account (like Venmo), you would need to link the Venmo account to your bank account and transfer money from your bank account to your Venmo account. It can then be sent to the recipient's Venmo account.

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65. *See* Quarles, *supra* note 1.

66. *See* Laura French, *A Money Evolution*, WORLD FIN. (Feb. 12, 2021), https://www.worldfinance.com/special-reports/a-money-evolution (explaining that the use of cash has been declining since the 1960s).

67. Andrew P. Scott, *Pandemics, Payments, and (Digital) Property*, CONG. RSCH. SERV. (Mar. 10, 2021), https://crsreports.congress.gov/product/pdf/IN/IN11632.

68. Harriet Torry, *Don't Bank on Covid-19 Killing Off Cash Just Yet*, WALL ST. J. (Jan. 31, 2021), https://www.wsj.com/articles/dont-bank-on-covid-19-killing-off-cash-just-yet-11612105200.

69. KELSEY COYLE, LAURA KIM & SHAUN O'BRIEN, 2021 FINDINGS FROM THE DIARY OF CONSUMER PAYMENT CHOICE 6 (2021), https://www.frbsf.org/cash/publications/fed-notes/2021/may/2021-findings-from-the-diary-of-consumer-payment-choice/.

Once the money is in the recipient's Venmo account, it can either be forwarded on to someone else (or, in the case of college students, back and forth between two roommates in a never-ending loop) or transferred into the recipient's bank account. Although some do not see any difference between a P2P payment system and a cryptocurrency transfer, there is a significant difference. The P2P payment system works through the banking system, and a cryptocurrency transfer does not. A P2P cryptocurrency transaction requires no intermediary. The next Part examines the evolution of money in terms of money alternatives and potential forms of sovereign digital currencies in the United States.

II.
The Continuing Evolution of Money

As discussed, money continues to evolve. Each time a new form appears, governments worry how it will impact monetary policy and monetary sovereignty. For example, in a 2001 speech, Fed Governor Meyer describes how an increase in e-money (electronic money),[70] such as "stored-value cards" like a Barnes & Noble gift card, could result in a decline in demand for currency which could reduce reserve balances and the interest earnings received by the Fed, and increase the volatility of the funds rate.[71] We hear these same arguments today regarding newer money alternatives.

Unlike the emergence of gift cards, cryptocurrencies came about to address a specific concern with the current monetary system. The financial crisis of 2007–2008[72] cost the U.S. economy over $22 trillion.[73] Not only did this crisis result in a massive loss of trust in banks and in the Fed, it also brought into question the legitimacy of the U.S. monetary sys-

70. At the time, in 2001, electronic money referred to stored-value cards, but Governor Meyer also included automated clearing house (ACH), debit cards, and ATM machines. *See* Meyer, *supra* note 44.

71. *See id.* (concluding that none of the worries discussed were likely to happen and the ability to control monetary policy would not be impacted by the potential use of gift cards).

72. For an overview of the financial crisis and its causes, see generally Anjan V. Thakor, *The Financial Crisis of 2007–2009: Why Did It Happen and What Did We Learn?*, 4 Rev. Corp. Fin. Stud. 155 (2015).

73. John Taskinsoy, *Bitcoin Mania: An End to the US Dollar's Hegemony or Another Cryptocurrency Experiment Destined to Fail?*, Rsch. Gate, Dec. 2018, at 2.

tem itself.[74] As individuals lost their retirement savings, large financial institutions were being "bailed out," and their executives were awarding themselves multimillion-dollar bonuses paid for with taxpayer-provided funds despite nearly collapsing the U.S. economy.[75] As a result, many felt disillusioned with the financial system and an intense dissatisfaction with the status quo. The development of Bitcoin was perhaps one of the most consequential examples of this ethos.

> "The theoretical roots of Bitcoin can be found in the Austrian school of economics and its criticism of the current fiat money system and interventions undertaken by governments and other agencies (. . .)." It is close to the concept of ideal money advocated by the right libertarians, namely Friedrich von Hayek, who argued in favor of ending the monopoly of central banks in producing, distributing, and managing money.[76]

In his 2009 blog post, Satoshi Nakamoto (pseudonym), the creator of Bitcoin, states:

> The root problem with conventional currency is all the trust that's required to make it work. The central bank must be trusted not to debase the currency, but the history of fiat currencies is full of breaches of that trust. Banks must be trusted to hold our money and transfer it electronically, but they lend it out in waves of credit bubbles with barely a fraction in reserve. We have to trust them with our privacy, trust them not to let identity thieves drain our accounts. Their massive overhead costs make micropayments impossible. . . . With e-currency based on cryptographic proof, with-

74. Beat Weber, *Bitcoin and the Legitimacy Crisis of Money*, 40 CAMBRIDGE J. ECON. 17, 18 (2016).

75. Phillip Inman, *Wall Street Bonuses Under Fire*, GUARDIAN (July 30, 2009), https://www.theguardian.com/business/2009/jul/31/wall-street-bonuses-bailout (describing how, after receiving bailout money, Citigroup paid out $5.3 billion in bonuses, Goldman Sachs paid out $4.8 billion in bonuses, and JP Morgan Chase paid 1,626 employees million-dollar bonuses).

76. Paulo Rupino Cunha, Paulo Melo & Helder Sebastião, *From Bitcoin to Central Bank Digital Currencies: Making Sense of the Digital Money Revolution*, 13 FUTURE INTERNET 165, 169 (2021) (alteration in original) (footnote omitted) (quoting EUR. CENT. BANK, VIRTUAL CURRENCY SCHEMES 22 (2012), https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf).

> out the need to trust a third party middleman, money can be secure and transactions effortless.[77]

Although Bitcoin first became available in 2009, few people outside of the tech industry knew what it was when it was valued at less than a penny. It did not see a major price jump until 2017 when it went from $939.70 on March 23rd to $19,345.49 on December 15th,[78] invoking massive interest in cryptocurrencies generally, and distributed ledger technology specifically. In 2020, because the pandemic led to the substantial increase of electronic payments as people for the most part stayed home and transacted their purchases online, interest in cryptocurrencies also blossomed.[79] In this Part, we first explore the money alternative of cryptocurrencies and the later emergence of stablecoins. We conclude this Part with a discussion of the potential forms that a new SDC issued by the Fed could take.

A. *Money Alternatives*

Using the term "money alternative" to discuss cryptocurrencies and stablecoins is meant to examine this concept in terms of its viability as a form of money. As indicated earlier, cryptocurrencies are not legal tender in the United States, but several federal agencies appear to consider them to be money. A major obstacle to cryptocurrencies ever becoming legal tender is their extreme volatility. Stablecoins were created to address this problem.

1. *Cryptocurrencies*

"At its simplest, a cryptocurrency can be thought of as a digital asset that is constructed to function as a medium of exchange, premised on the technology of cryptography, to se-

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77. Satoshi Nakamoto, *Bitcoin Open Source Implementation of P2P Currency*, P2P FOUND. (Feb. 11, 2009), http://p2pfoundation.ning.com/forum/topics/bitcoin-open-source.

78. *Bitcoin* (BTC), BLOCKCHAIN.COM , https://www.blockchain.com/prices/BTC?from=1483290000&to=1514739600&timeSpan=custom&scale=0&style=line (last visited Feb. 25, 2022).

79. Mastercard, ATMs, and online payment processors like PayPal and Venmo, for example, started to accept cryptocurrencies as payment. Dondi Black, *Digital Currencies Skyrocket During Pandemic*, FIS GLOB. (Jan. 11, 2021), https://www.fisglobal.com/en/insights/what-we-think/2021/january/digital-currencies-skyrocket-during-pandemic.

cure the transactional flow, as well as to control the creation of additional units of the currency."[80] The first digital alternative, Bitcoin, was envisioned in a white paper authored pseudonymously by Satoshi Nakamoto, famously known for creating blockchain technology, a type of distributed ledger technology.[81] A blockchain is a permanent, immutable distributed ledger that records data in blocks that are linked together to form a chain and cryptographically validated.[82] Because each block is linked with the previous block, data cannot be inserted in between them later.[83] Each block contains a unique digital identifier, or hash.[84] Because data cannot be altered or deleted, a blockchain can provide a permanent, immutable record of transactions.[85] Although the terms are sometimes used interchangeably, a blockchain is a type of distributed ledger technology (DLT).[86] Not all DLTs use blocks.[87]

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80. Usman W. Chohan, Cryptocurrencies: A Brief Thematic Review 1 (Aug. 4, 2017) (unpublished manuscript), https://ssrn.com/abstract=3024330.

81. A blockchain is a database or ledger that is distributed among and verified by its users. It is distributed in the sense that there are multiple participants (known as nodes) who, through cryptography and consensus mechanisms, verify transactions to be added to the blockchain, and it is typically decentralized, in the sense that there is no one central authority. With a decentralized distributed ledger, such as with most blockchain configurations, any verified additions are immediately shared across all network members (nodes). Once the shared data on the blockchain is verified by the majority of the nodes, it becomes permanent. The verification process is known as the consensus mechanism.

Kimberly A. Houser & John T. Holden, Navigating the Non-Fungible Token 6–7 (Feb. 25, 2022) (footnotes omitted) (unpublished manuscript) (on file with authors).

82. *See* Colleen Baker & Kevin Werbach, *Blockchain in Financial Services*, *in* FINTECH: LAW AND REGULATION 148, 150 (Jelena Madir ed., 2021).

83. Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN.ORG 1 (last visited July 6, 2021), https://bitcoin.org/bitcoin.pdf.

84. *Id.*

85. *Id.*

86. DLT is a decentralized database which exists across multiple nodes or computing devices where each node in a network has access to an identical copy of the ledger. Bronwyn E. Howell, Petrus H. Potgieter & Bert M. Sadowski, Governance of Blockchain and Distributed Ledger Technology Projects 1 (Feb. 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3365519; *see generally* Baker & Werbach, *supra* note 82, at 150.

87. *See* Baker & Werbach, *supra* note 82, at 150–51.

This type of payment system was designed to permit P2P transactions without the need for a trusted intermediary (such as a bank).[88] When Bitcoin came out in 2009, it was primarily seen as a medium of exchange to be used in place of the dollar to facilitate electronic payments. Later in 2015, the Ethereum blockchain further advanced this technology by creating a way for computer code in addition to transaction data to be stored on the blockchain.[89] Neither Bitcoin nor Ether, the cryptocurrency associated with the Ethereum blockchain, are backed by either a government or an asset such as gold. Hence, they fluctuate in value. As a result, today they serve less as a medium of exchange and more as a potentially appreciable investment vehicle. Typically issued by non-profits or corporations,[90] they are considered digital alternatives to the U.S. dollar, although most do not meet the economic definition of money.

A digital wallet is required to store, receive, and send cryptocurrency.[91] There are two types of wallets: non-custodial and custodial.[92] In July of 2020, the Office of the Comptroller of the Currency (OCC) authorized national banks to provide cryptocurrency custody services to their customers.[93] This would be in the form of a custodial wallet. Although FinTech companies in the United States have jumped at the opportu-

88. Nakamoto, *supra* note 77, at 1 (explaining the need for "an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party").

89. Vitalik Buterin, A Next Generation Smart Contract & Decentralized Application Platform 13 (Jan. 14, 2014) (unpublished manuscript), http://blockchainlab.com/pdf/Ethereum_white_paper-a_next_generation_smart_contract_and_decentralized_application_platform-vitalik-buterin.pdf.

90. Ether was created by the Ethereum Foundation, a non-profit.

91. Sarah Allen et al., *Design Choices for Central Bank Digital Currency: Policy and Technical Considerations* 9 (Glob. Econ. & Dev. at Brookings, Working Paper No. 140, 2020), https://www.brookings.edu/wp-content/uploads/2020/07/Design-Choices-for-CBDC_Final-for-web.pdf.

92. Iwa Salami, *Decentralised Finance: The Case for a Holistic Approach to Regulating the Crypto Industry,* 35 J. INT'L BANKING & FIN. L. 496, 496 (2020). A wallet connected to the internet, such as an app on your phone, is known as a hot wallet. If the cryptocurrency is stored on a hardware device that is not connected to the internet, this is known as cold storage.

93. Office of the Comptroller of the Currency, Interpretive Letter No. 1170 (July 22, 2020), https://www.occ.treas.gov/topics/charters-and-licensing/interpretations-and-actions/2020/int1170.pdf.

nity, traditional banks have held back.[94] Providers of this service include Kraken, Binance.US, and Coinbase, among others.[95] A non-custodial wallet is one that a user solely controls.[96] The user, alone, has access to the private key, which is needed to access the wallet's contents.[97] If the user forgets or loses the private key, the funds within the wallet are lost and are not retrievable until the key is found again by the user.[98] On the other hand, custodial wallets are those where a trusted third party manages the private key to a user's wallet.[99] Most cryptocurrency wallets are custodial wallets.[100] The benefit of a custodial wallets is that there is less user responsibility and more convenience.[101] Lost passwords can generally be reset and therefore funds are not lost forever.[102]

In determining whether cryptocurrencies qualify as money, we evaluate the three functions of money. First, as a medium of exchange, cryptocurrencies could technically be used to conduct transactions for goods and services,[103] but in practice appear to be purchased primarily for their potential as an appreciating asset. For example, it is estimated that 80% of available Bitcoins are held as an investment.[104] Second, cryptocurrencies do not work as a unit of measure. Even

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94. *See* Ron Shevlin, *The Coming Bank–Bitcoin Boom: Americans Want Cryptocurrency from Their Banks*, FORBES (Apr. 19, 2021), https://www.forbes.com/sites/ronshevlin/2021/04/19/the-coming-bank-bitcoin-boom-americans-want-cryptocurrency-from-their-banks/?sh=716473c94908.

95. *See* Taylor Tepper & John Schmidt, *The Best Crypto Exchanges of 2022*, FORBES (Jan. 2, 2022), https://www.forbes.com/advisor/investing/best-crypto-exchanges/.

96. *Custodial vs. Non-Custodial Wallets*, CRYTOPEDIA (May 6, 2021), https://www.gemini.com/cryptopedia/crypto-wallets-custodial-vs-noncustodial.

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. *See* Cameron Harwick, *Cryptocurrency and the Problem of Intermediation*, 20 INDEP. REV. 569, 573 (2016) (arguing that economist Ludwig von Mises's regression theorem stands for the proposition that "something is money when people *use it* as money—that is, as a medium of indirect exchange. In this sense, cryptocurrency clearly qualifies as money.").

104. Mark DeCambre, *Who Owns Bitcoin? Roughly 80% Are Held by Long-Term Investors: Report*, MARKETWATCH (Feb. 11, 2021), https://www.marketwatch.com/story/who-owns-bitcoin-roughly-80-are-held-by-long-term-investors-report-11612998740.

though some merchants may list prices in a cryptocurrency, the price they charge would have to fluctuate based on changes in the cryptocurrency's price. Third, as a store of value, cryptocurrencies also fall short because of their potential to rapidly decrease in value. The major reason why cryptocurrencies have not been able to function as "money" is volatility. This is due to several factors including uncertainty around its future due to the vague regulatory landscape,[105] supply and demand, as well as the public's reactions to the alternating positive and negative press. While some cryptocurrencies have built in scarcity (due to the limit on the number to be released), others simply are at risk of deflation if too many are released at one time. According to Steve Forbes, Chairman and Editor-in-Chief of Forbes Media:

> For cryptocurrencies to seriously challenge existing currencies, they must be as easy to use as money is today and must have a fixed value, being tied to gold or something like the Swiss franc so that they can be used for contracts. Unless both conditions are met, they won't be genuine alternatives to the dollar and other government-manufactured money.[106]

Given these factors, cryptocurrencies do not qualify as money.

2. *Stablecoins*

Stablecoins were designed to address the extreme volatility of cryptocurrencies.[107] On May 19, 2021, for example, Bitcoin plunged 30% in less than 24 hours.[108] Although tech-

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105. *See, e.g.*, Siddharth Venkataramakrishnan, *Cryptocurrency Markets Slide as Yellen Leads Mounting Regulatory Scrutiny*, FIN. TIMES (July 20, 2021), https://www.ft.com/content/9685a2e0-e8d5-48f5-9c1f-66aea8cb1597.

106. Steve Forbes, *Bitcoin Is Not Money – Yet*, FORBES (Feb. 2, 2021), https://www.forbes.com/sites/steveforbes/2021/02/02/bitcoin-is-not-money-yet/?sh=5452080e971c.

107. For an excellent overview of different stablecoins, their characteristics, and their regulation, see generally Gary B. Gorton & Jeffery Y. Zhang, Taming Wildcat Stablecoins (Sept. 30, 2021) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3888752.

108. Ryan Browne & Arjun Kharpal, *Bitcoin Plunges 30% to $30,000 at One Point in Wild Session, Recovers Somewhat to $38,000*, CNBC (May 19, 2021), https://www.cnbc.com/2021/05/19/bitcoin-btc-price-plunges-but-bottom-could-be-near-.html.

nically a cryptocurrency, stablecoins were designed to mitigate these wild fluctuations by pegging them to stable assets, making them a better choice as a money alternative. According to the Financial Stability Board, a stablecoin is "[a] crypto-asset that aims to maintain a stable value."[109] A stablecoin's value can be moderated in the following ways. First is the depository receipt model where the stablecoin is a direct claim on a single currency.[110] The issuer not only agrees to redeem the stable coin at face value, but they must also keep reserves backing the value of all issued stablecoins.[111] Second, the stablecoin can be tied to a "currency basket."[112] This could include multiple fiat currencies or other stable assets. The four main types of stablecoins are: 1) fiat-backed stablecoins, pegged one-to-one with a fiat currency or basket of fiat currencies, 2) commodity-backed stablecoins pegged to gold or another commodity, 3) crypto-backed stablecoins pegged to a cryptocurrency usually with reserves larger than the value of the outstanding stablecoin, and 4) algo-backed stablecoins which are not pegged to any asset but rather use embedded smart contracts to control the supply to keep the value stable.[113]

Tether (USDT) is a stablecoin with the largest market value.[114] Launched in 2014, it did not initially draw much attention from regulators. The OCC has more recently issued several interpretive letters regarding stablecoins.[115] An October 2020 letter authorizes national banks to hold stablecoin

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109. Fin. Stability Bd., Addressing the Regulatory, Supervisory and Oversight Challenges Raised by "Global Stablecoin" Arrangements 4 (2020), https://www.fsb.org/wp-content/uploads/P140420-1.pdf.

110. *See* G7 Working Group on Stablecoins, Bank for Int'l Settlements, Investigating the Impact of Global Stablecoins 24 (2019) [hereinafter G7 Report on Stablecoins].

111. *See id.*

112. Garth Baughman & Jean Flemming, *Global Demand for Basket-Based Stablecoins* 1 (Bd. of Governors of the Fed. Rsrv. Sys., Working Paper. No. 2020-48, 2020).

113. *3 Things to Know About Stablecoins*, FINRA (Apr. 17, 2020), https://www.finra.org/investors/insights/3-things-stablecoins.

114. Jamie Crawley, *Tether Passes $50B Market Cap*, CoinDesk (Apr. 26, 2021), https://www.coindesk.com/tether-passes-50b-market-cap.

115. *See, e.g.*, Office of the Comptroller of the Currency, Interpretive Letter No. 1174 (Jan. 4, 2021), https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-2a.pdf [hereinafter Interpretive Letter No. 1174].

reserves as a service to their customers.[116] By placing assets in a reserve account with a national bank, a stablecoin issuer is able to provide assurance that it has sufficient assets to back the stablecoin. The OCC issued a January 2021 letter confirming that national banks could additionally serve as independent nodes (a computer connected to a network that can validate transactions) for stablecoin DLT ledgers.[117] Transactions on a DLT are recorded on shared ledgers after the transaction is validated by the nodes using a consensus mechanism.[118]

Although former Fed Vice Chair, Randal K. Quarles, has argued that stablecoins pose no threat to the U.S. financial system, others disagree.[119] Quarles maintains that any risks could be addressed in a way that "might *support* the role of the dollar in the global economy."[120] In fact, Quarles argues that "properly structured stablecoins could well make superfluous any effort to develop [an SDC]."[121] He also argues that a privately issued stablecoin would present *less* of a systemic risk than an SDC.[122] However, were stablecoin holders to redeem their claims en masse, a bank-like run could ensue, triggering financial market instability.[123] Bank-like runs on non-bank financial institutions were at the heart of the 2007–2008 financial crisis.[124] Stablecoin detractors, such as Boston Fed President Eric

116. Office of the Comptroller of the Currency, Interpretive Letter No. 1172 (Sept. 21, 2020), https://www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/int1172.pdf.

117. Interpretive Letter No. 1174, *supra* note 115, at 1.

118. See *infra* Section III.C for a detailed explanation.

119. *See, e.g.*, G7 REPORT ON STABLECOINS, *supra* note 110; Tobias Adrian, Fin. Couns. and Dir. of the Monetary & Cap. Mkts. Dep't of the IMF, Stablecoins, Central Bank Digital Currencies, and Cross-Border Payments: A New Look at the International Monetary System, Remarks at the IMF–Swiss National Bank Conference, Zurich (May 14, 2019) (explaining the threat that stablecoins make to fiat currencies); Gorton & Zhang, *supra* note 107.

120. Quarles, *supra* note 1 (emphasis in original).

121. *Id.*

122. *See id.*

123. *See* Gorton & Zhang, *supra* note 107 (arguing that privately created money is susceptible to bank-like runs); *see also* Usman W. Chohan, Are Stable Coins Stable? 4 (Mar. 29, 2020) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3326823.

124. *See* Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo,* 104 J. FIN. ECON. 425, 425 (2012).

Rosengren, specifically named Tether as a possible challenge to financial stability.[125]

Despite the OCC letters of guidance, it is unclear that the existing regulatory framework is adequate for managing the risk of stablecoins.[126] U.S. Treasury Secretary Janet Yellen is working with the President's Working Group on Financial Markets, OCC, and FDIC to discuss stablecoins and their potential impact on the monetary system.[127] Acknowledging that they are less volatile than cryptocurrencies in general, there is still a concern about the true stability of the assets that back them. It seems likely that a regulatory system similar to that regarding bank deposits will be created for stablecoins.[128] Interestingly, Fed Chair Powell has indicated that the issuance of an SDC would eliminate the need for cryptocurrencies and stablecoins.[129] However, people purchase, mine, and use cryptocurrencies—including stablecoins—for a variety of reasons such as for privacy, a hedge against inflation, and investment purposes; these motives would not necessarily be eliminated by the issuance of an SDC.[130]

In determining whether a stablecoin meets the definition of money, we again explore the three functions of money. First, as a medium of exchange, stablecoins can be used to conduct transactions for goods and services. Second, as a unit of measure, due to their stable value, stablecoins can be used

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125. Venkataramakrishnan, *supra* note 105.

126. *See* Isabelle Lee, *Fed Chair Jerome Powell Says Cryptocurrencies and Stablecoins Won't Be Needed Once the US Has a Digital Currency*, BUS. INSIDER (July 14, 2021), https://markets.businessinsider.com/currencies/news/jerome-powell-cryptocurrencies-cbdc-stablecoins-digital-currency-testimony-2021-7 (quoting Chair Powell as stating that "if [stablecoins are] going to be a significant part of the payments universe . . . then we need an appropriate framework, which frankly we don't have") (second alteration in original).

127. *See* Press Release, U.S. Dep't of the Treasury, Readout of the Meeting of the President's Working Group on Financial Markets to Discuss Stablecoins (July 19, 2021), https://home.treasury.gov/news/press-releases/jy0281.

128. For one description of how such a regulatory framework could function, see Gorton & Zhang, *supra* note 107, at 33–35.

129. Jonnelle Marte, *Powell Says a Fed Digital Currency Could Undercut Need for Cryptocurrencies*, REUTERS (July 14, 2021), https://www.reuters.com/business/feds-powell-says-stablecoins-need-appropriate-regulatory-framework-2021-07-14/.

130. *See, e.g.*, *What Are Stablecoins? Research Report*, CB INSIGHTS (Feb. 16, 2021), https://www.cbinsights.com/research/report/what-are-stablecoins/.

to compare the prices of different goods and services. Third, as a store of value, unlike cryptocurrencies, stablecoins can be stored and used at a later time without a huge risk of loss of value. However, some note that stablecoins are not guaranteed by law to be convertible to a currency and that insufficient regulation does create some risk as to value.[131] Boston Fed President Eric Rosengren recently called out Tether due to its breakdown of the collateral backing it, noting that 49% of its reserves were in commercial paper.[132] Although stablecoins may technically be classified as money, they are not widely accepted by merchants nor are there any current regulations regarding the safety of the assets backing them.

It was not until Facebook (now known as Meta) published a white paper on its blueprint for Libra, a potential global stablecoin, in 2019, that a huge (and unfriendly) response from regulators was triggered worldwide.[133] In response to the backlash, Facebook reconfigured their stablecoin and rebranded it Diem. Facebook's 2020 white paper on Diem (Libra 2.0) proposed both single and multicurrency backed stablecoins, and a permissioned system of validation using DLT.[134] In order to provide strong protections for the Diem reserve, it indicated that it would hold at least "80% of its reserves in low-risk short-term government securities . . . . [and the] remaining 20% . . . in cash, with overnight sweeps into MMFs [money market funds] that invest in short-term government securities with the

131. Anton N. Didenko & Ross P. Buckley, *The Evolution of Currency: Cash to Cryptos to Sovereign Digital Currencies*, 42 FORDHAM INT'L L.J. 1041, 1081–82 (2019).

132. Eric S. Rosengren, President, Fed. Rsrv. Bank of Bos., Remarks at the Official Monetary and Financial Institutions Forum Fed Week Financial Stability Session (Jun. 25, 2021), https://www.bostonfed.org/news-and-events/speeches/2021/official-monetary-and-financial-institutions-forum-fed-week-financial-stability-session.aspx.

133. Ross P. Buckley et al., *Sovereign Digital Currencies: Reshaping the Design of Money and Payments Systems*, 15 J. PAYMENTS STRATEGY & SYS. 7, 9 (2021) ("A number of features of Libra—a combination of a crypto-currency, global electronic payment system and framework of accounts and identification—give it the potential to be particularly disruptive for payment systems and particularly sovereign fiat currencies.").

134. LIBRA ASS'N, WHITE PAPER 1–3 (2020), https://www.diem.com/en-us/white-paper/. For an explanation of permissioned systems of validation, see *infra* Section III.C.

same risk and liquidity profiles."[135] In 2021, Diem Networks US contracted with Silvergate Bank, a California-chartered bank to be the exclusive issuer of Diem.[136] What made Diem a bit different, and more concerning than a stablecoin like Tether, was that it was the first proposed digital currency that had the potential to become systemic, facilitating cross-border transactions with Facebook's 3 billion users. It also named very stable pegged assets as the collateral supporting its value.[137]

In addition to regulators' apparent dislike for Facebook, it was the immediate scale of its proposed operation that triggered a number of governments to move more quickly with their own SDC.[138] At a 2020 hearing Fed Chair Powell admitted that "Libra [the initial iteration of Diem] really lit a fire . . . and it was a bit of a wakeup call that this is coming fast, and could come in a way that is quite widespread and systemically important, fairly quickly, if you use one of these big tech [networks] like Libra did."[139] Although stablecoins in and of themselves do not present a material risk to the Fed, a widely adopted *global stablecoin* would affect the Fed's ability to create monetary policy and have the dollar serve as a reserve currency.[140] According to the G7 Report on Stablecoins:

> Stablecoins offered by large existing platforms (such as big techs) could scale rapidly due to their estab-

135. *Stablecoins Could Pose New Short-Term Credit Market Risks*, FITCHRATINGS (July 1, 2021), https://www.fitchratings.com/research/fund-asset-managers/stablecoins-could-pose-new-short-term-credit-market-risks-01-07-2021.

136. *Diem Announces Partnership with Silvergate and Strategic Shift to the United States,* PR NEWSWIRE (May 12, 2021), https://www.prnewswire.com/news-releases/diem-announces-partnership-with-silvergate-and-strategic-shift-to-the-united-states-301290201.html (Diem Networks US is a subsidiary of the Diem Association).

137. *See generally* Andrew Morse, *Executive Behind Facebook-Backed Novi Crypto Wallet to Leave Company*, CNET (Nov. 30, 2021), https://www.cnet.com/personal-finance/crypto/executive-behind-facebook-backed-novi-crypto-wallet-to-leave-company/.

138. *See* Christian Barontini & Henry Holden, *Proceeding with Caution—A Survey on Central Bank Digital Currency*, 101 BANK FOR INT'L SETTLEMENTS PAPERS (2019), https://www.bis.org/publ/bppdf/bispap101.pdf.

139. *Monetary Policy and the State of the Economy: Hearing Before the H. Comm. on Fin. Servs.*, 116th Cong. 32 (2020) (statement of Jerome Powell, Chairman, Board of Governors of the Federal Reserve System).

140. ALINA IANCU ET AL., IMF, RESERVE CURRENCIES IN AN EVOLVING INTERNATIONAL MONETARY SYSTEM 24 (2020); *see* G7 REPORT ON STABLECOINS, *supra* note 110, at 2.

> lished global customer bases and links to platforms that offer an easily accessible interface. Such arrangements that have the potential to become global pose risks beyond those of small-scale stablecoin arrangements and therefore present additional public policy challenges – including those to the safety and efficiency of the overall payment system, competition policy, financial stability, monetary policy transmission and longer term implications for the international monetary system . . . .[141]

Some of the concerns raised by the IMF, FSB, and the G7 Working Group have also been echoed by the U.S. government.[142] Duke Professor Steven Schwarcz also raises the concern that a global stablecoin could threaten *international* monetary and financial stability.[143]

B. *Sovereign Digital Currencies*

In the United States, the Fed is responsible for setting and implementing monetary policy and, as such, has an interest in monitoring the creation of and understanding the impact of money alternatives. Unlike other countries that have rapidly moved to create an SDC, the U.S. Federal Reserve is taking a more measured approach, stating the focus is on getting the SDC "right rather than [getting it] quickly."[144] Fed Chair Powell has stated that any SDC "needs to coexist with cash and other types of money in a flexible and innovative payment sys-

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141. G7 Report on Stablecoins, *supra* note 110, at 5.

142. *See* President's Working Grp. on Fin. Mkts., Statement on Key Regulatory and Supervisory Issues Relevant to Certain Stablecoins 2, 4 (2020), https://home.treasury.gov/system/files/136/PWG-Stablecoin-Statement-12-23-2020-CLEAN.pdf ("U.S. authorities will continue to engage in cooperative oversight arrangements for effective information sharing and oversight of multi-jurisdictional stablecoin arrangements.").

143. *See* Steven L. Schwarcz, *Regulating Digital Currencies: Towards an Analytical Framework*, 102 B.U. L. Rev. (forthcoming 2022), https://ssrn.com/abstract=3775136 (recommending a way for global stablecoins to be supervised and regulated).

144. Greg Thomson, *US Fed: CBDC a 'Very High Priority' to Combat Bad Private Sector Money*, Cointelegraph (Jan. 15, 2021), https://cointelegraph.com/news/us-fed-cbdc-a-very-high-priority-to-combat-bad-private-sector-money.

tem."[145] Fed Governor Lael Brainard has indicated that the Fed has experimented with SDCs, despite the relative quiet about the project.[146] According to MIT's Digital Currency Initiative, the team at MIT has been working with the Federal Reserve Bank of Boston since 2016 to develop a hypothetical SDC, emphasizing that they are starting with a "clean slate" and are "not tied to any particular technology or approach."[147]

Proponents of an SDC answer the question posed by former Fed Governor Quarles, "What problem do SDCs solve?" with the following.[148] First, there are higher costs to managing physical money, thus using technology that is solely digital can reduce costs and fees.[149] Second, having an SDC which can be safely and easily accessed on a phone or computer could bring in customers and users who do not have a bank account, assuming they have a smartphone.[150] Third, financial crime can be more easily detected due to increased levels of transparency.[151] Fourth, in some countries, consumers have shifted away from using physical cash. SDCs, being purely digital, can act as an alternative.[152] Fifth, there is the concern that large tech companies' involvement in payment systems represent a

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145. Benjamin Pirus, *CBDCs Won't Entirely Replace Cash if the US Fed Gets Its Way*, COINTELEGRAPH (Mar. 18, 2021), https://cointelegraph.com/news/cbdcs-won-t-entirely-replace-cash-if-the-us-fed-gets-its-way.

146. *See* Joshua Stoner, *U.S. Federal Reserve to Collaborate with MIT in Development of CBDC (Digital Dollar)*, SECURITIES.IO (Aug. 15, 2020), https://www.securities.io/federal-reserve-developing-cbdc-digital-dollar/.

147. *Building a Hypothetical Central Bank Digital Currency*, MIT DIGIT. CURRENCY INITIATIVE, https://dci.mit.edu/building-a-hypothetical-cbdc (last visited Jan. 30, 2022).

148. Quarles, *supra* note 1.

149. *See Building a Hypothetical Central Bank Digital Currency*, *supra* note 147.

150. Approximately 63.7% of unbanked households have smartphones whereas 86.6% of banked households have smartphones. Jesse Leigh Maniff, *Inclusion by Design: Crafting a Central Bank Digital Currency to Reach All Americans*, FED. RSRV. BANK OF KAN. CITY (Dec. 2, 2020), https://www.kansascityfed.org/documents/7583/psrb20maniff1202.pdf.

151. *See* Joe Robinson, *Commentary: Central Banks Are Pondering the Privacy/Transparency Balance of CBDCs*, DIGIT. TRANSACTIONS (Apr. 8, 2021), https://www.digitaltransactions.net/commentary-central-banks-are-pondering-the-privacy-transparency-balance-of-cbdcs/.

152. *See World's Central Banks Moving Toward Digital Currencies*, PYMNTS (Feb. 12, 2021), https://www.pymnts.com/cryptocurrency/2021/worlds-central-banks-moving-toward-digital-currencies/.

threat to a central bank's ability to implement monetary policy.[153]

However, opponents of the issuance of an SDC indicate that the Fed has already begun to improve their payment systems with the development of new methods such as the "'FedNow' initiative" and that SDCs present certain unanticipated risks.[154]

According to the BIS, 86% of central banks were exploring SDCs in 2020.[155] China began exploring its own SDC in 2014 after noting the risks that cryptocurrencies presented: capital leaving the country, tax evasion, financial instability due to fluctuating prices, and the reduced ability for the government to implement monetary policy.[156] The People's Bank of China (PBOC) launched its SDC—the DC/EP (or digital yuan)—for trial use in four cities in 2020.[157] Since that time there have been approximately $5 billion in digital yuan transactions through 20 million wallets.[158] The European Central Bank (ECB), which represents the Eurozone (the monetary union of 19 countries) and which issues and maintains the euro,[159] launched an investigation into the potential creation of a digital euro in October 2021 which is anticipated to take two years to complete.[160] The first phase of this launch would

153. *See* Tobias Adrian & Tommaso Mancini-Griffoli, *Central Bank Digital Currencies: 4 Questions and Answers*, IMF BLOG (Dec. 12, 2019), https://blogs.imf.org/2019/12/12/central-bank-digital-currencies-4-questions-and-answers/. This is the oft cited reason for China's fast implementation of a test SDC.

154. *See id.* For a discussion of these risks, see *infra* Part IV.

155. *See* Boar & Wehrli, *supra* note 4, at 3.

156. *See* Martin Chorzempa, *China, the United States, and Central Bank Digital Currencies: How Important Is It to Be First?*, 14 CHINA ECON. J. 102, 104 (2021).

157. *See id.* at 105.

158. *See* Charlotte Hu, *What Exactly Is a Digital Dollar, and How Would It Work?*, POPULAR SCI. (Sep. 7, 2021), https://www.popsci.com/technology/central-bank-digital-currencies-explained/ ("Since [the rollout of the digital yuan in 2020], more than 20 million digital yuan wallets were created, fielding over £3.6 billion in CBDC transactions.").

159. *See About*, EUR. CENT. BANK, https://www.ecb.europa.eu/ecb/html/index.en.html (last visited Jan. 30, 2022).

160. *See A Digital Euro*, EUR. CENT. BANK, https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html (last visited Jan. 30, 2022). The consultation resulted in more than 8,000 replies (a record high). Fabio Panetta, Member of the Exec. Bd. of the Eur. Cent. Bank, A Digital Euro to Meet the

involve designing and testing the digital euro, but the actual issuance would not take place for several years thereafter.[161]

In the United States, the issuance of any SDC is not a straightforward proposition. Fed Governor Brainard has indicated that it would be important to examine how the Federal Reserve Act's provisions on "currency issuance [would] apply to the [SDC]."[162] Former Fed Governor Quarles is also skeptical that the Fed could expand the electronic dollar provision without legislation.[163] There is no law in the United States that authorizes the issuance of digital currency by central banks.[164] While central banks can issue banknotes, bills, and book money, they generally do not have the express authorization to issue an SDC.[165] However, the lack of an express statutory authority is not necessarily dispositive. For example, the legal authority relied upon by the Fed for its central bank swap lines rests upon a combination of statutory authorities rather than direct congressional authorization.[166] However, Fed Chair Powell has indicated that the Fed will not issue an SDC without Congressional authorization.[167] Those opposed to the adoption of an SDC point to the myriad of legal issues concerning SDCs that must be addressed.[168] As further discussed in Sec-

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Expectations of Europeans: Introductory Remarks (Apr. 14, 2021), https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210414_1~e76b855b5c.en.html.

161. *See* Panetta, *supra* note 160.

162. Lael Brainard, Member of the Bd. of Governors of the Fed. Rsrv. Sys., The Digitization of Payments and Currency: Some Issues for Consideration 12 (Feb. 5, 2020), https://www.federalreserve.gov/newsevents/speech/files/brainard20200205a.pdf.

163. *See* Quarles, *supra* note 1.

164. Paige Pidano Paridon, *Legal Authority to Issue a U.S. Central Bank Digital Currency*, BANK POL'Y INST. (June 9, 2021), https://bpi.com/legal-authority-to-issue-a-u-s-central-bank-digital-currency/; *see also* Wouter Bossu et al., *Legal Aspects of Central Bank Digital Currency: Central Bank and Monetary Law Considerations* (Int'l Monetary Fund, Working Paper No. 2020/254, 2020), https://www.imf.org/en/Publications/WP/Issues/2020/11/20/Legal-Aspects-of-Central-Bank-Digital-Currency-Central-Bank-and-Monetary-Law-Considerations-49827.

165. *See* Bossu et al., *supra* note 164, at 16.

166. *See* Colleen Baker, *The Federal Reserve's Use of International Swap Lines*, 55 ARIZ. L. REV. 603, 610 (2013).

167. *See* Jeff Cox, *Wall Street Banks Brace for Digital Dollars as the Next Big Disruptive Force*, CNBC (Apr. 21, 2021), https://www.cnbc.com/2021/04/19/central-bank-digital-currency-is-the-next-major-financial-disruptor.html.

168. *See, e.g.*, Berentsen & Schär, *supra* note 59.

tion IV.C, one of the biggest opponents is the banking industry, which is concerned about disintermediation. SDCs can take any number of forms, but the two discussed here are the fiat central bank digital currency (CBDC) and the synthetic CBDC (sCBDC).

1. *Fiat CBDC*

A fiat CBDC refers to the potential for the United States to issue its own SDC as a digital form of its fiat currency.[169] Using the definition provided by an IMF 2020 Working Paper on CBDCs, a "CBDC [is] a digital representation of a sovereign currency issued by and as a liability of a jurisdiction's central bank or other monetary authority."[170] The Fed is in the exploratory phase regarding the issuance of a CBDC. In 2021, the Federal Reserve released a FEDS Notes bulletin detailing five preconditions needed for any type of CBDC.[171] Essentially, before issuing a CBDC, there must be clear policy objectives, noting that most interests center around addressing specific present-day challenges or exploring future capabilities.[172] For example, the paper highlights the inefficiencies of the current payment market in light of COVID-19, such as the slow and inconsistent distribution of stimulus funds, and how CBDC could compliment or help solve these types of issues.[173] The goal is that the objectives should align with the Fed's aim of safety, efficiency, and monetary stability.[174]

Only recently, the Fed released a comprehensive discussion paper on the topic.[175] Hence, the design and operational

169. *See Central Bank Digital Currency Tracker*, ATLANTIC COUNCIL, https://www.atlanticcouncil.org/blogs/econographics/the-rise-of-central-bank-digital-currencies/ (last visited Jan. 30, 2022).

170. John Kiff et al., *A Survey of Research on Retail Central Bank Digital Currency* 9 (Int'l Monetary Fund, Working Paper No. 20/104, 2020), https://www.imf.org/en/Publications/WP/Issues/2020/06/26/A-Survey-of-Research-on-Retail-Central-Bank-Digital-Currency-49517.

171. *See* Jess Cheng, Angela N. Lawson & Paul Wong, *Preconditions for a General-Purpose Central Bank Digital Currency*, FED. RSRV.: FEDS NOTES (Feb. 24, 2021), https://www.federalreserve.gov/econres/notes/feds-notes/preconditions-for-a-general-purpose-central-bank-digital-currency-20210224.htm.

172. *See id.*

173. *See id.*

174. *See id.*

175. *See* BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 9.

features of a Fed-issued CBDC, were one to be issued, are unknown. Crawford, Menand, and Ricks comment that:

> Most proposals portray CBDC as a sort of disembodied physical currency—a digital "token" that retains physical currency's properties of anonymity and direct peer-to-peer transfer. These proposals typically envision a closed system of digital "wallets" that is segregated from the existing system of money and payments and based on distributed ledger technology . . . .[176]

Yet they question whether central banks would want to promote fully anonymous digital tokens that could be used to facilitate illicit activity or to use a segregated payment system.[177] Fed researchers have presented preconditions for[178] and a case against[179] a central bank cryptocurrency. There is no current official push for a specific blueprint for a Fed-issued CBDC at this time.[180] An almost unlimited number of

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176. John Crawford, Lev Menand & Morgan Ricks, *FedAccounts: Digital Dollars*, 89 GEO. WASH. L. REV. 113, 117–18 (2021) (footnote omitted).

177. *See id.* at 118.

178. *See* Cheng, Lawson & Wong, *supra* note 171.

179. *See* Berentsen & Schär, *supra* note 59.

180. However, as discussed *infra*, it is unlikely that the U.S. government could develop and issue its own CBDC. The age of the computer systems used by the federal government and the lack of technological expertise could make any transition to a CBDC very difficult, time-consuming, and expensive. Some of these systems are over 50 years old. Others run on COBOL which is no longer even taught at universities. Not only is this inefficient, it also makes the data stored on these systems incredibly insecure. *See* AJ Dellinger, *The U.S. Government Spends Hundreds of Millions of Your Tax Dollars on Outdated Tech*, MIC (June 17, 2019), https://www.mic.com/impact/out-of-date-computer-systems-cost-the-us-government-over-300-million-per-year-to-maintain-18007754. Lack of skilled workers and tight budgets are preventing the modernization of technology in the federal government. Angus Loten, *Federal IT Experts Cite Host of Roadblocks to Tech Modernization*, WALL ST. J. (Apr. 27, 2021), https://www.wsj.com/articles/federal-it-experts-cite-host-of-roadblocks-to-tech-modernization-11619561479; *see also* Avi Selk, *'There's so Many Different Things!': How Technology Baffled an Elderly Congress in 2018*, WASH. POST (Jan. 2, 2019), https://www.washingtonpost.com/lifestyle/style/theres-so-many-different-things-how-technology-baffled-an-elderly-congress-in-2018/2019/01/02/f583f368-ffe0-11e8-83c0-b06139e540e5_story.html; Max de Haldevang, *The US Desperately Needs Tech-Savvy Lawmakers but the Midterms Are Unlikely to Deliver*, QUARTZ (Nov. 4, 2018), https://qz.com/1449521/us-needs-tech-savvy-lawmakers-midterms-unlikely-to-deliver/.

design choices with different costs, benefits, and policy implications are theoretically possible.[181] Some of these design features are discussed *infra* Part III.

2. *Synthetic CBDC*

As envisioned by Adrian and Mancini-Griffoli of the IMF, an sCBDC is a stablecoin created by a private entity, but backed by a central bank.[182] An sCBDC is considered an alternative to the CBDC described in the previous subsection in that instead of the Fed issuing its own CBDC, a stablecoin issued by a private entity could be designated legal tender with the Fed holding reserves for the issuing private entity.[183] Currently, only commercial banks, and a limited number of additional institutions such as certain clearinghouses (financial market infrastructures),[184] can have accounts and access to services at the Fed. Although not currently permitted by law, widespread access to Fed accounts has long been theoretically and technically possible. As discussed in Part III, an SDC could be provided in account or token form and on a wholesale or retail basis. Hence, debate about a Fed SDC ultimately encompasses both the potential expansion of the existing digital money provision via Fed accounts to certain counterparties (primarily banks) to additional counterparties and also the potential issuance of the U.S. dollar in a digital token form.

The distribution of the sCBDC could be provided by the private entity or through commercial banks and/or non-bank financial institutions (NBFIs).[185] If the sCBDC is issued by a

181. Design choices would be based on the policy objectives of the Fed as well as the technology, time, and cost of such implementation.

182. *See* Tobias Adrian & Tommaso Mancini-Griffoli, *The Rise of Digital Money*, INT'L MONETARY FUND: FINTECH NOTES, July 2019, at 14–15. The sCBDC is also known as an "indirect CBDC."

183. *See id.* (explaining how e-Money could serve as an sCBDC). Some refer to an sCBDC as a Private DC-CB. *See* EZECHIEL COPIC, SHAPING THE FUTURE OF DIGITAL CURRENCIES, CLABS, INC. (2021), https://celo.org/papers/future-of-digital-currencies.

184. *See generally* Baker, *supra* note 46 (explaining Dodd–Frank's Title VIII, which grants the Federal Reserve authority to issue accounts and services to clearinghouses that are designated as systemically important by the Financial Stability Oversight Council).

185. There are several issues with the sCBDC, including potential antitrust issues and interoperability. Marianne Ojo Delaney, *Balancing Public–Private Partnerships in a Digital Age: CBDCs, Central Banks and Technology Firms*, CISD

private entity but is to be backed by an account at the central bank, the private entity would need to follow strict guidelines to protect the reserve accounts from the issuer's creditors or bankruptcy.[186] An sCBDC would be an indirect form of SDC discussed *infra* Section III.A. The sCBDC would be a claim on the private entity who, like banks, would be legally required to perform certain background checks on potential customers, referred to as "know your customer" (KYC) requirements,[187] and to assist with government anti-money laundering (AML)/ combating of financing terrorism (CFT) efforts.[188]

One of the advantages of the sCBDC is that the Fed could avoid the incredible development costs and the time involved with creating an entirely new banking system.[189] This also permits the Fed to focus on its core purposes such as financial stability, leaving innovation and technology to the private sector which has a much better track record in this area honoring each's comparative advantage.[190] In the sCBDC scenario, such as the one offered by Adrian and Mancini-Griffoli, the central bank would simply offer settlement services to the private sCBDC providers, leaving the retail side to these private enti-

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ECON. REV., May 2021, at 6, https://ssrn.com/abstract=3821789. This would require a uniform token standard. If the token is built on the Ethereum blockchain, for example, it could only be held in an Ethereum-enabled wallet. This could be an even more complicated issue if, as EU scholars suggest, there were multiple issuers of sCBDCs to address diverse needs. ALEXANDER BECHTEL ET AL., THE FUTURE OF PAYMENTS IN A DLT-BASED EUROPEAN ECONOMY: A ROADMAP 3 (2020), https://www.blockchain4europe.eu/wp-content/uploads/2020/12/BC4EU-The-Future-of-Payments-in-a-DLT-based-European-Economy-A-Roadmap_v5.1.pdf.

186. *See* Kiff et al., *supra* note 170, at 25. Although not considered an sCBDC, the PBOC requires both Alipay and WeChat Pay to maintain reserves at the central bank. *See* Adrian & Mancini-Griffoli, *supra* note 182, at 12.

187. *See* Dan Ryan, *FinCEN: Know Your Customer Requirements*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Feb. 7, 2016), https://corpgov.law.harvard.edu/2016/02/07/fincen-know-your-customer-requirements/.

188. *See generally* Colleen Baker, *Entrepreneurial Regulatory Legal Strategy: The Case of Cannabis*, 57 AM. BUS. L. J. 913, 922 (2020) (discussing anti-money laundering laws in the banking context).

189. See discussion *supra* notes 162–68 and accompanying text regarding the federal government's ability to create an SDC.

190. "The responsibilities [of the private sector] include technology choice, data management, and regulatory compliance as well as customer onboarding, management, screening, and monitoring (including KYC and AML/CFT)." BECHTEL ET AL., *supra* note 185, at 14.

ties (and/or banks and NBFIs), such as KYC, AML, and CFT obligations.[191] A report on sCBDCs prepared by the Policy Department for Economic, Scientific and Quality of Life Policies Directorate-General for Internal Policies for the European Parliament's Committee on Economic and Monetary Affairs describes three advantages to the sCBDC.[192] These include (i) lower initial and maintenance costs, (ii) the ability to regulate private tech companies, and (iii) decreased reputational risk for central banks.[193] Some of the issues involved with a private entity creating an sCBDC are discussed *infra* Part IV. The following Part discusses some of the major design decisions which the Fed would need to make with respect to a potential SDC.

III.
Design Issues with SDCs

As previous articles have discussed, there are many design considerations for an SDC. Some of these decisions will depend on policy objectives, while others will be limited by former design decisions and current technology. Due to the complexity of these decisions, despite the efforts of other researchers, it is difficult to do a one-to-one comparison between types of SDCs.[194] We will focus on the two most significant decisions: how they interact with one another and how they impact the risks involved in issuing an SDC. The first design decision involves whether and how the central bank would interact with the public: directly or indirectly (one-tier system vs. two-tier system). The second design decision is whether the SDC would be account- or token-based. We will also endeavor to clear up some of the inconsistent terminology used in prior literature that also makes comparisons among the different forms and designs of SDCs difficult.

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191. *See* Adrian & Mancini-Griffoli, *supra* note 182, at 14.

192. *See* Alexander Kriwoluzky & Chi Hyun Kim, *Public or Private? The Future of Money*, Monetary Dialogue Papers 18 (Dec. 2019), https://www.europarl.europa.eu/cmsdata/207653/13.%20PE%20642.356%20DIW%20final%20publication-original.pdf.

193. *See id.*

194. We also do not include "hybrid systems" as a distinct category due to the unlimited combinations that could comprise such a system.

A. *Direct or Indirect Relationship*

Currently, individuals and businesses (the "customers") keep their accounts at commercial banks. These commercial banks have accounts at the Fed.[195] This is known as a two-tier system. A direct relationship between the central bank and customers would be considered a one-tier system. While some refer to the one-tier vs. two-tier system decision as an "architecture decision" others refer to it as an "access decision."[196] To avoid this confusion, we will just refer to this system design choice as "direct or indirect relationship."

With a direct *one-tier system*,[197] the customers would access the SDC either by holding accounts at the central bank (account-based) or through a wallet provided by the Fed on a computer or, more likely, a mobile device (token-based). The choice between an account-based system and a token-based system is discussed in the next section. A one-tier SDC system would be the most expensive and time-consuming choice for the Fed. It would also upend the current regulatory scheme of the banking system, which relies heavily on commercial banks' relationships with their customers to carry out the legal requirements under the BSA.[198] Fed Governor Brainard has warned that the issuance of a "digital currency directly to con-

195. Note that there are also some NBFIs with accounts at the central bank, but for the most part we will use the term commercial banks for ease of reading.

196. Note that many papers conflict with one another in their use of the terms architecture, infrastructure, and access. *Compare* Raphael Auer & Rainer Böhme, *The Technology of Retail Central Bank Digital Currency*, BIS Q. REV., 2020, at 85 (describing the architecture as whether it is a direct or indirect system, infrastructure as whether it is conventional or DLT-based, and access as to whether it is account- or token-based), *with* Kiff et al., *supra* note 170, at 21 (describing the architecture as to whether it is a centralized, decentralized, or hybrid system, infrastructure as to whether it would involve on-premise servers or a cloud-based system, and access as to whom would be able to access the central bank reserves).

197. Numerous labels have been given this arrangement: one-tier CBDC, general purpose CBDC, and direct CBDC. We will refer to direct access of the public to CBDC as direct or one-tier CBDC.

198. *See Bank Secrecy Act*, OFF. OF THE COMPTROLLER OF CURRENCY, https://www.ots.treas.gov/topics/supervision-and-examination/bsa/index-bsa.html (last visited Feb. 25, 2022).

sumer accounts for general-purpose use would raise profound legal, policy, and operational questions."[199]

An indirect *two-tier system*[200] most closely aligns with the current banking system. Only commercial banks or authorized NBFIs would have accounts at the central bank and the customers would access the SDC through the commercial banking system. With the two-tier system, the commercial banks and/or NBFIs would handle payments and regulatory requirements, such as KYC and AML/CFT.[201]

199. Lael Brainard, Member of the Bd. of Governors of the Fed. Rsrv. Sys., Update on Digital Currencies, Stablecoins, and the Challenges Ahead 8 (Dec. 18, 2019), https://www.federalreserve.gov/newsevents/speech/files/brainard20191218a.pdf.

200. This two-tier system is also known as the indirect or intermediary system.

201. China plans on using the two-tier model, distributing the CBDC to commercial banks and non-bank financial institutions (which would include WeChat and Alipay). The PBOC would manage the back-end creation of the CBDC (DC/EP). Commercial banks would serve as CBDC exchange services and users would hold their digital yuan in digital wallets provided by financial firms. *See* YAYA J. FANUSIE & EMILY JIN, CTR. FOR A NEW AM. SEC., CHINA'S DIGITAL CURRENCY: ADDING FINANCIAL DATA TO DIGITAL AUTHORITARIANISM 8 (2021), https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNAS-Report-Chinas-Digital-Currency-Jan-2021-final.pdf?mtime=20210125173901&focal=none.

TABLE 1: DIFFERENCES BETWEEN A ONE-TIER AND TWO-TIER CBDC SYSTEM

	One-Tier System	**Two-Tier System**
What is the relationship between the central bank and banking customers?	Direct	Indirect
How is the SDC issued to customers?	Central bank issues SDC to customers	Central bank issues SDC to commercial banks or NBFIs who then distribute the SDC to their customers
Who do customers have claim on?	Customers have a claim on the central bank	Customers have a claim on the commercial banks or NBFIs
Who conducts retail services for customers?	Central bank conducts retail banking services & AML/KYC	Commercial banks or NBFIs conducts retail banking services & AML/KYC
What form does the CBDC take?	Account or Token	Account or Token

An sCBDC would also be configured as an indirect two-tier system with the customer having an indirect relationship with the central bank and the sCBDC issued by the private stablecoin issuer.[202] The customers would have a claim on the private issuer, but it would be backed by the central bank. Retail services would be conducted by the private issuer, commercial banks, and/or NBFIs.

202. Note that it is also possible that the private stablecoin issuer could distribute the sCBDC directly to customers, it could also provide the sCBDC to commercial banks and/or NBFIs.

B. *Token- or Account-Based*

The second decision involves the form of the SDC itself. The two main options are a token or an account.[203]

1. *Token-Based*

A token-based SDC is a digital form of currency. The token would be created using DLT, such as blockchain. The primary analogy as to how a token-based system would work is the current use of a physical currency. When a purchaser provides a dollar bill to a merchant, the merchant only needs to confirm that the dollar bill is not a counterfeit.[204] The merchant does not verify who the purchaser is or where the dollar bill originated. Similarly, in a token-based SDC system, it is the token itself that is validated as authentic.[205] Although a token-based SDC might seem like a cryptocurrency, these SDCs would be the liability of the central bank, while cryptocurrencies are not backed by either central banks or other assets.[206] The tokens would not be held at the central bank, but rather accessed on the DLT through the customer's wallet.

In a *one-tier token-based* system, the SDC would be created and issued by the Fed directly to a customer's wallet. The customer would store the SDC in its wallet and transactions would occur wallet-to-wallet (or P2P). In a *two-tier token-based* system, the SDC would be created and issued by the Fed to be distributed by commercial banks or NBFIs. The commercial banks or NBFIs would then transfer the tokens to the customer's wallet

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203. With respect to a hybrid option, see *supra* note 194. *Digitizing the Dollar: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021) [hereinafter *Digitizing the Dollar*] (statement of Dr. Neha Narula, Director of the Digital Currency Initiative, MIT Media Lab) (speaking in support of a hybrid system for a proposed SDC in which institutions outside of commercial banks are allowed to provide users with digital wallets and other applications), https://financialservices.house.gov/events/eventsingle.aspx?EventID=407953#LiveStream.

204. *See* Rod Garratt et. al, *Token- or Account-Based? A Digital Currency Can Be Both*, FED. RSRV. BANK OF N.Y.: LIBERTY ST. ECON. (Aug. 12, 2020), https://libertystreeteconomics.newyorkfed.org/2020/08/token-or-account-based-a-digital-currency-can-be-both.html.

205. For discussion of the validation process, see *infra* Section III.C.

206. Stablecoins are backed by assets, see G7 REPORT ON STABLECOINS, *supra* note 110, and an sCBDC is ultimately backed by a central bank, see Adrian & Mancini-Griffoli, *supra* note 182.

who could then transfer the tokens wallet-to-wallet (or P2P). An sCBDC would be a two-tier token-based system.

2. *Account-Based*

In an account-based system, the central bank itself would hold accounts on behalf of the customers (rather than just holding the accounts of commercial banks). The primary analogy as to how an account-based system would function is the current use of a bank account. When a customer desires to use a bank card at a merchant, the merchant must verify that the card holder is the owner of the bank account associated with it. Likewise, with an account-based SDC system, it is the account holder that must be verified through identification. In another example, Fedwire Funds acts as an account-based system.[207] When one party initiates a transfer to another party, the Fedwire Funds Service must authenticate the initiator's identity in order to prevent fraud.[208]

In a *one-tier account-based* system, the SDC would be recorded in the customer's account at the Fed and transfers would occur through updating the Fed's account register (or ledger).[209] In terms of who would conduct retail banking services and AML/KYC, although some have suggested it would be the Fed,[210] it is more likely that these duties would be outsourced to commercial banks and NBFIs.[211] This would still be considered a one-tier system as the SDC would be held in accounts at the central bank, not at the commercial bank or

207. *See* PURPOSES & FUNCTIONS, *supra* note 47, at 131.

208. Bank deposits are another type of account-based system. *See id.*

209. Some papers hesitate to use the term ledger for account-based systems for fear that it would be confused with blockchain or DTL ledgers. A ledger is simply a running account of transactions.

210. *See, e.g.*, Charles Kahn, Francisco Rivadeneyra & Tsz-Nga Wong, *Should the Central Bank Issue E-Money?* (Fed. Rsrv. Bank of St. Louis, Working Paper No. 2019-003A, 2019), https://s3.amazonaws.com/real.stlouisfed.org/wp/2019/2019-003.pdf.

211. Megan Greene, *Central Banks Need to Go Slow on Digital Currencies*, FIN. TIMES (Aug. 26, 2021), https://www.ft.com/content/21e3affe-8c57-4bac-b9c5-21b645e93d7c ("[A direct CBDC] would also require a central bank to take on new operational tasks such as credit risk and know your customer (KYC) analysis. More likely, a system would have to be designed so that customers will hold CBDC accounts at a bank or other intermediary, which will provide the services.").

NBFI.[212] In a *two-tier account-based* system, the SDC would be recorded in the customer's account at the commercial bank or NBFI and transfers would occur through updating the commercial bank or NBFI's account register (or ledger). The commercial bank's or NBFI's accounts are then updated at the central bank. The commercial bank or NBFI would conduct retail banking services and AML/KYC.

Regardless of whether the system is a one-tier or two-tier design, the decision between a token-based system and account-based system is not only drastically different from a technology standpoint, but it also impacts the risks associated with various SDC systems. One of the biggest differences between these two forms relates to individual privacy. In an account-based system, there is a lower degree of privacy as the identity of the user must be verified.[213] In a token-based system, it is the transaction itself that is validated in the sense that, because it is a data file on a DLT, the validator must assure that the token itself is authentic.[214] The user's identity is not required.[215]

212. *See* Saule T. Omarova, *The People's Ledger: How to Democratize Money and Finance the Economy*, 74 VAND. L. REV. 1231, 1258 (2021) (describing a one-tier system in which deposit accounts are transitioned from commercial banks to the Fed).

213. *See* Kahn, Rivadeneyra & Wong, *supra* note 210, at 3 (noting that account-based systems rely on identification of the account holder for transaction validation).

214. *See* COMMITTEE ON PAYMENTS AND MARKET INFRASTRUCTURES, BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES 4 (2018).

215. Although verification and validation are often used interchangeably, verification usually relates to identity and validity to the authenticity of the token. For example, when you write a check to pay for an item, the merchant verifies that you are the owner of the account. If you pay with cash, the merchant validates the currency making sure it is not counterfeit. The merchant does not check your identity. The validation procedure for tokens is discussed *infra* Section III.C.2.

TABLE 2: DIFFERENCES BETWEEN A TOKEN-BASED AND ACCOUNT-BASED SYSTEM

	Token-Based	**Account-Based**
One-tier	Issued by central bank to customer's wallet	Customer holds an account at the central bank, updates to account are made by the central bank
Two-tier	Issued by central bank to commercial banks and NBFIs and transferred to customer's wallet by commercial banks and NBFIs	Customer holds an account at a commercial bank or NBFI, updates to customer's account are made by commercial bank or NBFI. The commercial bank or NBFI's account is then updated at the central bank.
Authentication for either one-tier or two-tier	Transaction (token) must be validated—no customer ID required	Account holder must be verified—customer ID required

C. *Technology Design Issues*

Based on previous design decisions and the Fed's objectives, there are multiple infrastructure decisions that would have to be made. Infrastructure can refer to hardware, software, storage, and access. For example, infrastructure decisions in an account-based system could include the software used to manage the updating of the account's ledger (either at the central bank level, commercial bank level, or both). It could also include the hardware and storage used (additional servers or cloud storage).[216] However, because some scholars

216. Note that other discussions of SDC infrastructure use the term to describe different aspects of an SDC design, such as one-tier or two-tier distinc-

have used the term infrastructure to describe other aspects of design issues,[217] we use the term "technology design issues."

1. *Updating the Ledger*

In general, the current financial system works with the commercial banks updating the transaction ledger. For example, in the case of clearing a check (or the more common electronic image of a check), when the transfer is between two different banks the Fed does not update a transaction ledger, although it will receive the electronic image.[218] The Fed only updates the ledger with respect to the commercial banks' accounts (debiting one bank's account and crediting the other). If the check (or electronic image of a check) is being processed from one account holder to another at a single bank, that financial institution updates the transaction ledger and maintains copies of the check.[219] Central banks do not generally collect records of retail payment transactions.[220] Commercial banks report suspicious activity under their AML/BSA obligations.[221] Balance sheet information, however, is available to banking regulators such as the Fed through the bank supervision process.[222] With a one-tier account-based system, the Fed would begin maintaining a ledger of all customer transactions presenting the privacy issues many have noted. With a two-tier account-based system, not much would be different with respect to updating transactions' ledgers from the current system.

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tion, Auer & Böhme, *supra* note 196, at 88, such as whether a DLT is centralized or decentralized, Allen et al., *supra* note 91, at 14, whether a blockchain or centralized data base should be used, *Digitizing the Dollar*, *supra* note 203, the web-portal or mobile app needed, Crawford, Menand & Ricks, *supra* note 176, at 161, or core technology, G7 REPORT ON STABLECOINS, *supra* note 110, at 3, among others.

217. *See* Kiff et al., *supra* note 170, at 13 (describing *infrastructure* as whether it would involve on-premises servers or a cloud-based system).

218. *See Check Processing*, FED. RSRV. BANK OF N.Y., https://www.newyorkfed.org/aboutthefed/fedpoint/fed03.html (last visited Jan. 30, 2022).

219. *See id.*

220. Rachael King, *The Untapped Potential of Transaction Data*, CENT. BANKING (Mar. 3, 2021), https://www.centralbanking.com/central-banks/economics/data/7804061/the-untapped-potential-of-transaction-data.

221. *See* Baker, *supra* note 188, at 924.

222. *See generally id.*

A more complex issue is presented with a token-based system. With DLT, such as blockchain, the ledger is distributed among many nodes.[223] These nodes are computers operated by validators (miners) who, through cryptography and consensus mechanisms, validate transactions that are then added to the ledger.[224] Not all distributed ledgers involve blockchain.[225] A DLT can be either centralized or decentralized.[226] A token-based SDC would most likely involve a politically centralized permissioned DLT. Politically centralized means that the Fed would set policy and rules for the system. It would also be permissioned in that only the validators approved by the Fed could validate transactions, as discussed in the next section.[227] It would not, however, be structurally centralized where only one node could add transactions to the ledger. Similarly, it would not be politically decentralized, as the Fed would not be sharing authority with respect to an SDC. It would, however, be structurally decentralized in the sense that many nodes would be needed to validate the high number of transactions.

2. *Validating Transactions*

The way that transactions are validated under the current financial system is at the commercial banking level. A number of methods are used by banks and financial institutions—the institutions primarily saddled with the risk for fraud losses—for payment authentication.[228] Payment authentication requires establishing that a party both has the right to act and determining the actions the party is allowed to take.[229] The "payment authentication issue" can be divided into three

223. *See* Yannis Bakos & Hanna Halaburda, Tradeoffs in Permissioned vs Permissionless Blockchains: Trust and Performance 2 (Nov. 30, 2021) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3789425#.

224. *Id.* at 3.

225. While many cryptocurrencies reside on blockchains, it is not a requirement. For an explanation of blockchain see Nakamoto, *supra* note 77.

226. These terms can refer to different aspects of a DLT. *See* Kevin Werbach, *Trust, But Verify: Why the Blockchain Needs the Law*, 33 BERKELEY TECH. L.J. 489, 502 (2018).

227. *See* Bakos & Halaburda, *supra* note 223, at 2–3.

228. David Lott, Improving Customer Authentication (April 2015) (unpublished manuscript), https://www.atlantafed.org/-/media/Documents/rprf/rprf_pubs/improving-customer-authentication.pdf.

229. *Id.*

phases: "1) authentication of the customer/device to access an account and the ability to perform transactions, 2) authentication of the transaction during processing, and 3) secure storage of the authentic transaction record after the transaction has been completed."[230] Authentication can occur both in person and electronically, and potential methods have evolved over time from basic visual authentication to the use of biometric data for authentication.[231]

In 2005, the Federal Financial Institutions Examination Council (FFIEC)[232] issued initial guidance on *Authentication in an Internet Banking Environment* and a *Supplement* to this document in 2011 (together, FFIEC Guidance).[233] The FFIEC Guidance provides banks with a risk management framework for such transactions, supervisors' minimum expectations, requirements for "periodic risk assessments and adjust[ments to] their control mechanisms as appropriate," and "identifies certain minimum elements that should be part of an institution's customer awareness and education program."[234] An overall theme is that banks' authentication processes in online environments should be proportional to the risks of the transactions involved and the prudent safeguarding of customer information.[235] The FFIEC Guidance states that "[s]ince virtually every authentication technique can be compromised, financial institutions should not rely solely on any single control for authorizing high risk transactions, but rather institute a system of layered security. . . ."[236]

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230. *Id.* at 3.

231. *See id.*

232. The Federal Financial Institutions Examination Council is a council of financial regulators consisting of the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, National Credit Union Administration, Office of the Comptroller of the Currency, and the Consumer Financial Protection Bureau. *See About the FFIEC*, FED. FIN. INSTS. EXAMINATION COUNCIL, https://www.ffiec.gov/about.htm (last visited Feb. 1, 2022).

233. FED. FIN. INSTS. EXAMINATION COUNCIL, AUTHENTICATION IN AN INTERNET BANKING ENVIRONMENT (2011), https://www.ffiec.gov/pdf/authentication_guidance.pdf; FED. FIN. INSTS. EXAMINATION COUNCIL, SUPPLEMENT TO AUTHENTICATION IN AN INTERNET BANKING ENVIRONMENT (2011), https://ithandbook.ffiec.gov/media/153051/04-27-12_fdic_combined_fil-6-28-11-auth.pdf [hereinafter FFIEC SUPPLEMENT].

234. FFIEC SUPPLEMENT, *supra* note 233.

235. *Id.*

236. *Id.*

As discussed in Section III.B.2 *supra*, in an account-based SDC system, it is the verification of the identity of the customer that permits the completion of a transaction. With a token-based SDC system, it is the transaction itself that must be validated. With a typical blockchain configuration, there are two main options: proof-of-work and proof-of-stake.[237] These consensus methods serve to enable what is known as a "trustless system" in the sense that two parties do not need to know each other to trust that the transaction is not fraudulent nor is an intermediary needed such as with a P2P transaction on a blockchain. It is this mechanism which has the potential to disintermediate commercial banks.[238] The possibility of a permissionless distributed blockchain as a part of an SDC is virtually zero. A permissionless distributed system would permit anyone anywhere (even in other countries) to validate U.S. banking transactions.[239] The most likely combination is centralized control/governance (in the central bank), permissioned access (validators are approved by the central bank), with a decentralized validation system (multiple nodes—those with permissioned access) spread across connected computers.

IV.
Impact of Design Choices

As much research has already disclosed, there are many legal risks and other potential issues with respect to both choosing to issue an SDC and within the choice of the SDC design itself.[240] This Part examines some of these risks, including privacy, security, and bank disintermediation.

A. *User Privacy*

Economists have argued that cash is the "classic solution to the problem of transaction privacy."[241] Cash allows for anonymous exchange. In a non-anonymous exchange, such as

237. Fahad Saleh, *Blockchain Without Waste: Proof-of-Stake*, 34 Rev. Fin. Stud. 1156, 1157 (2020). New validation and consensus mechanisms are created frequently. Thibault Schrepel, *Collusion by Blockchain And Smart Contracts*, 33 Harv. J.L. & Tech. 117, 120 (2019).

238. *See infra* Section IV.C.

239. Bakos & Halaburda, *supra* note 223, at 2 (provided the validator can "satisfy the requirements of the applicable protocol").

240. *See Central Bank Digital Currency Tracker*, *supra* note 169.

241. Kahn, McAndrews & Roberds, *supra* note 36, at 399.

with a check or credit card, information is made apparent to transacting counterparties who could make opportunistic use of such information in the future.[242] SDCs require a tradeoff to be made between privacy (to protect the user) and transparency (which would permit the government to identify money laundering or terrorist funding). Currently, user privacy is not guaranteed with respect to the banking system. The third-party doctrine established in *United States v. Miller* provides that it is not protected by the Fourth Amendment because customers voluntarily provide transaction and payee information to their banks.[243] The statutory limitation found in the Right to Financial Privacy Act simply outlines the procedures that must be followed to subpoena such records but does not shield this information from discovery.[244]

Despite worries that a token-based system would provide anonymity for users, such as with cash, it is more accurate to say that a token-based system provides more privacy than an account-based system, because the account-based system requires that customers be identified to process transactions and the token-based system does not.[245] However, because all transactions in a token-based system are recorded permanently, technically, they can be tracked. While some use pseudonyms when conducting P2P transactions using DLT, all devices that access the internet have an IP address that can be identified using various methods, including with a subpoena to the internet service provider.[246]

The main privacy concern with a direct one-tier system is that the central bank will maintain a ledger of all transactions. In addition to knowing your identity (in an account-based system), the central bank would have a record of each transaction (in either the account-based or token-based system), allowing central banks to know what you buy, where you buy it,

242. *Id.* at 378.

243. United States v. Miller, 425 U.S. 435, 444 (1976).

244. 12 U.S.C. §§ 3401–3423.

245. *See supra* Section III.B.

246. Note that it is beyond the scope of this paper to discuss virtual private networks and TOR (browser that enables anonymous browsing) and their use to avoid identification. For an explanation on how this can be accomplished and why it is not so easy, see Siddharth Arora, Anupama Pankaj & Prasenjit Banerjee, *Anonymity and Anonymous Connections Using TOR*, 3 INT'L J. ADVANCED STUD. SCI. RSCH. 165 (2018).

and from whom you bought it.[247] This could potentially violate a user's privacy rights, permit sharing information that was obtained without a warrant with other agencies (such as the IRS or ICE), and would seem to be unwarranted surveillance.[248] With a user's purchase information, the government could track a user's every expenditure, including political activity, which could be problematic if central bank policymakers had a different or opposing political ideology.[249] Overall, one of the biggest privacy concerns is that central banks would have a newfound ability to control, store, and track a citizen's information.[250]

One additional concern relates to the potential for foreign citizens located in the United States using their own country's SDC. The extent of the foreign government's access to this transaction information would be unknown.[251] Because of the large number of transactions between U.S. citizens and Chinese citizens, for example, it is possible that the use of China's SDC in the United States would provide the Chinese government access to real time data on these transfers.[252] As such, it is important that governments and private tech companies assess whether another country's SDC system should be blocked for use within their countries or if there is another alternative to protect U.S. citizen data.[253] If physical cash is still available, and the government does not adequately address the privacy issues involved with using an SDC, people might not widely adopt the SDC and stick to cash transactions due to a lack of trust. Were this to be the case, an SDC could have the unintended effect of creating a pricing disparity between physical cash and a token-based SDC. Some might see cash as more valuable than an equivalent amount of SDC because of its anonymity and be willing to pay more for it. This could be problematic as a central bank would need to be "willing to buy and

247. Vincent Tabora, *Two Sides to Central Bank Digital Currency (CBDC)*, MEDIUM (Mar. 29, 2020), https://medium.datadriveninvestor.com/two-sides-to-central-bank-digital-currency-cbdc-38035036c013.

248. *Id.*

249. *Id.*

250. Alyssa Hertig, *What is a CBDC?*, COINDESK (Dec. 4, 2020), https://www.coindesk.com/what-is-a-cbdc.

251. *Id.*

252. *Id.*

253. *Id.*

sell any number of these tokens at par."[254] Relatedly, if the privacy protections of one SDC were less than those provided by that of another SDC, this difference could increase the attractiveness of the latter and have competitive consequences.

A possible solution to addressing one aspect of the privacy issue would be for the Fed to provide "controllable anonymity," where users' transactions would be private to each other, but would still be visible to the central bank.[255] In the European Union, which has robust privacy protections, another possible solution would be to adopt the ECB proposed "anonymity voucher" which would allow users to conduct transactions up to a certain monetary amount that would not be viewable by the central bank or other intermediaries.[256] An alternative option is the use of privacy-enhancing technologies which limit access to transaction data either through segregating, hiding, or unlinking the data—or a combination thereof.[257] An additional option proposed by Goodell, Al-Nakib, and Tasca of the Centre for Blockchain Technologies at the University College London would be to incorporate non-custodial wallets that rely on a privacy enhancing technology such as blind signatures or zero-knowledge proofs.[258]

With the involvement of a private partner in the creation of an SDC or sCBDC, there is the added risk of the potential of the private firm to monetize data collected.[259] For example, PayPal requires its users to provide personal information such as names, addresses, phone numbers, emails, and bank infor-

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254. Berentsen & Schär, *supra* note 59, at 103.

255. *See Digital Yuan: What Is it and How Does it Work?*, DEUTSCHE BANK (July 14, 2021), https://www.db.com/news/detail/20210714-digital-yuan-what-is-it-and-how-does-it-work (discussing the concept of "controllable anonymity").

256. EUROPEAN CENT. BANK, EXPLORING ANONYMITY IN CENTRAL BANK DIGITAL CURRENCIES 6 (Dec. 2019).

257. *See* BANK OF JAPAN & EUROPEAN CENT. BANK, BALANCING CONFIDENTIALITY AND AUDITABILITY IN A DISTRIBUTED LEDGER ENVIRONMENT 5–14 (Feb. 12, 2020).

258. Geoffrey Goodell et al., *A Digital Currency Architecture for Privacy and Owner-Custodianship*, FUTURE INTERNET, May 14, 2021, at 1.

259. *See* Danielle Keats Citron & Daniel J. Solove, *Privacy Harms*, 102 B.U. L. Rev. (forthcoming 2022), https://ssrn.com/abstract=3782222 (explaining privacy harms resulting from the lack of privacy regulation in the United States).

mation in order to use its services.[260] Further, other personal information that may be collected just by using PayPal includes a user's social security number, financial information, personal characteristics (age, national origin, disability, etc.), purchase and shopping history, GPS information and IP location, voice identification (when used as a biometric authentication), tax IDs, and many more.[261]

Although PayPal's privacy policy states that they do not sell personal data, they do admit that such information may be shared across their services and with other members of the corporate family.[262] Categories included in this list are service providers, financial institutions, collection agencies, governments, and any other third parties required to comply with laws, investigate violations, and prevent physical harm or illegal activity.[263] In 2018, PayPal shared a list of over 600 third parties that a user's information may be shared with.[264] This list includes tech giants like Google, Facebook, and Twitter.[265] Relatedly, responsibility for privacy breaches would need to be addressed as well.

Finally, attention should also be given to the purposes for which the government intends to use data collected by either the central bank (one-tier) or commercial banks (two-tier) relating to SDC transactions. For example, in addition to being used to combat money laundering, tax evasion, and terrorist financing, data collected by the U.S. government could enable it to block a user from making any transactions if it desired to

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260. *What Information is Required to Open a Personal PayPal Account?*, https://www.paypal.com/us/smarthelp/article/what-information-is-required-to-open-a-personal-paypal-account-faq2080 (last visited on Feb. 1, 2022).

261. *PayPal Privacy Statement*, https://www.paypal.com/us/webapps/mpp/ua/privacy-full (last visited on Feb. 1, 2022).

262. *Id.*

263. *Id.*

264. *The 600+ Companies PayPal Shares Your Data With*, SCHNEIER ON SEC. (Mar. 14, 2018), https://www.schneier.com/blog/archives/2018/03/the_600_compani.html; *see also List of Third Parties (Other than PayPal Customers) with Whom Personal Information May be Shared*, https://www.paypal.com/ie/webapps/mpp/ua/third-parties-list (last visited on Feb. 2, 2022) (revealing the list of third-party entities with whom PayPal shares your data as of January 1, 2022).

265. Sara Harrison, *How Private Is My Pay App?*, CNN (Nov. 12, 2020), https://www.cnn.com/2020/11/12/cnn-underscored/payment-app-privacy.

do so, allowing the SDC to be a "financial watchdog" tool.[266] This is of particular concern in the United States as the main privacy protection statute with respect to the government's use of citizen data, the Privacy Act of 1974, was enacted well before the public use of the internet and does not provide the protection anticipated at that time by those who wrote it.[267] In addition, the lack of omnibus privacy protection for U.S. citizens with respect to data collected by private entities is also a concern. If a two-tier system involved private payment processors, an sCBDC, or private contractors who work on behalf of the Fed in the running of the SDC system, there is a real risk in such data being shared and sold, resulting in real life harms.[268] As such, privacy law must be updated prior to the issuance of any type of SDC.

Another serious related risk is that with the potential use of smart contracts in a token-based system; payments, payors, or payees could be blocked, transactions could be invalidated, or payments could be reversed, all of which do not generally occur in the current cryptocurrency realm where transactions recorded on the ledger are immutable.[269] Programmable money, as could be created with smart contracts embedded in an SDC or the DLT on which it operates in a token-based system, could be used to boost the economy by setting expiration dates. Unless spent by a date determined by the government, the SDC would be no longer useable, in other words, kept in a "savings account."[270] Another use of programmable SDCs with an expiration date is that users could be required to pay a fee to extend the date (an effective demurrage cost).[271]

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266. Will Bartlett, *CBDCs and Privacy Concerns*, TIMESTAMP MAG. (Dec. 9, 2020), https://timestampmag.com/2020/12/09/cbdcs-and-privacy-concerns/.

267. *See* S. Rep. No. 93-1183 (1974), *reprinted in* LEGISLATIVE HISTORY OF THE PRIVACY ACT OF 1974, at 154–55 (1976).

268. *See* Citron & Solove, *supra* note 259.

269. *See* Martin Chorzempa, *Promise and Peril of Digital Money in China*, 41 CATO J. 295, 304 (2021).

270. Peter C. Earle, *Make No Mistake: Programmable Digital Currencies Are Weaponizable Money*, THE AMERICAN INSTITUTE FOR ECON. RSCH. (Apr. 24, 2021), https://www.aier.org/article/make-no-mistake-programmable-digital-currencies-are-weaponizable-money/.

271. For a detailed discussion of programmable SDC, see Tobias Tenner & Siegfried Utzig, *German Banks Say: The Economy Needs a Programmable Digital*

B. *Security Risks*

A one-tier SDC system imposes serious security risks due to the concentration of the monetary system in the Fed with the reduced involvement of commercial banks. While some governments might be less likely to exploit user privacy in comparison to private entities,[272] they might not excel in protecting such data from unauthorized third parties. The U.S. government does not have a very good track record in data protection.[273] There have been significant data breaches in the past decade.[274] Additionally, depending on the design choices, a security breach impacting a single or a small group of validators in a one-tier token-based system or a denial of service (DoS) attack in a one-tier account-based system would impact every SDC customer.[275] This risk could be mitigated by either retaining the current infrastructure of commercial banks, or by using a decentralized system with many more nodes. In this way, a breach would be more contained and less capable of affecting another bank or node.[276]

With a centralized system, an attack on the central node would impact every other node (computer). Although a fully distributed system provides the most security in terms of an attack, it is an unlikely choice for an SDC structure. The benefit of the decentralized system is that an attack could be limited to the branch where the attack hit. If one "regional" node

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Euro!, BANKEN VERBAND (Oct. 30, 2019), https://en.bankenverband.de/newsroom/comments/programmable-digital-euro/.

272. Steven L. Schwarcz, *Central Bank Digital Currencies and Law*, *in* THE (NEAR) FUTURE OF CENTRAL BANK DIGITAL CURRENCIES (Nicola Bilotta & Fabrizio Botti eds., 2021).

273. Kimberly A. Houser & Debra Sanders, *The Use of Big Data Analytics by the IRS: Efficient Solution or the End of Privacy as We Know it?*, 19 VAND. J. ENT. & TECH. L. 817, 866–68 (2017).

274. *See, e.g.*, Joseph Johnson, *U.S. Government and Cyber Crime - Statistics & Facts*, STATISTA (Apr. 29, 2021), https://www.statista.com/topics/3387/us-government-and-cyber-crime/.

275. *Centralized, Decentralized, & Distributed Networks*, CRYPTOPEDIA (July 12, 2021), https://www.gemini.com/cryptopedia/blockchain-network-decentralized-distributed-centralized (explaining that because centralized networks have a single point of failure, a security breach or denial of service attack could shut down the entire network).

276. *Id.* (explaining that with a decentralized network, because there is no single point of failure, an attack or security breach would not shut down the system as the remaining nodes would continue to operate).

is brought offline, the remaining nodes could take over which makes this system more tolerant to faults.[277] If, instead of a decentralized system with multiple nodes and the use of commercial banks as intermediaries, the government chose to rely on existing FinTech businesses to encourage innovation, there is an additional risk of these private entities failing to secure data.[278]

PayPal has had multiple data breaches and security issues. In December 2017, PayPal's subsidiary, TIO Networks Inc., was hacked, resulting in the compromise of 1.6 million users' private data.[279] However, PayPal notes that the breach did not affect the PayPal platform and that PayPal customers were not at risk from the breach.[280] In November 2019, a white hat hacker/security analyst found that PayPal's authentication tools could be bypassed by attackers that obtained password information by taking advantage of a high severity bug on the login page.[281] The same process could also be used to obtain plain text credit card data.[282] The hacker noted that PayPal released a patch fixing the bug within five days of becoming aware of the issue.[283] In February 2020, six more vulnerabilities were found, including: a two-factor authentication bypass, being able to confirm a new phone without a one-time password (OTP), bypassing security for sending money, being able to change the user's account name, the self-help chat being vulnerable to executing malicious code, and vulnerability with security questions.[284]

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277. Manfred Touron, *Centralized vs Decentralized vs Distributed Systems*, BERTY (June 20, 2019), https://berty.tech/blog/decentralized-distributed-centralized/.

278. *See* Citron & Solove, *supra* note 259.

279. Bojana Dobran, *1.6 Million PayPal Customer Details Stolen in Major Data Breach*, PHOENIXNAP (Dec. 5, 2017), https://phoenixnap.com/blog/paypal-customer-details-stolen.

280. *Id.*

281. Alex Birsan, *The Bug That Exposed Your PayPal Password*, MEDIUM (Jan. 8, 2020), https://medium.com/@alex.birsan/the-bug-that-exposed-your-paypal-password-539fc2896da9.

282. *Id.*

283. *Id.*

284. Bernard Meyer, *We Found PayPal Vulnerabilities – But PayPal Called them Trivial*, CYBERNEWS (Feb. 17, 2020), https://cybernews.com/security/we-found-6-critical-paypal-vulnerabilities-and-paypal-punished-us/.

Successful data breaches and phishing campaigns result in large amounts of stolen personal information. PayPal is one of the most popular targets.[285] In fact, PayPal accounts may be purchased on the dark web for as low as a couple dollars and up to over $400 per account.[286] It should be noted that PayPal is not the only FinTech company to suffer data breaches but, given the lack of federal protections for users' personal data, this presents an especially significant issue with respect to the collection of data by either private organizations or the U.S. government. For example, in December 2020, the Pentagon, the Treasury Department, the Department of Homeland Security, and nuclear labs were hacked through a cybersecurity firm, Solar Winds, with whom the United States contracts.[287] Malicious code was added to the company's software, Orion, which was then sent out to 33,000 companies and government agencies in the form of a software update which unknowingly contained the spyware.[288] Although the full extent of the breach is unknown, this could be one of the most significant data breaches in the history of the United States.[289] By moving to any type of centralized system, creating a single point of failure would have devastating effects on the U.S. economy.

One of the biggest policy decisions involved in a move to an SDC is how liability will be assessed for the inevitable harms resulting from breach of privacy and data security that accompany any online technology. The United States does not have a great record of protecting data and the public generally has no right of recourse against the government. Moving the en-

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285. Paul Bischoff, *Dark Web Prices for Stolen PayPal Accounts Up, Credit Cards Down*, COMPARITECH (Sept. 8, 2021), https://www.comparitech.com/blog/vpn-privacy/dark-web-prices/.

286. *Id.*

287. David E. Sanger et al., *Scope of Russian Hacking Becomes Clear: Multiple U.S. Agencies Were Hit*, N.Y. TIMES (Dec. 14, 2020), https://www.nytimes.com/2020/12/14/us/politics/russia-hack-nsa-homeland-security-pentagon.html.

288. Isabella Jibilian & Katie Canales, *The US is Readying Sanctions Against Russia Over the SolarWinds Cyber Attack*, BUS. INSIDER (Apr. 15, 2021), https://www.businessinsider.com/solarwinds-hack-explained-government-agencies-cyber-security-2020-12.

289. Kimberly A. Houser, *Artificial Intelligence and the Struggle Between Good and Evil*, 60 WASHBURN L.J. 475, 479–80 (2021). See Houser & Sanders, *supra* note 273, for more information on the risks related to the U.S. government's lack of technical knowledge and ability to secure data.

tire banking system to the digital sphere is not a decision that should be made lightly.

C. *Risk of Bank Disintermediation and Runs*

One of the most discussed concerns about the creation of an SDC is the potential for the disintermediation of banks and the creation of a new source of bank runs. Both possibilities could have a catastrophic impact on the economy. Multiple issues arise with respect to whether a central bank becomes a direct issuer of an SDC, relies on the current network of commercial banks, or moves to the use of FinTech companies who can facilitate electronic transfers. First, what would the relationship be between the central bank and a private intermediary?[290] Would a FinTech intermediary act as an agent for the central bank? What liability would the central bank have for a private intermediary's actions?[291]

A report published by several central banks, including the Bank of Canada, European Central Bank, Bank of Japan, Bank of England, and others, which outlined the foundational principles and desired features of an SDC, also addressed the potential for the disintermediation of banks.[292] Banks rely heavily on customer deposits to fund their current business model. An SDC would be a competitive alternative to commercial bank money. Indeed, it could crowd it out completely. As the central bank is a risk-free counterparty, commercial banks would likely need to offer higher interest rates for commercial deposits to compensate customers for the increased risk as commercial banks are not risk-free counterparties.[293] As a result, banks could reduce the amount of credit extended and charge higher interest rates.[294] Another risk would be that when financial markets were calm, customers might choose to hold

290. *Japan Explores Central Bank Digital Currency Legal Issues*, LEDGER INSIGHTS (Nov. 29, 2019), https://www.ledgerinsights.com/japan-central-bank-digital-currency-legal-issues/.

291. *Id.*

292. BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES: FOUNDATIONAL PRINCIPLES AND CORE FEATURES 1 (2020), https://www.bis.org/publ/othp33.pdf.

293. *Id.* at 8 (stating that if users move their money from bank accounts into SDCs, banks may respond by raising deposit rates to attract more money).

294. *Id.*

their money as commercial bank deposits to receive a higher interest rate, but quickly convert their funds into the SDC at the first sign of financial market stress.

Were enough customers to move their deposits to the SDC, there would be a run on the bank. This dynamic would likely occur across the economy, risking a systemic collapse of the banking system. Even a small movement of deposits from commercial banks to central banks could pose risks to financial stability.[295] For example, certain estimates suggest that 8% of bank deposits in the European Union—perhaps a cautious estimate—might move to a digital euro and 20% of bank deposits in the United Kingdom to a digital pound.[296]

Some have suggested that to replace lost deposits, banks could borrow money from the Fed's discount window (a lending facility).[297] There has long been a stigma with borrowing from the discount window as it should be unnecessary for financially healthy banks.[298] Hence, routine borrowing would be a new banking business model. In this model, what would be the rationale for allowing banks to routinely borrow from the Fed's discount window to lend money into the economy? Why not other institutions, and perhaps even individuals?

Additionally, if banks were to routinely borrow from the Fed's discount window, it is foreseeable that the Fed would assume a greater role in credit allocation in the economy. Indeed, the Fed has increasingly taken on this role, especially with its significant emergency assistance to the economy in the COVID-19 pandemic.[299] The Fed has traditionally been tasked with providing last resort liquidity assistance, not credit alloca-

295. *Id.*

296. Marc Jones, *Digital Euro Might Suck Away 8% of Banks' Deposits - Morgan Stanley*, REUTERS (June 15, 2021), https://www.reuters.com/news/picture/digital-euro-might-suck-away-8-of-banks-idUSKCN2DR2NO (providing estimates from Morgan Stanley and the Bank of England, respectively).

297. Crawford, Menand & Ricks, *supra* note 176, at 143.

298. David Henry, *U.S. Banks Borrow at Discount Window After Fed Offers Stigma Relief*, REUTERS (Mar. 26, 2020), https://www.reuters.com/article/us-health-coronavirus-fed-banks/u-s-banks-borrow-at-discount-window-after-fed-offers-stigma-relief-idUSKBN21D3JA.

299. *See* Lev Menand, *The Federal Reserve and the 2020 Economic and Financial Crisis*, 24 STAN. J.L. BUS. & FIN. 101, 104 (forthcoming 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3602740.

tion.[300] Hence, how expansive of a role (if any) in credit allocation that the Fed should have is an important policy issue. A significant increase in discount window lending would increase the risk of the Fed's balance sheet.[301] Like any prudent lender, the Fed would likely then increase its scrutiny of bank loan assets.[302] To minimize its risk, it could increase conditions on its lending, requiring anything from greater diversification of banks' loans to decreased lending to economic sectors it judged as having more risk.

As SDCs can be issued directly by the federal government, there would be no need for an intermediary bank, thus potentially cutting commercial banks out of the equation entirely.[303] It is highly foreseeable that an SDC would have a fundamental impact on the current structure of the banking system. With a direct one-tier system, banks would be unnecessary. Yet even with an indirect two-tier system, the banking business model would almost certainly change radically. Banks would likely become more like service providers or agents of the Fed. In search of profits greater than those likely to be achieved with such a model, some banks might exit banking for alternative financial business models with greater profit potential. As Saule Omarova discusses in *The People's Ledger: How to Democratize Money and Finance the Economy*, there is widespread discussion of SDCs and the impact this would have on the liability side of the Fed's balance sheet.[304] However, there is scant con-

300. *See generally* Colleen M. Baker, *The Federal Reserve as Collateral's Last Resort*, 96 NOTRE DAME L. REV. 1381, 1382 (2021).

301. Borrowers from the Fed's discount window, such as banks, are not risk-free counterparties. Therefore, discount window loans to banks are not essentially risk-free assets as in the case of U.S. Treasury securities or agency mortgage-backed securities, assets that the Fed also holds on its balance sheet. Therefore, as the amount of discount window loans increased on the Fed's balance sheet, the risk to its balance sheet would also increase.

302. The Fed is one of the banking supervisors in the United States. Banking supervisors examine the composition of banks' balance sheets. In making a secured loan, a generally accepted practice is for lenders to examine the quality of the borrower's assets. Hence, if the Fed were to increase its discount window lending to banks, it seems likely that it would increase its focus on the quality of the borrower's assets.

303. Carolynn Look et al., *Central Banks Edge Toward Money's Next Frontier in Digital World*, BLOOMBERG (Feb. 5, 2021), https://www.bloomberg.com/news/articles/2021-02-05/central-banks-edge-toward-money-s-next-frontier-in-digital-world.

304. Omarova, *supra* note 212, at 1236.

versation about the corresponding implications for the asset side of its balance sheet and a holistic perspective taken.[305] Omarova states:

> [T]he discourse on [SDCs], however, is preoccupied mainly with operationalizing potential changes in central bank liabilities, rather than situating them within the broader institutional critique. Framed as a matter of "fast payments" and/or "access to banking," it is not grounded in a coherent vision of how the financial system operates—and, more importantly, how it should operate. Without such a unifying vision, the true transformative potential of changing central banks' mode of interaction with the broader public remains unexplored and underappreciated.[306]

As Omarova highlights in her article, debates about SDCs have focused on the important goals of faster payment systems and increased financial inclusion; however, the critical but often overlooked, question is: What would, or *should*, happen on the *asset side* of the central bank balance sheet, in order to accommodate the proposed expansion of central bank liabilities?[307] The choice to issue an SDC, especially if it involves moving to a direct one-tier system, would fundamentally transform the financial system and potentially result in the disintermediation of banks.

V.
Global Impact of SDCs

Because the monetary system is essentially international, each country's decision regarding the issuance of an SDC impacts other jurisdictions. Additionally, while the reasons may vary, some aspects stand out as primary motivators. First, financial transaction fees are very expensive. Bank fees in the United States alone during three months in 2020 totaled $11.6 billion.[308] Second, those who do not have bank accounts (the "unbanked")—estimated at 7.1 million households in the

305. *Id.*
306. *Id.* at 1235.
307. *Id.* at 1256.
308. Jennifer Taylor, *These Fees Have Cost Americans $11.6B During the Pandemic – Here's How To Avoid Them*, GOBankingRates (Jan. 21, 2021), https://www.gobankingrates.com/banking/banks/how-much-bank-fees-cost/.

United States alone[309]—could more fully participate in commerce just by using their phones. Third, cryptocurrencies such as Bitcoin and Ether have become mainstream as institutional investors and publicly held corporations have started to invest in them. A recent survey of 100 hedge funds indicated that within 5 years, on average, cryptocurrencies are likely to constitute 7.2% of their assets.[310] Finally, governments are concerned about their control over monetary policy if a global stablecoin were to be adopted broadly.[311]

As discussed *supra*, the Fed released an SDC white paper to encourage discussion of "issues related to payments, financial inclusion, data privacy, and information security."[312] However, in addition to the important discussion regarding objectives and designs, it must also consider the potential impact of the evolving SDC global landscape, including the possible geopolitical and regulatory implications. This Part addresses some of these concerns. Although the United States is not as close as others to issuing an SDC,[313] it is among the most important players in the international financial system. Retaining this leadership role will require successfully grappling with the emerging international SDC order and related regulatory developments. While developing countries may be concerned with bringing financial stability to their countries' currencies

309. Megan Leonhardt, *7.1 Million American Households Didn't Have a Bank Account Last Year—The Lowest Rate Since 2009*, CNBC (Oct. 19, 2020), https://www.cnbc.com/2020/10/19/7point1-million-american-households-didnt-have-a-bank-account-last-year.html.

310. Laurence Fletcher, *Hedge Funds Expect to Hold 7% of Assets in Crypto Within Five Years*, FIN. TIMES (June 15, 2021), https://www.ft.com/content/4f8044bf-8f0f-46b4-9fb7-6d0eba723017.

311. *See generally* Dong He, *Monetary Effects of Global Stablecoins*, 41 CATO J. 353 (2021), https://www.cato.org/cato-journal/spring/summer-2021/monetary-effects-global-stablecoins#adoption-use-scenarios; *see also* Schwarcz, *supra* note 143 (manuscript at 1) ("If widely used, stablecoins also could impair central banks' ability to control monetary policy and possibly undermine confidence in the value or operational continuity of currencies, which could threaten international monetary and financial stability.").

312. Lee, *supra* note 126.

313. *See, e.g.*, Dinesh Unnikrishnan, *Explained: India Inches Closer to Launching a Digital Currency; 5 Key Points*, MONEY CONTROL (Feb. 24, 2021), https://www.moneycontrol.com/news/business/explained-india-inches-closer-to-launching-a-digital-currency-5-key-points-6568201.html.

and providing access to the unbanked,[314] developed countries, especially ones with large populations, may be more concerned about scalability and security, preferring an indirect two-tier system to prevent the disintermediation of banks.[315] This Part first analyzes whether there is a geopolitical first mover advantage in SDC issuance. It then discusses potential threats to the United States' status as a reserve currency for international transactions. Finally, it addresses the future of money alternatives.

A. *Potential First-Mover Advantage*

The first-mover advantage is the theory that the first to enter a market will obtain a competitive advantage over later entrants into the market.[316] However, there are many complex factors that play into a firm's ability to maintain this advantage, if any, over time.[317] Although many jurisdictions are actively exploring their own SDCs, the Fed does not consider this to be a race.[318] Some have noted, nonetheless, that as a first-mover, China could have the ability to influence international token standards and DLT platform choices, increasing its influence in the global financial system.[319]

In fact, China has already begun working with the BIS, and the central banks of Hong Kong, Thailand and the United Arab Emirates on developing standards for the international

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314. *See id.* ("RBI is working on procedural issues to launch its digital currency. . . ."); *see also Reserve Bank of India Cautions on Central Bank Digital Currencies*, PYMNTS (Mar. 3, 2021), https://www.pymnts.com/digital-payments/2021/reserve-bank-of-india-cautions-on-cbdc/ (reporting that the attractiveness of CBDC comes from both "its digital features and its sovereign liability," the latter of which is one of the concerns RBI has with cryptocurrencies, and stating that a digital rupee could "foster financial inclusion" since the use of physical cash decreases).

315. FANUSIE & JIN, *supra* note 201, at 8 (stating that China's CBDC structure is intended to be a two-tier system permitting banks to remain intermediaries).

316. Marvin B. Lieberman & David B. Montgomery, *First-Mover Advantages*, 9 STRATEGIC MGMT. J. 41, 41 (1988).

317. Roger A. Kerin et al., *First-Mover Advantage: A Synthesis, Conceptual Framework, and Research Propositions*, 56 J. MKTG. 33, 33 (1992).

318. Emily Parker, *U.S. Dollar at Risk as China Races Ahead on Digital Yuan*, POLITICO (Apr. 1, 2021), https://www.politico.com/newsletters/politico-china-watcher/2021/04/01/us-dollar-at-risk-as-china-moves-on-digital-yuan-492315.

319. FANUSIE & JIN, *supra* note 201, at 5, 8 & 14.

use of digital currencies.[320] One concern, noted by VoxEU, is that the issuance of an SDC by a domestic economy can threaten the monetary policy autonomy of a foreign economy because the latter will be forced to be "twice as. . . reactive to inflation and output by the presence of [the foreign SDC]."[321] Although China currently appears to be motivated more by domestic matters in issuing its SDC,[322] with time, the digital yuan could eventually reach foreign systems and possibly serve as an alternative to the U.S. dollar.[323] Factors that could help internationalize the digital yuan include the 39 million overseas Chinese that could use the SDC, as well as the integration of the digital yuan into apps like TikTok and other platforms or video games.[324] On the other hand, Agustín Carstens, the General Manager for the BIS, states that any "first-mover advantage" in issuing an SDC is overblown, arguing that SDC's digital nature alone would not be enough to give an advantage in a geopolitical reserve conflict.[325] In fact, there could actually be a "second mover" advantage as later entrants would be able to learn from the first mover's faults and difficulties.[326]

However, scholars in the first-mover advantage debate may be getting the players wrong. The issue might not involve which *country* issues an SDC, but rather which *digital currency* is the first to become the most widely embraced internationally.

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320. James T. Areddy, *China Creates Its Own Digital Currency, a First for a Major Economy*, WALL ST. J. (Apr. 5, 2021), https://www.wsj.com/articles/china-creates-its-own-digital-currency-a-first-for-major-economy-11617634118.

321. Massimo Ferrari et al., *The International Dimension of a Central Bank Digital Currency*, VOXEU (Oct. 12, 2020), https://voxeu.org/article/international-dimension-central-bank-digital-currency.

322. Chorzempa, *supra* note 156, at 111.

323. *See* Dirk A. Zetzsche et al., *Sovereign Digital Currencies: The Future of Money and Payments?* (Univ. of H.K. Fac. of L. Rsch., Paper No. 2020/053, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3714386.

324. Gordon Chang, *Will China's Digital Yuan Replace the Dollar?*, NEWSWEEK OP. (Oct. 29, 2020), https://www.newsweek.com/will-chinas-digital-yuan-replace-dollar-opinion-1543071#:~:text=China%20will%20almost%20certainly%20be,as%20the%20world's%20reserve%20currency.&text=%22They%20can%20make%20DCEP%20become,international%20currency%2C%22%20Guo%20says.

325. Danny Nelson, *Digital Yuan Won't Give China 'First-Mover Advantage' With CBDCs, BIS Chief Says*, COINDESK (Mar. 31, 2021), https://www.coindesk.com/cbdc-first-mover-agustin-carstens.

326. *See id.*

If, for example, Silvergate Capital, the international payment services company that purchased the Diem Association's assets and technology,[327] were to issue its own stablecoin (as they intend to do)[328] that becomes widely used around the world, this could result in a network effect crowding out later digital currencies, including a potential U.S. SDC.[329] It is well-established that currency is particularly vulnerable to the network effect. Silvergate "is the banking partner of the majority of the world's digital asset exchanges."[330] Although they are not a household name (like Facebook—now known as Meta), they are well-known in the crypto industry due to their early entry into the crypto banking market, providing them with a first mover advantages in this area.[331] If they become the "first real, FDIC-insured bank" to issue a stablecoin, they can distinguish themselves from other stablecoins issued by private organizations.[332] It is too early to say, however, whether their potential stablecoin will "become an instant 'medium of exchange' in large parts of the world," as the Diem was expected to due to the high number of individual active Facebook users.[333]

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327. *Diem*, SILVERGATE, https://www.silvergate.com/solutions/digital-currency/diem.html (last visited Feb. 25, 2022). Note that Silvergate Capital is the parent company of Silvergate Bank.

328. Penny Crossman, *The Road Ahead for Meta's Diem under Silvergate Bank's Ownership*, AM. BANKER (Feb. 7, 2022), https://www.americanbanker.com/news/the-road-ahead-for-metas-diem-under-silvergate-banks-ownership.

329. The network effect states that the benefit derived from a good increases as the number of consumers adopting the good increases. This increase in the network of users creates a positive feedback loop, bringing in even more users. Switching to a different product is costly. Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 424 (1985).

330. Sam Reynolds, *Silvergate Beats Earnings, SEN Volume Up Nearly 1,000% On-Year*, BLOCKWORKS (July 20, 2021), https://blockworks.co/silvergate-beats-earnings-sen-volume-up-nearly-1000-on-year/.

331. Because Silvergate already provides banking to more than 1,300 cryptocurrency and blockchain clients, it could scale up fairly quickly. *In Buying Diem's Stablecoin, Silvergate Bank Makes Itself a Contender*, PYMNTS.COM (Feb. 2, 2022), https://www.pymnts.com/cryptocurrency/2022/in-buying-diems-stablecoin-silvergate-bank-makes-itself-a-contender/.

332. *Id.*

333. Dmitry Tokarev, *Facebook's Diem Stablecoin is an Existential Threat to Traditional Banking*, COINTELEGRAPH (Dec. 5, 2020), https://cointelegraph.com/news/facebook-s-diem-stablecoin-is-an-existential-threat-to-traditional-banking.

Regardless of who issues the first global digital currency, be it a governmental entity or a private entity, the network effect is a significant concern. The greater the number of people who use a specific digital currency, the number of merchants who will accept that digital currency increases, leading to a strong network of users of that digital currency crowding out later entrants.[334]

B. *Impact on Reserve Currency*

Like its long-term plan to be a leader in artificial intelligence, China is also pursuing a path to become a global leader in FinTech.[335] There are a number of reasons why China moved quickly to be the first major economy to issue an SDC. First, private mobile payment systems in China have an oversized impact on retail commerce.[336] The digital yuan could serve as a counter against payment services like Alipay in an effort to reassert the supremacy of China's currency.[337] Second, a digital yuan also could provide great insight into the spending habits of Chinese citizens.[338] Third, a digital yuan could allow for easier cross-border trade.[339] Fourth, and perhaps, most importantly, the digital yuan is part of China's strategy to become more influential on the world stage.[340] Given the inconsistency in leadership in the United States, and previ-

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334. Scholar Mikael Stenkula states,

> What Menger actually is saying is that the more people who use and demand a specific asset, the more marketable it will be. The more marketable it is, the better this good will work in indirect exchange and ultimately as money, i.e. the higher utility this asset will have when working as a means of payment. And this is the core idea behind the network concept of money.

Mikael Stenkula, *Carl Menger and the Network Theory of Money*, 10 THE EUROPEAN J. HIST. ECON. THOUGHT 587, 593 (2003).

335. FANUSIE & JIN, *supra* note 201, at 11.

336. *Id.* at 1.

337. *See id.* at 4 & 9; *see also* Zennon Kapron, *China's Central Bank Digital Currency Will Strengthen Alipay And WeChat Pay, Not Replace Them*, FORBES (May 24, 2020), https://www.forbes.com/sites/zennonkapron/2020/05/24/chinas-central-bank-digital-currency-will-strengthen-alipay-and-wechat-pay-not-replace-them/?sh=2ecda5646b69 (however, some have suggested that WeChat Pay and Alipay will serve to facilitate CBDC transactions).

338. FANUSIE & JIN, *supra* note 201, at 3.

339. *Id.* at 13.

340. *Id.* at 3.

ous efforts by the U.S. government to thwart China's growing international relationships as part of its Belts and Roads Initiative,[341] China may be seeking to hedge against potential U.S. efforts to ban China from SWIFT, which provides most international banking transfers.[342] Because the U.S. dollar is used by more than 21,000 banks worldwide, the United States has the ability to penalize countries by blocking U.S. banks from doing business with them.[343] These sanctions would have less of an impact if these countries could conduct international transactions outside of the United States' influence by using the digital yuan.[344]

Others have argued that China is pursuing a strategy to reduce the influence of the U.S. dollar as the currency of international trade. According to the BIS, the U.S. dollar accounts for 88% of all transactions in contrast to China's 4% yuan.[345] Since the yuan became a reserve currency in 2015, China's exports have become more competitive against dollar prices around the world, allowing China's share of international trade and GDP to grow to 10%.[346] In addition, trading yuan on foreign markets has become easier since China has backed the Renminbi Trading Hub for the Americas, Singapore, and London.[347] These hubs allow lower costs for companies trading with China.[348] Consequently, the digital yuan could deny the United States the privileges it receives from being the world's global reserve currency (such as borrowing

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341. Kimberly A. Houser, *The Innovation Winter Is Coming: How the U.S.-China Trade War Endangers the World*, 57 San Diego L. Rev. 549, 560–61 (2020).

342. Rajesh Bansal & Somya Singh, *China's Digital Yuan: An Alternative to the Dollar-Dominated Financial System,* Carnegie India (Aug. 31, 2021), https://carnegieindia.org/2021/08/31/china-s-digital-yuan-alternative-to-dollar-dominated-financial-system-pub-85203.

343. Areddy, *supra* note 320 (for example, the United States has imposed sanctions on North Korea, Iran, and Myanmar).

344. *Id.*

345. Laura He, *China Wants to Weaponize its Currency. A Digital Version Could Help*, CNN (Dec. 5, 2020), https://edition.cnn.com/2020/12/04/economy/china-digital-yuan-currency-intl-hnk.

346. Kimberly Amadeo, *How the Yuan Could Become a Global Currency*, The Balance, https://www.thebalance.com/yuan-reserve-currency-to-global-currency-3970465 (last modified May 29, 2021).

347. *Id.*

348. *Id.*

at lower interest rates and greater buying power),[349] as well as reduce the United States' ability to impose financial sanctions.[350] In fact, once the digital yuan can be used in foreign transactions, it is possible that the digital yuan could denominate all trade with China, thereby increasing the importance of China's currency in the world economy.[351]

With the U.S. debt level currently at 127% of gross domestic product (and projected to be 277% by 2029)[352] there is some speculation that the dollar's reign as the world's reserve currency may come to an end if confidence dwindles that this debt will be paid.[353] However, it is not clear how the further digitization of a currency—"all of which are already highly digitized in our current international banking system in the same way the dollar is and yet which do not pose a significant challenge to the international role of the dollar"[354]—would impact the dollar's reserve status.[355] Its reserve currency status primarily rests upon considerations such as economic strength, trade relationships, the rule of law, robust financial markets, monetary power, currency stability, and ease of conversion.[356] Further, although China is ahead in development, it has also prioritized domestic financial stability over making a digital yuan usable abroad, which would seem to question reports that they are trying to replace the U.S. dollar as the world's reserve cur-

349. Jacob Eigner, *Policy Brief: How Digitizing the Dollar Can Help Keep the US Reserve Currency Status*, GEO. L. (Mar. 1, 2021), https://www.law.georgetown.edu/iiel/research/iiel-blog/how-digitizing-the-dollar-can-help-keep-the-u-s-status-quo/.

350. Zetzsche et al., *supra* note 323, at 6.

351. *Id.* at 7.

352. Mike Patton, *U.S. National Debt Expected to Approach $89 Trillion by 2029*, FORBES (May 3, 2021), https://www.forbes.com/sites/mikepatton/2021/05/03/us-national-debt-expected-to-approach-89-trillion-by-2029/?sh=3117dca25f13.

353. Ruchir Sharma, *The Dollar has had a 100-year Run as the World's Reserve Currency. But a new Class of Contenders is Emerging*, FIN. POST, https://financialpost.com/financial-times/the-dollar-has-had-a-100-year-run-as-the-worlds-reserve-currency-but-a-new-class-of-contenders-is-emerging (last updated Apr. 7, 2021).

354. *See* Quarles, *supra* note 1.

355. *Id.*

356. *See id.*

rency.[357] Before the yuan could become the world's leading reserve currency, it must have more than the trade benefits mentioned above.[358] First, the People's Bank of China must allow free trade of the yuan and must become more transparent with its monetary policies.[359] Second, the yuan needs to acquire the reputation of stability akin to the dollar, which is backed by the enormity of the U.S. Treasury.[360] Third, central banks around the world must also increase their reserves of yuan to about $700 billion.[361] Economist Eswar Prasad argues that China lacks the institutional environment, including an independent central bank, the rule of law, and checks and balances, to overtake the United States as an international reserve currency.[362]

Martin Chorzempa with the Peterson Institute for International Economics argues that while China has sufficient economic weight to have a global reserve currency, the country may lack an openness and depth of financial markets.[363] In other words, China's priority of domestic financial stability could slow down the internationalization of the digital yuan.[364] Second, the digital yuan is a direct CBDC rather than an indirect CBDC, thus losing the advantage of being able to function as infrastructure for global payments and large-scale transactions.[365] Last, Chorzempa argues that even if the digital yuan expands outside the mainland, other countries may be less willing to use it if China is able to track and see every digital yuan transaction, a security and surveillance concern.[366]

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357. Arjun Kharpal, *China has Given Away Millions in its Digital Yuan Trials. This is How it Works*, CNBC (Mar. 4, 2021), https://www.cnbc.com/2021/03/05/chinas-digital-yuan-what-is-it-and-how-does-it-work.html.

358. Chorzempa, *supra* note 156, at 112.

359. Amadeo, *supra* note 346.

360. *Id.*

361. *Id.*

362. *See* ESWAR S. PRASAD, THE FUTURE OF MONEY: HOW THE DIGITAL REVOLUTION IS TRANSFORMING CURRENCIES AND FINANCE 299 (Harvard Univ. Press 2021).

363. Chorzempa, *supra* note 156, at 111.

364. *See id.*

365. *Id.*

366. *Id.*, at 112.

Of course, the digital yuan is not the only contender to become the world's reserve currency.[367] The euro amounts to almost 20% of the world's currency reserves, and the Japanese yen and the United Kingdom sterling together make up another 20%.[368] Cryptocurrencies were once thought to pose a threat to the United States' status as a global reserve currency as having the advantage of being operated on P2P networks that are not governed by any state,[369] but this is unlikely due to cryptocurrencies' high volatility.[370]

C. *Future of Money Alternatives*

Although SDCs can coexist with other forms of money, they could also be designed to actually replace private digital payment systems, physical money, or even the need for a bank account. Some countries have already outlawed cryptocurrencies in anticipation of issuing their own SDCs, indicating that these cryptocurrencies are not scalable, secure, or anonymous because of the use of digital wallets.[371] Indeed, China's central bank is encouraging banks to "crack down" on cryptocurrency.[372] The Reserve Bank of India has also taken similar steps—simultaneously moving forward with develop-

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367. Jacob Eigner, *Policy Brief: How Digitizing the Dollar Can Help Keep the US Reserve Currency Status*, GEO. L (Mar. 1, 2021), https://www.law.georgetown.edu/iiel/research/iiel-blog/how-digitizing-the-dollar-can-help-keep-the-u-s-status-quo/.

368. *Id.*

369. *See* Sharma, *supra* note 353.

370. Sayuri Shirai, *Money and Central Bank Digital Currency* 1 (Asian Dev. Bank Inst., Working Paper No. 922, 2019), https://www.adb.org/publications/money-and-central-bank-digital-currency. Central banks in developing countries are the ones most at risk from cryptocurrencies, especially stablecoins. INT'L MONETARY FUND, COVID-19, CRYPTO, AND CLIMATE: NAVIGATING CHALLENGING TRANSITIONS 44 (2021), https://www.elibrary.imf.org/view/books/082/465808-9781513595603-en/ch002.xml.

371. Leila Stein, *These Countries Banned Cryptocurrencies, Here's Why*, BEINCRYPTO (Apr. 22, 2021), https://beincrypto.com/these-countries-banned-crypto-heres-why/.

372. Ryan Browne, *China's Central Bank Urges Alipay and Banks to Crack down on Crypto Speculation*, CNBC (June 21, 2021), https://www.cnbc.com/2021/06/21/china-central-bank-urges-alipay-banks-to-crack-down-on-crypto.html.

ment and issuance of a digital rupee while proposing laws that will outlaw Bitcoin and other cryptocurrencies.[373]

In the United States, however, a ban of cryptocurrencies is unlikely,[374] but there has been a call for increased regulation.[375] Janet Yellen, U.S. Secretary of the Treasury, stated that she intends to work with the Federal Reserve on a legal framework in response to the risks of cryptocurrencies, such as financing terrorism, money laundering, and the threat to the "integrity of the U.S. and international financial systems."[376] The same call for regulation has been made by the ECB, noting that cryptocurrencies like Bitcoin need to be regulated at an international level.[377] Of course, the ECB also aims to issue its own SDC within five years.[378]

However, the real threat does not come from cryptocurrencies, but rather stablecoins as discussed *supra*. The idea of competing currencies is important here. The main ingredient to a dominant currency is trust.[379] The U.S. dollar serves as a reserve currency because of the trust in its backing by the U.S. government. The reason a global stablecoin is the real threat to sovereign currencies is that the network effect could multiply its influence. If trust in the government's ability to manage

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373. Manu Joseph, *Governments Will Eventually Defeat* Cryptocurrencies, MINT (Feb. 15, 2021), https://www.livemint.com/opinion/columns/governments-will-eventually-defeat-cryptocurrencies-11613317872625.html.

374. However, Chair Powell has stated that were the United States to have a CBDC, cryptocurrencies and stablecoins would be unnecessary. Lee, *supra* note 126. Yet it is also possible that a U.S. CBDC would increase the popularity of cryptocurrencies, especially were cash to be phased out, as distrust of government monetary regimes has been one motivation behind the development of cryptocurrencies.

375. Scott Reeves, *India Drafts Bill to Create Government Cryptocurrency, Ban Private Cryptocurrencies, with Exceptions*, NEWSWEEK (Feb. 3, 2021), https://www.newsweek.com/india-drafts-bill-create-government-cryptocurrency-ban-private-cryptocurrencies-exceptions-1566558.

376. Scott Reeves, *Treasury Secretary Nominee Janet Yellen Touts Crypto 'Benefits,' with Regulation*, NEWSWEEK (Jan. 25, 2021), https://www.newsweek.com/treasury-secretary-nominee-janet-yellen-touts-crypto-benefits-regulation-1564197.

377. Tanzeel Akhtar, *ECB's Christine Lagarde Says 'Speculative' Bitcoin Needs Global Regulation*, COINDESK (Jan. 13, 2021), https://www.coindesk.com/policy/2021/01/13/ecbs-christine-lagarde-says-speculative-bitcoin-needs-global-regulation/.

378. *Id.*

379. *See* F.A. HAYEK, DENATIONALISATION OF MONEY 85 (Inst. of Econ. Affairs 1976).

inflation decreases and the value of the U.S. dollar in terms of foreign exchange decreases, the public could begin to trust a global stablecoin more. A number of economists have advocated for an unregulated banking framework[380] and competing currencies[381] for this very reason.[382] However, this issue is not clear cut. As behavioral economists explain, a digital dollar may not equal a paper currency dollar in terms of *perception*. With respect to a stablecoin issued by a large tech company, the trust needed for widespread adoption may not be present. Similarly, there are many who currently do not trust digital money and may be reluctant to adopt an SDC preferring the use of cash or their bank account.[383] For any form of money to be successful, it must serve as a medium of exchange, a unit of measure and a store of value. If a new form of digital currency is not widely accepted, be it an SDC or a global stablecoin, it cannot meet the functional requirements of money.

Conclusion

As technology advances and money continues to evolve there will always be concerns regarding its impact on the U.S. monetary system. Due to their volatility, non-asset backed cryptocurrencies do not make for good money. As such, the worries about cryptocurrencies replacing the dollar are overblown. However, stablecoins present a different issue. Even if not legal tender, they can be tied to a specific asset or basket of assets and function as money. Regulators have come to realize

380. "Larry [White], George [Selgin], and I [Jeffrey Rogers Hummel] line up on one side, concluding that fractional-reserve banking, if unregulated and unsubsidized, provides important monetary and economic benefits that far outweigh any potential downside." *The Conversation*, Online Libr. of Liberty, https://oll.libertyfund.org/page/liberty-matters-lawrence-white-mises-theory-of-money-credit#conversation1 (last visited Feb. 25, 2022).

381. Ametrano, *supra* note 34, at 23–24.

382. *See generally* Vasundhara Sharma et al., In Cryptocurrencies We Trust: An Empirical Analysis of Bitcoin Demand and Price (Apr. 19, 2019) (unpublished manuscript), https://ssrn.com/abstract=3381067 (analyzing the cryptocurrency market in connection with unregulated banking and competing currencies).

383. A Pew survey notes that nearly 30% of Americans avoid mobile payments due to a fear of loss of funds, preferring credit and debit cards. *Are Americans Embracing Mobile Payments?*, PEW (Oct. 3, 2019), https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/10/are-americans-embracing-mobile-payments.

that they must adopt a legal framework to not only protect the public against the risks presented by insufficiently backed stablecoins, but to also hold the issuers of stablecoins to the same standards as other regulated entities.

The greatest risk to the establishment of an SDC to serve as money, however, would be the rise of a global stablecoin. Due to network effects, if a global stablecoin were to become widely used prior to the issuance of an SDC by the United States, this could have real repercussions for the ability of the Fed to implement monetary policy and maintain financial stability. The decision to issue an SDC and what form and design it should take is incredibly complicated. Were one to be issued, the most likely choice would be a sCBDC as it would offer the easiest transition and permit the Fed and private industry to leverage their competitive advantages, monetary policy, and technical innovation.

As Menger first discovered, to constitute money the token must have super saleability.[384] People have to be willing to accept it in exchange for goods or services. There has to be trust in it, regardless of form. If the Fed were to provide stablecoin issuers access to central bank reserves, this type of public–private partnership might create the type of trust and adoption that could reduce the potential for a private global stablecoin to upset the international banking system. While parachute pants may have come and gone in a split second, it is likely that the debate around SDCs will continue for many years to come.

384. MENGER, *supra* note 16, at 35.

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FLAWED FOUNDATIONS: A RE-EXAMINATION OF THE REASON AND PURPOSE BEHIND THE CAPITAL GAINS TAX PREFERENCE

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The favorable taxation of capital gains has seen extensive ex-post celebration and condemnation, but the ex-ante reason for its enactment has largely been forgotten. This Note, written one hundred years after the capital gains tax preference was first enacted in 1921, responds to this gap by re-examining legal history to ask two simple questions: why does the capital gains preference exist as a matter of law and what can be learned from why it was enacted? I find that Congress was presented with two options to address the problem of high tax rates on capital gains yielding surprisingly little revenue in the early 20th century. The first option was to adopt broader, foundational changes to the taxation of capital gains to make the tax harder to avoid, while the second was to simply enact a low, preferential tax rate that taxpayers would willingly pay. They chose the second option, and I present data from the IRS Statistics of Income to provide some empirical evidence that the lower rates did yield greater revenue. The story behind the capital gains tax preference is important for current policy discussions since tax law is still grappling with the legacy of Congress's decision to tax capital gains at reduced rates rather than fix the underlying problem that a realization-based income tax is easily gamed by taxpayers. If policymakers wish to impose higher tax rates on capital, they must reverse the decision taken in 1921 by both raising rates and changing how the law conceptualizes capital gains altogether. By only raising rates, Congress may find itself faced with

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the same string of issues that led to it enacting the capital gains tax preference in the first place.

INTRODUCTION

In 1921 the United States Congress enacted a special lower tax rate on the sale of capital property, known as capital gains, which quickly became one of tax law's most controversial provisions.[1] One hundred years later the Internal Revenue

1. Revenue Act of 1921, Pub. L. No. 67-98, 42 Stat. 227. Hereinafter, the only legislation called the "1921 Revenue Act" is the final statute that passed into law. For a discussion of the controversy see Noel B. Cunningham &

Code (the "Code") still taxes capital gains at preferential rates compared to other income like wages or interest, something referred to as the capital gains tax preference.[2] Politicians across the political spectrum decry this preference as unsatisfactory, in need of dire change, and one of the cardinal sins of

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Deborah H. Schenk, *The Case for a Capital Gains Preference*, 48 TAX L. REV. 319 (1993); Daniel I. Halperin, *A Capital Gains Preference is not EVEN a Second-Best Solution*, 48 TAX L. REV. 381, 381 (1993); and George R. Zodrow, *Economic Analyses of Capital Gains Taxation: Realizations, Revenues, Efficiency and Equity*, 48 TAX L. REV. 419, 419 (1993).

2. Currently, the top capital gains tax is 20% for individuals earning above $425,800; 15% for individuals earning between $38,601 and $425,800; and 0% otherwise under I.R.C. § 1(h), as modified by I.R.C. §§ 1(j)(5). Subchapter P of Chapter 1 of the Internal Revenue Code deals with capital gains and losses. *See* I.R.C. §§ 1202–98. Under current law, the capital gains tax exists in a complex network of rules for taxing savings and capital, which loosely includes capital gains and losses, interest, dividends, and derivatives. Present law taxes interest and non-qualified dividends as ordinary income, but the sale of capital assets and qualified dividends at preferential capital gains rates, effectively halving the tax on gains, losses and dividends for assets held longer than one year. Qualified dividends are taxed at preferential rates under I.R.C. § 1(h)(3)(B) and defined under I.R.C. § 1(h)(11). The general regime regarding the taxation of capital gains and losses may be found in Subchapter P of the I.R.C. Interest is deductible under I.R.C. § 163 while it is includible in general income under I.R.C. § 61(a). If a capital asset held for less than the one-year period is sold, it generates short-term gains or losses. I.R.C. § 1222. Since debt and equity can be used interchangeably to recreate the same income stream, the different tax treatment of debt and equity is a fundamental flaw of the Internal Revenue Code. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958) (foundational work regarding the debt-equity irrelevance principle under certain assumptions, notably no tax distortions); Alvin C. Warren, *US Income Taxation of New Financial Products*, 88 J. PUB. ECON. 899 (2004) (discussing how different instruments can be used to recreate the same cash flows but with different tax consequences). There are some important differences between debt and equity and the possible effects they may have on firm value, such as the "pecking order" theory by Myers and Majluf and the agency problems discussed by Jensen and Meckling. *See*, respectively, Stewart C. Myers & Nicholas S. Majluf, *Corporate Financing and Investment Decisions When Firms Have Information That Investors do not Have*, 13 J. FIN. ECON. 187 (1984) and Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976). For the problems caused by put-call parity for the current Code see Warren, *supra*, at 903. For an overview of the current taxation of capital, see HENRY J. AARON, LEONARD BURMAN & C. EUGENE STEUERLE, TAXING CAPITAL INCOME (2007). For another discussion *see* Alvin Warren, *The Corporate Interest Deduction: A Policy Evaluation*, 83 YALE L.J. 1585 (1974).

U.S. taxation.[3] How, then, has it persisted for so long? Although there has been extensive work on the early history of notable tax provisions, such as the corporate tax,[4] the taxation of interest,[5] dividends,[6] and even capital losses,[7] work on capital gains is far more limited.[8] I respond to this gap by closely studying the legislative history of the enactment of the capital gains tax preference to answer why a special, preferential tax rate exists in the first place, and what lessons it holds for modern tax policy.

The hundred-year anniversary of the capital gains tax is an opportune time to investigate the issue since similar tensions to those that concerned legislators in 1921 are prompting discussion of how to treat capital gains today. Prior to the COVID-19 pandemic, rising inequality and concerns that the wealthiest taxpayers were not paying their fair share induced calls to reform the taxation of capital gains, which are mostly reported by high wealth individuals.[9] The ongoing health cri-

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3. Edward Kleinbard, *Designing an Income Tax on Capital*, *in* TAXING CAPITAL INCOME 165, 170 (Henry J. Aaron, Leonard Burman, & Eugene Steuerle eds., 2007) (calling the differential taxation of debt and equity an "original sin" of U.S. taxation).

4. Steven Bank has written prolifically on this topic. *See* STEVEN A. BANK, FROM SWORD TO SHIELD: THE TRANSFORMATION OF THE CORPORATE INCOME TAX, 1861 TO PRESENT, at ix (2010); Steven A. Bank & Ajay K. Mehrotra, *Corporate Taxation and the Regulation of Early Twentieth-Century American Business*, *in* CORPORATIONS AND AMERICAN DEMOCRACY 177 (William J. Novak & Naomi R. Lamoreaux eds., 2017). *See also* Joseph J. Thorndike, *Taxing Corporations is Always Popular – Until It Isn't*, 100 TAX NOTES ST. 297, 298 (2021).

5. Camden Hutchison, *The Historical Origins of the Debt-Equity Distinction*, 18 FLA. TAX REV. 95, 103 (2015).

6. *Id. See also* BANK, *supra* note 4 (much of Bank's analysis deals with taxes on dividends as stand-ins for direct taxes on corporations, or vice-versa).

7. LAWRENCE ZELENAK, FIGURING OUT THE TAX: CONGRESS, TREASURY, AND THE DESIGN OF THE EARLY MODERN INCOME TAX 135 (2018) (covering withholding, charitable contributions, step-up at death, and capital losses).

8. For the current literature, see Ajay K. Mehrotra & Julia C. Ott, *The Curious Beginnings of the Capital Gains Tax Preference*, 84 FORDHAM L. REV. 2517 (2016); Joseph J. Thorndike, *FDR Tried to Stop a Capital Gains Tax Cut — and Failed*, 99 TAX NOTES ST. 919 (2021); Joseph J. Thorndike, *The New Deal and Capital Gains: A Cautionary Tale for Biden?*, 99 TAX NOTES ST. 727 (2021); Joseph J. Thorndike, *Tax History: Biden Wants to Reform the Capital Gains Preference — It Will Be Hard*, 99 TAX NOTES ST. 473, (2021).

9. *See* Leonard E. Burman & Peter D. Ricoy, *Capital Gains and the People who Realize Them*, 50(3) NAT'L TAX J. 427 (1997). *See also* Jeff Larrimore et al.,

sis and related financial difficulties suffered by millions of Americans despite record stock index highs has only made the situation worse.[10] Moreover, in 2020 the federal deficit broke all previous peace-time records, with the Congressional Budget Office reporting the deficit at $3 trillion, or 16% of GDP.[11]

Similarly, the postwar 1918–1921 period saw tensions between labor and capital erupt into widespread conflict culminating in record strike activity, bombings, the first Red Scare, deportations of suspected socialists, and restrictions on free speech.[12] The federal government had likewise just issued massive amounts of debt to finance World War I.[13] In order to

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Recent Trends in U.S. Top Income Shares in Tax Record Data Using More Comprehensive Measures of Income Including Accrued Capital Gains, 129 J. POL. ECON 1319 (2021).

10. By December 31, 2020, the Dow Jones hit a record high of 30,409.56. *See* Zacks Equity Research, *Stock Market News for Dec 31, 2020*, NASDAQ (Dec. 31, 2020), https://www.nasdaq.com/articles/stock-market-news-for-dec-31-2020-2020-12-3. For the impact of Covid on consumer spending and savings, see Olivier Coibion et al., *The Cost of the Covid-19 Crisis: Lockdowns, Macroeconomic Expectations, and Consumer Spending* (Nat'l Bureau of Econ. Rsch., Working Paper No. 27141, 2020).

11. CONG. BUDGET OFFICE, *An Update to the Budget Outlook: 2020 to 2030* (2020) https://www.cbo.gov/system/files/2020-09/56517-Budget-Outlook.pdf. As a percentage of GDP, such levels have not been seen since World War II. The large deficits were caused by COVID-19 related impacts and stimulus. For discussions, see Anthony J. Makin & Allan Layton, *The Global Fiscal Response to COVID-19: Risks and Repercussions*, ECON. ANALYSIS & POL'Y, Mar. 2021, at 340; Mariateresa Maggiolino, Robin Morgan & Maria Lucia Passador, *The State-of-the-Art of NPLs in the Post COVID World: An Ongoing Concern for the Future*, 10 LAW & ECON. YEARLY REV. 108 (2021) (discussion in the European banking sector context).

12. *See* ROBERT K. MURRAY, RED SCARE: A STUDY IN NATIONAL HYSTERIA, 1919–1920 (Univ. of Minn. Press 1955); WILLIAM E. FORBATH, LAW AND THE SHAPING OF THE AMERICAN LABOR MOVEMENT (Harv. Univ. Press 2009). Disillusioned with the divergence between the promises of liberalism and reality, the 1920s saw the rapid development of nascent social sciences critiquing many aspects of classic liberalism's socio-political framework. Legal scholarship in the 1920s saw the growth of legal realism which sought to address the role of the law in distributing wealth between social classes. *See, e.g.*, Duncan Kennedy, *The Stakes of Law, or Hale and Foucault!*, 15 LEGAL STUD. F. 327, 327 (1991); Richard A. Posner, *Legal Formalism, Legal Realism, and the Interpretation of Statutes and the Constitution*, 37 CASE W. RSRV. L. REV. 179, 181 (1987).

13. For the amount of debt outstanding see U.S. TREASURY, Historical Debt Outstanding, https://fiscaldata.treasury.gov/datasets/historical-debt-outstanding/historical-debt-outstanding (last visited Feb. 10, 2022) [herein-

fund the war effort and service that debt, in 1918 Congress dramatically increased tax burdens with top marginal tax rates on income reaching upwards of 70%.[14] Wartime tax collection could not last forever, and between 1920 and 1921 Congress took up the task of tax reform. A small but crucial part of the tax reform problem related to capital gains, which is the focus here. After extensive analysis and debate, Congress decided to substantially reduce tax rates on capital gains—and only capital gains—to 12.5%, thereby creating the capital gains tax preference.

This Note has two main goals. First, to understand Congress's reasons for enacting the preference, both in terms of rates and special treatment relative to other types of income. Sources include the record of legislative hearings, draft bills, and congressional debates. This review finds that the preference was adopted more as a recognition that the system was broken but too complicated to fix rather than as an attempt to benefit the private sector. Congress ignored and in fact rejected explicit pro-capital or pro-business rationales, though such a bias may have been implicitly embedded in Congress's worldview at the time. Arguments and evidence that wealthy taxpayers had easily avoided the capital gains tax and hence prevented the Treasury from collecting substantial revenue from the 73% top marginal rate led to sweeping support for reform. Presented with several options, Congress preferred the introduction of a special low tax rate on capital gains that would be easier to administer than more wholistic reform options. Other structural reform proposals like apportionment of gains across periods or calculating gains according to an inflation-adjusted basis were also raised, but these were dismissed as being too complex. This story likewise reveals some important concepts in tax scholarship that are thought to have been developed much later. For example, in 1921 Senator Jones proposed a consumption tax many decades before Bill Andrews revolutionized tax law by seemingly writing about such taxes for the first time in 1974.[15]

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after Treasury Debt Data]. Between 1915 and 1920 outstanding debt increased by around $25 billion.

14. *See infra* Part I.

15. William D. Andrews, *A Consumption-Type or Cash Flow Personal Income Tax*, 87 HARV. L. REV. 1113 (1973). For the ensuing discussion, see Alvin C. Warren Jr., *Fairness and a Consumption-Type or Cash Flows Personal Income Tax*,

The second goal is to investigate the validity of Congress's revenue-raising hypothesis. Were legislators right in thinking that the 12.5% rate would increase tax receipts compared to the prior 73% rate? To address this question, the note presents data on wealthy taxpayers' capital gains from the IRS Statistics of Income between 1915 and 1925. In view of the general shortcomings of empirical analysis regarding capital gains elasticities and the questionable relevance of century-old tax data, the note presents summary statistics rather than econometric analysis.[16] I find that the IRS data is consistent with Congress's hypothesis: tax receipts from capital gains for top-bracket taxpayers were indeed greater following the 1921 reform compared to before. Given the above limitations this finding should not be taken to imply causation, nor do I argue that a 12.5% tax rate for capital gains was optimal in the 1920s or today. Instead, I echo and develop the arguments of Tim Dowd, Zach Richards, Joel Slemrod, and Wojciech Kopczuk that elasticities depend in part on the general structure of the Code and the relative taxation of savings more broadly, not only tax rates.[17]

This re-examination provides lessons for modern debates on taxing capital gains, especially those of high wealth taxpayers. Widely recognized as being inadequate, both sides of the political spectrum have advanced considerable reform propos-

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88 HARV. L. REV 931 (1975) and William D. Andrews, *Fairness and the Personal Income Tax: A Reply to Professor Warren*, 88 HARV. L. REV. 947 (1974). For a history see Reuven S. Avi-Yonah, *The Rise and Fall of the Consumption Tax: A Historical Perspective* (Univ. of Mich. L. and Econ. Rsch. Paper Series., Working Paper No. 14-0245, 2015) (includes tariffs and taxes on the sale and consumption of goods as consumption taxes proper, which I do not do here).

16. *See* Tim Dowd & Zach Richards, Contextualizing Elasticities for Policymaking: Capital Gains and Revenue-Maximizing Tax Rates (Mar. 10, 2021) (unpublished manuscript) (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3767121).

17. *Id.* at 15, 23. This point is also made by Emmanuel Saez & Gabriel Zucman, *Progressive Wealth Taxation*, 2019 BROOKINGS PAPERS ON ECON. ACTIVITY 437, 458 (2019) (arguing that tax avoidance under a wealth tax is a policy choice). The point is made more forcefully by Natasha Sarin et al., *Rethinking How We Score Capital Gains Tax Reform* (Nat'l Bureau of Econ. Rsch., Working Paper No. 28362, 2021); Joel Slemrod & Wojciech Kopczuk, *The Optimal Elasticity of Taxable Income*, 84 J. PUB. ECON. 91 (2002) (modelling scenarios where policymakers control other instruments which can influence elasticity).

als.[18] Assuming that tax burdens should be greater than they currently are, the focus here will therefore be on proposals which aim to increase taxes on capital. Perhaps the most famous proposal, Thomas Piketty has argued for top marginal tax rates of roughly 80% on income over half a million in addition to wealth taxes.[19] Similarly, proposals made by Senators Warren and Sanders during the 2019–2020 Democratic Primaries included wealth taxes and raising capital gains tax rates, while President Biden aims to raise tax rates on capital gains without imposing a wealth tax.[20]

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18. Republican proposals have typically been centered around the consumption tax. For a practical discussion of actual proposals see David A. Weisbach, *A Guide to the GOP Tax Plan – The Way to a Better Way*, 8 COLUM. J. TAX L. 171 (2017). For a theoretical discussion, see Joseph Bankman & David A. Weisbach, *The Superiority of an Ideal Consumption Tax Over an Ideal Income Tax*, 58 STAN. L. REV. 1413 (2006). For Democrat proposals see *infra*, note 20. For a more theoretical discussion of such proposals especially wealth tax ones, and the inherent problems with the current system, see Saez & Zucman, *supra* note 17.

19. THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY 513–14 (Harv. Univ. Press 2014) is Piketty's piece concerning income inequality and taxation. Theoretically, Piketty's point can be made distinct from eliminating the favorable taxation of capital gains, but he recommends ending it. There have been extensive responses to his work which will not be discussed here. Other public economics research supporting higher tax rates than those normally proposed in the optimal income tax literature include Thomas Piketty, Emmanuel Saez & Stefanie Stantcheva, *Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities*, 6 AMERICAN ECON. J.: ECON. POL'Y 230–71 (2014).

20. Senator Warren proposed a mark-to-market system for capital, and set gains tax rates equal to ordinary income rates, making the baseline rate roughly 40%. Team Warren, *Ending the Stranglehold of Health Care Costs on American Families* (Nov. 1, 2019), https://medium.com/@teamwarren/ending-the-stranglehold-of-health-care-costs-on-american-families-bf8286b13086. For Senator Sanders's proposal, see Friends of Bernie Sanders, *Tax on Extreme Wealth*, https://berniesanders.com/issues/tax-extreme-wealth/ (last visited Apr. 4, 2020). The exact schedule is as follows: 1% on net worth between 32-50 million; 2% from 50 to 250 million; 3% from 250 to 500 million; 4% from 500 million to 1 billion; 6% from 2.5 to 5 billion; 7% from 5 to 10 billion; and 8% exceeding 10 billion. All for married couples. For the wealth tax bill referred to the House Committee on Ways and Means and co-sponsored by Warren and Sanders, see the Ultra-Millionaire Tax Act of 2021, H.R. 1459, 117th Cong. (2021) [hereinafter Ultra-Millionaire Tax Act]. For President Biden's plan, see Greg Iacurci, *Biden's Top Tax Rate on Capital Gains, Dividends Would Be Among Highest in Developed World*, CNBC (June 21, 2021, 7:57 AM), https://www.cnbc.com/2021/06/21/biden-tax-plan-raises-top-capital-gains-dividend-tax-rate-to-among-highest-in-world.html.

The 1921 capital gains tax rate reduction cautions against simply raising capital gains tax rates while ignoring structural reforms to the underlying taxation of capital, especially the realization requirement. I argue that some, if not most, of the failure of the high tax 1917–1921 years comes from structural inadequacies of the Code, not because high tax rates are inherently wrong. How much revenue a given tax can collect depends on the overall legal architecture in which it exists, with the implication for current policy being that larger tax levies on capital must be supported by reforms targeting accumulated savings and entity level taxation more broadly.[21] Recent wealth tax proposals are interesting since their strength may lie precisely in their ability to reduce taxpayers' ability to avoid, evade, or defer taxes on capital, though there may be other practical difficulties regarding enforcement and administration.[22]

This Note proceeds as follows. Part I surveys the early taxation of capital to situate the 1921 reform within the broader legal and socio-economic framework. I define "capital" and "savings" as including interest, dividends, and capital gains, which can be used interchangeably by corporations or taxpayers to recreate the same income stream with different tax consequences.[23] Part II looks at the legislative and political history of the enactment of the preference, first introduced in the 1921 Revenue Act.[24] Part III presents IRS Statistics of Income from the 1915–1925 period to determine whether, as Congress anticipated, the capital gains preference resulted in an in-

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21. In the public economics scholarship Slemrod and Kopczuk analyze the sensitivity of avoidance of one type of tax (e.g., a capital gains tax) relative to other related policy instruments (e.g., the corporate tax), which is argued later in the piece. *See supra* note 17 and accompanying text.

22. *See* Saez & Zucman, *supra* note 17 (arguing that the value of a wealth tax comes from its ability to broaden the base); *see also* Florian Scheuer & Joel Slemrod, *Taxing Our Wealth*, J. ECON. PERSPS., Fall 2021, at 207. *But see* Lawrence H. Summers, *Would a Wealth Tax Help Combat Inequality?*, *in* COMBATING INEQUALITY: RETHINKING GOVERNMENT'S ROLE 141, 141 (Olivier Blanchard & Dani Rodrik eds., 2021).

23. Especially important is that income from capital includes capital gains which is but one possible way of structuring returns to capital, such that capital and capital gains are two distinct concepts.

24. Revenue Act of 1921, Pub. L. No. 67-98, 42 Stat. 227. From now on (and since the beginning of this piece), the only legislation that shall be called the "1921 Revenue Act" is the final statute that passed into law.

crease in tax receipts from top-bracket taxpayers. I then discuss how the Code's legal structure could have led to this result. The Note concludes and discusses the takeaways for current tax policy.

I.
THE TAXATION OF SAVINGS AND CAPITAL BETWEEN 1861 AND 1919

Understanding the purpose and effect of the capital gains preference requires the study of two related topics: the early taxation of capital and the impact of World War I on United States fiscal policy. One scholar who has extensively studied the early income tax, Lawrence Zelenak, describes scholarship on the United States' early tax history as offering "a selective—very far from comprehensive—description of the early technical development of the federal income tax."[25] He is too modest in this assessment, since while historical tax work does indeed select and study specific elements of the tax system, the analysis proves detailed, in-depth, and singularly insightful in contextualizing the divergence in approaches taken to taxing returns on investments.

A. *The First Income Taxes: 1861–1909*

The United States enacted its first income tax in 1861 to fund the Union's wartime expenses during the Civil War, taxing every person's annual income at a 3% rate.[26] However, it was only in 1862 that the federal government introduced a withholding tax on interest and dividends paid by corporations.[27] To avoid double taxation, these payments were fully deductible by taxpayers.[28] What constituted deductible interest changed significantly from year to year, with Congress failing to settle on a coherent approach.[29] Regarding dividends,

25. ZELENAK, *supra* note 7, at 3.

26. For the statute itself, see An Act to Provide Increased Revenue from Imports, to Pay Interest on the Public Debt, and for Other Purposes, § 49, 12 Stat. 292, 309 (1861). *See* Hutchison, *supra* note 5, at 103–14.

27. Hutchison, *supra* note 5, at 105; An Act to Provide Internal Revenue to Support the Government and to Pay Interest on the Public Debt, § 90, 12 Stat. 432, 469–70 (1862).

28. Hutchison, *supra* note 5, at 105–06.

29. *Id.* at 109–13. Mortgage interest became deductible in 1864. An Act to Provide Internal Revenue to Support the Government, Pay Interest on the

Steven Bank, a prolific writer of tax history especially as it relates to corporate taxation, notes that the scheme was both over- and under-inclusive,[30] and did not cover all industries.[31] It was under-inclusive because dividends were withheld at a 5% rate and were fully deductible by individuals even though the top individual tax rate was 10%, and was over-inclusive because even those who owed no taxes still saw their dividends subjected to 5% withholding.[32] These conceptual difficulties did not last long, as this income tax was repealed in 1871.[33]

After extensive Congressional debate, the short-lived 1894 Act,[34] allowed for the deductibility of all interest, whether "bonded or other indebtedness," by corporations.[35] Although interest was includable as income, there was no direct dividend tax: corporate income was taxed instead at the entity level.[36] Bank explains that this policy was a streamlined version of a dividend tax, not an attempt to tax corporate income.[37] While the Act was important for the future development of the income tax, it was quickly struck down by the Supreme Court in *Pollock v. Farmers' Loan & Trust Co.*[38] Responding to the inability to enact a federal income tax, in 1909 Congress enacted

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Public Debt, and for Other Purposes, §§ 120–22, 13 Stat. 223, 281–82, 283–85 (1864). Only business-related interest was deductible following 1867. An Act to Amend Existing Laws Relating to Internal Revenue, and for Other Purposes, § 13, 14 Stat. 471, 478 (1867). All interest became deductible in 1870. An Act to Reduce Internal Taxes, And For Other Purposes, § 6, 16 Stat. 256, 258 (1870).

30. BANK, *supra* note 4, at 20–21.

31. *Id.*

32. *Id.*

33. An Act to Reduce Internal Taxes, and for Other Purposes, § 6, 16 Stat. 256, 257 (1870) [hereinafter 1870 Act] provided that the income tax would expire in 1871, as Hutchison, *supra* note 5, at n.24.

34. The 1894 Act, An Act to Reduce Taxation, to Provide Revenue for the Government, and for Other Purposes, §§ 27–33, 28 Stat. 509, 553–57 (1894), was struck down by the Supreme Court in *Pollock v. Farmers' Loan & Trust Co.*, 157 U.S. 429 (1895).

35. *Id. See* Hutchison, *supra* note 5, at 114–24 for the historic discussion. For the quote, see Hutchison, *supra* note 5, at 119 n.111.

36. BANK, *supra* note 4 at 51.

37. *Id.* at 50–51.

38. *Pollock*, 157 U.S. 429 (where the Supreme Court found that certain portions of the 1894 Act, namely the tax on income derived from real estate and personal property, were direct taxes and hence must be apportioned under U.S. CONST. art. I, § 2. Since apportionment was not satisfied, the entire Act was struck down).

an excise tax on corporations which allowed for the deduction of interest from bonds.[39] The excise tax limited the amount of the deduction to paid-up-capital stock based on the fear that corporations would exchange equity for debt, making unlimited interest deductions politically undesirable.[40]

B. *The Sixteenth Amendment and the 1913 Income Tax*

In 1913 Congress bypassed the ruling in *Pollock* by enacting the Sixteenth Amendment, giving it the power to collect taxes from income from any source and without apportionment, and subsequently passed the 1913 Revenue Act.[41] This new and now constitutional income tax maintained interest deductibility, but the limit was changed to half of paid-up-capital plus half of outstanding debt.[42] As before, interest income was fully includible for individuals. The Act likewise included a direct corporate tax which was again seen as an indirect way of taxing shareholder wealth, with the corresponding exclusion of dividends from the individual income tax.[43] A major development in the 1913 Act was the introduction of a surtax that rose progressively with income and included dividends in addition to the "normal" flat tax.[44]

The 1913 Act created great confusion regarding the taxation of capital gains.[45] Much of this confusion arose from the explicit inclusion of all "gains, profits, and income derived from . . . dealings in property, whether real or personal," even though Zelenak writes that the primary author of the 1913 Act, Cordell Hull, emphatically stated that capital gains were excluded.[46] This legal uncertainty was only settled in 1921 thanks to four Supreme Court rulings that capital gains constituted

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39. Hutchison, *supra* note 5, at 124–25. This was not the first corporate excise tax. *See* Bank & Mehrotra, *supra* note 4.

40. Hutchison, *supra* note 5, at 126.

41. *See id.* at 122; U.S. CONST. amend. XVI; Pub. L. No. 63-16, § II.A–G, 38 Stat. 114, 166–71 (1913) (An Act to reduce tariff duties and to provide revenue for the Government, and for other purposes) [hereinafter 1913 Act].

42. 1913 Act, *supra* note 41, § II(G), at 176. *See also* Hutchison, *supra* note 5, at 130 (accompanying n.174).

43. 1913 Act, *supra* note 41, § II(G), at 170.

44. 1913 Act, *supra* note 41, § II(A)–(B), at 166–67.

45. ZELENAK, *supra* note 7, at 136.

46. *Id.* at 135.

income.[47] The 1913 Act was silent regarding capital losses,[48] with Zelenak describing Congress's view on capital losses as "wandering in the tax policy wilderness" until they finally arrived at the current approach in 1942.[49] Regardless, soon after the enactment of the 1913 Act, the Treasury denied the deductibility of capital losses, despite Cordell Hull's position to the contrary.[50]

Students of tax law will quickly note the tax asymmetries and their distortion of investment decisions. The 1913 Act saw interest fully includible and deductible (with limits) at the corporate level, dividends includible in the surtax but not deductible by corporations, capital gains fully includible, and capital losses not includible at all.[51] In stark contrast with the capital gains preference under current law, investors were disincentivized from adopting investment strategies based on realizing appreciated capital assets.[52] Since the combined top marginal rate was 6% (and only on income exceeding $500,000), any distortions were likely smaller relative to later tax schedules.[53]

C. *World War I and the Revenue Acts of 1916, 1917, and 1918*

World War I was a turning point for the United States. According to Jeremy Atack and Peter Passell the change in global economic conditions caused by the outbreak of war in Europe benefited the United States with the demand for foodstuffs, consumer goods, and resources at all-time highs.[54] Gold also flowed into American banks, increasing the money supply

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47. Marjorie Kornhauser, *The Origins of Capital Gains Taxation: What's Law Got to Do with It?*, 39 SOUTHWESTERN L.J. 869, 876–80 (1985) (The four Supreme Court cases discussed are Merchants' Loan & Trust Co. v. Smietanka, 255 U.S. 509 (1921); Eldorado Coal Co. v. Mager, 255 U.S. 522 (1921); Goodrich v. Edwards, 255 U.S. 527 (1921); and Walsh v. Brewster, 255 U.S. 536 (1921)).

48. ZELENAK, *supra* note 7, at 139.

49. *Id.* at 137.

50. *Id.* at 139.

51. *See supra* notes 45–50 and accompanying text.

52. Contra the situation described in the prior paragraphs with that in Halperin, *supra* note 1. Under current law capital gains are taxed at favorable rates, while under the 1913 Act capital gains were taxed less favorably since there was no offsetting provision for losses. *Id.*

53. 1913 Act, *supra* note 41, § II (A), at 166.

54. JEREMY ATACK & PETER PASSELL, A NEW ECONOMIC VIEW OF AMERICAN HISTORY: FROM COLONIAL TIMES TO 1940, 557 (2d ed. 1994).

and prices.[55] About halfway through the war the United States Congress enacted the 1916 Revenue Act, which raised tax rates on both the flat tax and the surtax.[56] Although the 1916 Act was less impactful in terms of capital tax policy, Congress reversed course and allowed the deduction of investment losses to the extent they offset investment gains.[57] This change reduced the drawback from strategies aiming to generate income streams from selling appreciated assets, especially since taxpayers could choose when to trigger (realize) those gains.

The United States formally declared war on the Central Powers on April 6, 1917, and quickly found itself in a problematic situation. A decentralized political apparatus and a free-market economic system hindered the mobilization of goods and manpower.[58] To remedy this situation the federal government attempted to integrate the private sector directly into the war effort.[59] Two noteworthy examples were the Council for National Defense, which was charged with coordinating industry and resources for the war, and the War Industries Board, responsible for procuring war supplies.[60] Both were created to serve the needs of a war-time command economy and were staffed by prominent members of the corporate world.[61] This fusion of private and public sector interests was seen as necessary to keep the American war machine running smoothly.[62]

Upon joining the war, the federal government's expenditures rose from below $760 million a year to more than $760

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55. *Id.* at 555.

56. Pub. L. No. 64-271, §1, 39 Stat. 756 (1916) (An Act to Increase the Revenue, and for Other Purposes) [hereinafter 1916 Act].

57. *Id.* § 5(a) at 756. *See also* ZELENAK, *supra* note 7, at 140–42.

58. ATACK & PASSELL, *supra* note 54, at 555.

59. *Id.* at 555–56.

60. *See* GROSVENOR B. CLARKSON, INDUSTRIAL AMERICA IN THE WORLD WAR: THE STRATEGY BEHIND THE LINE, 1917-1918, (1923); ROBERT D. CUFF, THE WAR INDUSTRIES BOARD: BUSINESS-GOVERNMENT RELATIONS DURING WORLD WAR I (1973).

61. ATACK & PASSELL, *supra* note 54, at 556, 560 (the Council for National Defense was created in 1916 prior to the U.S. entering the war to prepare for the eventual possibility of US involvement in World War I). *See* 50 U.S.C. § 1. *See* ERNA RISCH, QUARTERMASTER SUPPORT OF THE ARMY: A HISTORY OF THE CORPS, 1775–1939 604 (1989) (historic overview of the War Industries Board).

62. *See* Ajay K. Mehrotra, *Lawyers, Guns, and Public Moneys: The U.S. Treasury, World War I, and the Administration of the Modern Fiscal State*, 28 LAW & HIST. REV. 173, 179–81 (2010).

million a month,[63] with federal spending soaring from 0.2% of GDP in 1914 to 3.2% in 1919.[64] Most of the revenue required for this spending came from income taxes, corporate taxes, debt, and tariffs.[65] While the 1916 Revenue Act had a top marginal tax rate of 15% (a combination of the 2% flat rate, plus the 13% surtax on all income above 2 million),[66] the 1917 War Revenue Act set a top combined marginal tax rate of 67% on individuals and imposed excess profits taxes for companies (so-called "war profits" taxes) between 20–60% of excess profits relative to peace-time margins.[67] These "excess profits" were measured inverse proportionally to invested capital, which included equity and undistributed profits but not most debt financing.[68] Despite the surge in applicable tax rates on both individual taxpayers and corporate entities, the taxation of interest, dividends, capital gains and losses vis-à-vis each other remained largely unchanged.

Of course, there was ample opposition to high tax rates. Camden Hutchison writes that "with American soldiers fighting overseas, business leaders were reluctant to directly criticize higher taxes. Rather than lobbying for the reduction of nominal tax rates, businesses instead focused on the tax laws' more technical provisions," like the interest deduction limit.[69] The 1918 Revenue Act accordingly allowed for some debt to be included as invested capital, but only debt whose interest was not deducted from income.[70] Since this was only a partial remedy, extensive lobbying resulted in payments becoming fully deductible in 1919.[71]

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63. ATACK & PASSELL, *supra* note 54, at 556–57.

64. Mehrotra, *supra* note 62, at 179.

65. *Id.* at 179–80.

66. An Act to Increase the Revenue, and for Other Purposes, Pub. L. No. 64-271, § 1, 39 Stat. 756 (1916).

67. An Act to Provide Revenue to Defray War Expenses, and for Other Purposes, Pub. L. No. 65-50, § 1, 40 Stat. 300 (1917).

68. Hutchison, *supra* note 5, at 133–34.

69. *Id.* at 132.

70. *Id.* at 135. For the 1918 Revenue Act, see An Act to Provide Revenue, and for Other Purposes, Pub. L. No. 65-254, § 301(a), 40 Stat. 1057, 1088 (1919) (note, that despite the Act appearing in 1919, it is referred to as the 1918 Revenue Act and covered the calendar year ending in 1918) [hereinafter "1918 Revenue Act" or "1918 Act"].

71. Hutchison, *supra* note 5, at 133–36 (strongly recommended reading regarding the deductibility of interest and dividends).

The 1918 Revenue Act saw further increases in taxes.[72] The highest combined marginal rate rose to 77% for 1918, 73% for subsequent years, and tax rates on excess profits were increased as well.[73] The Act likewise removed limitations on capital losses, making them fully deductible.[74] Besides taxes, the United States issued upwards of 25 billion in debt to fund the war.[75] Despite the signing of the armistice on November 11, 1918, spending would not return to pre-war levels.[76] Instead, expenditures in the 1920s were more than three times their pre-war levels.[77] Particularly important was the rise in interest payments on government debt, which by 1927 corresponded to 22% of the federal budget compared to 2.5% in 1913.[78] The additional revenue required to sustain the increase in expenses primarily came from income and corporate taxes.[79] High levels of debt and other revenue requirements had fundamentally changed conceptions of the modern fiscal state, making effective taxation a priority.[80]

Using corporations to defer shareholder-level taxation was an important feature of U.S. taxation between 1916–1921. Such deferral was valuable because of lower corporate tax rates and the introduction of the individual surtax.[81] Congress responded by targeting retained earnings through an undivided profits tax in the 1913 Act, but its application was too weak to matter.[82] As income tax rates rose between 1916 and 1918 so too did the incentive to retain earnings. However, Congress replaced the undistributed profits tax in 1917 with the wartime excess profits tax thereby lessening the cost of deferring

72. 1918 Act, *supra* note 70, Title II, Part II.

73. *Id.* For a contemporary article discussing the legislation, see Roy G. Blakey & Gladys C. Blakey, *The Revenue Act of 1918*, 9 AM. ECON. REV. 214 (1919).

74. ZELENAK, *supra* note 7, at 140–42.

75. Treasury Debt Data, *supra* note 13.

76. ATACK & PASSELL, *supra* note 54, at 557.

77. *Id.*

78. *Id.*

79. *Id.*

80. *See generally* Mehrotra, *supra* note 62; AJAY K. MEHROTRA, MAKING THE MODERN AMERICAN FISCAL STATE: LAW, POLITICS, AND THE RISE OF PROGRESSIVE TAXATION, 1877-1929 (2013).

81. Bank & Mehrotra, *supra* note 4, at 187–88.

82. *Id.*

shareholder taxation.[83] Indeed, Bank and Mehrotra report that large corporations were able to manipulate capital structure to reduce their liability under the excess profits tax, which made them appealing tax avoidance vehicles for wealthy shareholders subject to high marginal rates.[84] Corporate-level deferral of shareholder taxes likely impacted the performance of taxes on between 1917 and 1921, as discussed in Part III.

II.
The 1921 Capital Gains Preference

A. *Introduction to the 1921 Reform*

In the early 1920s the reality of expanded government, increased expenditures, and war debt coming due required the federal government to raise substantial revenue.[85] However, existing taxes were seen as easily avoided by the wealthy and the tax burden was seen as having become excessive because of wartime revenue needs, a feeling which was exacerbated once the country entered into a recession between 1920–1921.[86] The need to reduce tax burdens while still maximizing revenue featured heavily in the minds of the architects of the 1921 Revenue Act.[87]

The 1921 Act introduced several staples of modern tax law, with a first example being the full inclusion of debt at the shareholder level and full deductibility at the corporate level, which resulted from Congress repealing the excess profits tax without changing the taxation of interest.[88] A second is the expansion of the tax-free reorganization rules, which had originally been adopted in a weaker form in 1918.[89] Yet another feature, the focus here, is a lower tax rate on capital gains compared to other income.[90]

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83. *Id.* at 191–92.

84. *Id.* at 191–93.

85. *See* discussion *infra* Section II.B (especially Adams's testimony).

86. *Id.* at 196.

87. *See* Anne L. Alstott & Ben Novick, *War, Taxes, and Income Redistribution in the Twenties: The 1924 Veterans' Bonus and the Defeat of the Mellon Plan*, 59 Tax L. Rev. 373, 374–75 (2006).

88. Hutchison, *supra* note 5, at 136.

89. *See* Bank & Mehrotra, *supra* note 4, at 196–97.

90. The special rate is found in section 206 of the 1921 Revenue Act. *See* Revenue Act of 1921, Pub. L. No. 67-98, §§ 206(b), 210–11, 42 Stat. 227, 233–37 (1921). Taxpayers could elect to have this special lower rate (12.5%)

The formal political reform process went relatively quickly, beginning in December of 1920 and ending with the signing into law of the Revenue Act on November 23, 1921. During this period, both the House Ways and Means Committee and the Senate Finance Committee held hearings with testimony from academics, members of the Treasury, representatives of industrial interests, and members of the public.[91] While the entire process will be canvassed shortly, the preliminary hearings before the House and Senate committees are particularly revealing as to the concerns and options available to Congress.

B. *House Ways and Means Hearings, December 1920 to January 1921*

In December 1920, the House Ways and Means Committee was given the mandate to prepare a draft for a new, postwar tax regime.[92] The Committee heard from Treasury officials, organizations, associations, experts, and other interested parties to help them with their task. Among the experts who testified was Thomas Sewall Adams, a Professor of tax and economics at Yale who served as economic advisor to the U.S. Treasury between 1917 and 1933.[93] In addressing the Commit-

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apply to all capital gains. Only those taxpayers with income above $12,000 benefited from such an election, since rates on brackets below $12,000 were less than the special 12.5% rate.

91. Some examples include Professor T. S. Adams, representing the Treasury, *Revenue Revision: Hearings Before the H. Comm. on Ways & Means*, 66th Cong. 3–42 (1921) [hereinafter *1920–21 W&M Hearings*] (statement of Thomas S. Adams, Tax Advisor, the Treasury Department), Thomas W. Hardwick and Ellis C. Johnson, representing the National Association of Bottlers of Carbonated Beverages, *id.* at 141–51 (statement of Hon. Thomas W. Hardwick, Representative, the National Association of Bottlers of Carbonated Beverages), 151–52 (statement of Ellis C. Johnson, Representative, the National Association of Bottlers of Carbonated Beverages) (in hindsight his testimony is especially interesting since they argued that soda should receive a tax subsidy because of their health benefits), and E.F. McGrady, representing the American Federation of Labor, *Internal-Revenue Hearings: Hearing on the Proposed Revenue Act of 1921 Before the S. Comm. On Fin.*, 67th Cong. 404–08 (1921) [hereinafter *Senate Finance Committee Hearings*] (statement of Edward F. McGrady, Representative, American Federation of Labor).

92. *See 1920–21 W&M Hearings*, *supra* note 91, *passim.*

93. *Id.* at 3. T.S. Adams was an early tax scholar in the United States. In this piece he features prominently, with many of the contours of the early capital gains preference being either created with him or deeply shaped by

tee he represented himself in his capacity as a tax specialist and also acted as the representative of the Treasury Department and then-Secretary of the Treasury David Houston.[94]

Adams began his testimony by relaying Secretary Houston's primary recommendations for tax reform. The Secretary was primarily concerned with raising revenue:

> [U]nder the existing circumstances in which we found ourselves, *particularly by reason of the very large amount of floating debt which we are carrying and the business uncertainties*, . . . it is necessary that the tax revenues be kept on a level of approximately [$4 billion] a year until the close of the year 1923. That is a question about which, in particular, you gentlemen will want to make up your own minds. . . . The Secretary . . . has concluded it is the part of wisdom to keep our tax revenues at a point sufficient to enable us to pay off by the close of the fiscal year 1922 and the first half of the calendar year 1923 our floating debt of [$2.3 billion], approximately. . . . *The Secretary's conclusion is that it [the debt] ought to be extinguished, and that premise having been accepted, it follows that if we repeal or reduce certain taxes we must, as a consequence, try to replace them with other tax revenues of equivalent yield.*[95]

Revenue requirements were a paramount concern, brought on by the need to repay war debt and make floating interest payments. Critically, Adams noted that the nation's wealthiest were being "forced" into investing in tax-exempt se-

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his input. In this piece, he appears as a tax adviser to the Treasury, but he was also a professor, first at the University of Wisconsin–Madison and then at Yale, President of the National Tax Association between 1922–1923, and President of the American Economic Association in 1927. *See* A. E. Holcomb, *Thomas Sewall Adams*, 18 BULL. NAT'L TAX SOC'Y 194 (1933); *Adams, Thomas Sewall*, Wisconsin Historical Society, https://www.wisconsinhistory.org/Records/Article/CS4700 (last visited Feb. 10, 2022).

94. *See 1920–21 W&M Hearings*, *supra* note 91, at 4. David F. Houston was the 5th Secretary of Agriculture in office from March of 1913 to February of 1920, after which he was the 48th Secretary of the Treasury between February of 1920 to March of 1921. *See* LEWIS L. GOULD, *Houston, David Franklin*, *in* AMERICAN NATIONAL BIOGRAPHY (2000), American National Biography Online. While the hearings for the 1921 tax reform began while he was Treasurer, he would cease to be the Treasurer before they were finally enacted. *Id.*

95. *1920–21 W&M Hearings*, *supra* note 91, at 6 (emphasis added).

curities instead of ordinary industrial securities subject to taxation.[96] The need to raise short-term revenue would be a generating force behind the capital gains preference.

In addition to the revenue requirement, the Treasury was concerned with the burden caused by war-time taxation. Throughout the hearings, the Committee and various members of the Treasury, including Adams, repeatedly stressed that tax rates were too high.[97] While testifying on his own behalf Adams stated that "we simply can not successfully collect in the long run income tax which ranges as high as 70 per cent."[98] He further stressed that his reasoning was not based on notions of a "tender heart," but was instead an economic approach involving a "calculation . . . as to how we can get the most revenue."[99] Adams's point was that lower rates, independently of whether they were moral or just, would yield greater tax receipts.

His arguments were based on the high tax 1917–1921 period. He stated that the high marginal capital gains tax rates had failed to bring in substantial revenue with high-income taxpayers having found various ways to avoid large tax bills,[100] and that those very high rates were not driven by sound policy considerations but rather special war-time circumstances: "the truth of the matter is that under the pressure of war we have overdriven the income tax."[101] In light of this overdriving, Adams, a self-described "friend of the income tax," explained that it is "because I want to save the income tax [that] I want to see its burdens reduced to the point where it is bearable."[102] He thus argued that by lowering tax rates until they were bearable, Congress would collect greater tax receipts.

The Committee likewise heard "from many sources that very wealthy men [were] rapidly and have been rapidly chang-

96. *See id.* at 10.
97. *Id.* at 10, 12.
98. *Id.* at 13.
99. *Id.*
100. *Id.* ("There is a possibility of getting a good round income from rates which the wealthier tax payers will pay rather than purchase municipal bonds. With a 28 or 30 per cent maximum rate, the ordinary tax payer can invest in industrial, railroad and similar securities and still have as much left after he has paid his tax as he would have if he bought municipal or other tax-free securities.").
101. *Id.* at 12.
102. *Id.*

ing their investments to municipal bonds and other tax-exempt sources."[103] The implication being that the "unbearable" rates were leading to rampant tax avoidance. Adams specifically addressed this issue in his testimony, stating that he thought Congress could generate "a good round income from rates which the individual taxpayer will pay rather than choose municipal bonds . . . or other tax-free securities."[104] While Adams's main recommendation was to reduce rates, he offered several alternatives which would minimize the impact of avoidance behavior, including that tax rates be set based on total [gross] income rather than net income, resulting in more tax receipts even if tax-free income were not itself taxed.[105] Likewise, the Committee considered a sales tax to combat avoidance, though dismissed these proposals as being too complex.[106]

A complicating factor was the prominent view that the excess profits tax should be repealed, and indeed Title III of the 1921 Revenue Act limited the top marginal excess profit tax rate to 40% for 1921 and ended it effective 1922.[107] Adams testified that a substitute capable of generating $450 million in revenue was needed if the excess profits tax was abolished.[108] While reducing surtaxes and eliminating the excess profits tax would be an important part of tax reform, the need to pay war debts necessitated some level of tax neutrality.[109] David Friday, Professor of Political Economy at the University of Michigan, observed that the American public blamed the excess profits tax for rising prices, with businesses simply shifting the tax onto consumers.[110] President Harding,[111] Andrew Mellon (the new Secretary of the Treasury and a famous proponent of low

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103. *Id.* at 14.
104. *Id.* at 13.
105. *Id.* at 15.
106. *See id.* at 21–43.
107. *Id.* at 215. Revenue Act of 1921, Pub. L. No. 67-98, § 301(a), 42 Stat. 227, 272.
108. *1920–21 W&M Hearings, supra* note 91, at 9–10 (statement of T.S. Adams).
109. *Id.* at 6–7, 9–10, 17, 215.
110. *Id.* at 258–63.
111. *See Senate Finance Committee Hearings, supra* note 91, at 505 (statement of Frank E. Seidman, Certified Public Accountant); *see also* Benjamin G. Rader, *Federal Taxation in the 1920s: A Re-examination*, 33 HIST. 415, 417 (1971).

tax rates),[112] and many Congressmen and Senators likewise favored the repeal of the excess profits tax.[113]

Among the speakers who followed Adams was Frederick R. Kellogg, a New York lawyer and an important figure in the enactment of the capital gains tax preference.[114] His role is discussed by Ajay Mehrotra and Julia Ott's review of the capital gains tax between the First and Second World Wars, which notes that Kellogg played a critical role in the development of the preference and suggest that the idea for it may have originated with him.[115] Although many were thinking of a capital gains preference at the time—not just Kellogg—Mehrotra and Ott are right to highlight the key role he played in the legislative process.

Kellogg began his testimony to the Ways and Means Committee by declaring that he was "not purporting to give [the Committee] any more than [his] own personal experience, corroborated by a number of comparisons and notes with other men in New York City."[116] The problem, he explained, was that many transactions fell through due to prohibitively high surtaxes:

> It has so happened that within the last three years in matters that have come to my desk involving sales, transfers, reorganizations, and various activities, both of a corporate and an individual nature, there have been a great many millions of dollars of proposed transactions which I have had to kill absolutely, simply because of the fact that the people who were going to make those transactions would have had to pay anywhere from 40 to 70 odd per cent to the Govern-

112. *See Senate Finance Committee Hearings, supra* note 91, at 505 (statement of Frank E. Seidman); *see also* Rader, *supra* note 111, at 421. Note that the Secretary of Treasury at the time of the Ways and Means hearings was David Houston. He resigned in March of 1921 and was succeeded by Andrew Mellon. *Compare 1920–21 W&M Hearings, supra* note 91, at 4 *with Senate Finance Committee Hearings, supra* note 91, at 76. For a contemporary biography of Secretary Mellon see HARVEY O'CONNOR, MELLON'S MILLIONS: THE BIOGRAPHY OF A FORTUNE; THE LIFE AND TIMES OF ANDREW W. MELLON (1933).

113. *See Senate Finance Committee Hearings, supra* note 91; *see also* Rader, *supra* note 111, at 422.

114. *See 1920–21 W&M Hearings, supra* note 91, at 127.

115. Mehrotra & Ott, *supra* note 8, at 2525–26.

116. See *1920–21 W&M Hearings, supra* note 91, at 128.

> ment in taxes, and they simply would not; the business could not stand it.[117]

His arguments hinged on both private and corporate transactions not going through, including workers who gave up on selling their homes to move to a different city for job purposes,[118] and holders of stock who gave up reinvesting in more profitable securities.[119] A complementary point was brought up by Congressman Treadway, who asked whether this argument was similar to the idea that a lower tax rate on capital would respond to top-bracket taxpayers investing in tax-exempt sources.[120] Kellogg replied in the affirmative.[121]

Kellogg stated his main points in favor of a special, lower rate on capital, beginning with the government being able to secure "a great many hundreds of thousands [in dollars of revenue] . . . which have not been paid and never will be paid because the transaction did not go through. . . ."[122] The next argument he made was against "frozen capital," the well-known lock-in problem caused by high tax rates, which is a pure tax distortion causing taxpayers to refrain from investing in new, higher-return securities with the government, in turn, losing out from the revenue from such sales and reinvestment.[123] While certain committee members seemed to sympathize with this problem, their core concern was revenue. They asked Kellogg to produce an estimate of how much revenue would be generated by lower tax rates on capital gains.[124] Congressman Longsworth conceded that "it would be conceivable . . . that a tax as low as 10 or 15 per cent would raise more revenue on these transactions than we are getting now, simply from your statement, which is corroborated in many quarters."[125]

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117. *Id.*
118. *Id.* at 128–29.
119. *Id.* at 129.
120. *Id.* at 131.
121. *Id.*
122. *Id.*
123. *Id.*
124. *Id.* at 132.
125. *Id.* at 133. For a broader discussion of this point, and whether it is true in the abstract or simply because of systemic factors which existed at the time, *see infra* Section III.B.

Others who thought that capital gains taxes should be reformed included Edgar Rogers, a tax lawyer from Indianapolis. Rather than a lower tax rate on gains, he suggested a broader change to tax "profit by considering it to have accrued pro rata in each of the years from the date of acquisition . . . to the date of sale. Each year's accrual to be taxed at the rate for that year."[126] To illustrate his point, suppose that a taxpayer had held an asset for five years and then disposed of it at a $100 gain, with the tax rate being 50% in the first year and 10% thereafter. Under a realization-based tax the $100 would be taxed once on disposition at the 10% rate, resulting in a $10 tax bill. Under Rogers's proposal and assuming linear growth, the taxpayer would foot a $10 bill just for that first year on the year's $20 gain. The taxpayer would likewise owe for the last four years, giving a total tax on disposition of $18. This idea was particularly interesting since Congress had recently considered a similar solution.

Debated and drafted in early 1920, Section 3 of H.R. 14198, "An Act to Amend and Simplify the Revenue Act of 1918," would have allowed taxpayers who disposed of capital assets held for longer than three years to allocate that gain over the years that the asset was held.[127] The tax benefit came from being able to spread the gain across several years which may have reduced surtax rates.[128] H.R. 14198 was passed by the House and deliberated by the Senate Finance Committee, though it was never passed into law, possibly because broader reforms to the 1918 Revenue Act had already begun with the process leading up to the 1921 Act.[129] Critically, the proposal shows that several members of the House had already ac-

126. *Id.* at 265 (statement of Edgar Rogers of Doney Rogers & Co. Inc., Federal Tax Specialists).

127. An Act to Amend and Simplify the Revenue Act of 1918, H.R. 14198, 66th Cong. § 3 (1920). For the hearings, see *Amending the Revenue Act of 1918: Hearing on H.R. 14197 and H.R. 14198 Before the S. Comm. on Fin.*, 66th Cong. (1920).

128. As an example, a taxpayer held an instrument for two years and sold it for a profit of $200. Graduated rates impose a 10% tax on income between 0–$100, and 30% thereafter. Without apportionment, the taxpayer would owe 10%*100+30%*100=$40. With apportionment, along the lines of H.R. 14198, the taxpayer would only owe $20.

129. *Senate Finance Committee Hearings*, *supra* note 91, at 535 (while it does not seem that Kellogg was the originator of the bill, he did submit a brief to T.S. Adams on the matter).

cepted, and indeed tried to pass into law, structural capital gains tax reform which went beyond tax rates.[130] The apportionment rules in H.R. 14198 tried to get around the problem of taxing gains that had accrued over several years at once, which resulted in gains being taxed more harshly than if they were spread out across the holding period. This issue was likewise important to the Ways and Means deliberations in 1920, and was one of the reasons why Kellogg proposed a low flat tax which the Committee seemed to agree with.[131] Yet, it seems to have been dismissed as being too complex relative to a special, lower rate.[132]

Not all who testified favored the creation of a special, preferential regime for capital gains. Some, like the Taxation Committee of the National Retail Dry Goods Association, argued that "profits from the sales of capital assets, should be taxed at a higher rate than income from business and in still greater degree than income from manual or mental effort."[133] The Association's proposal arose from a notion of fairness and equity, that income that is "worked" for (being a product of physical or mental labor) should be taxed less than passive income like interest, dividends, or capital gains.[134]

Others, such as famed banker Otto H. Kahn, preferred flat reductions to tax rates without special regimes or exceptions for capital gains,[135] although Kahn agreed that a capital gains preference was better than the status quo.[136] He argued that special preferential tax rates would create long-term problems and thought it best "wherever possible, to do away with them altogether."[137] When asked specifically about the possibility of segregating profits from sales of capital assets at a separate and lower rate, Kahn responded:

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130. *See id.*

131. *See 1920–21 W&M Hearings*, *supra* note 91, at 128–31 (statement of Frederick R. Kellogg).

132. *Hearings on Internal-Revenue Revision: Hearing Before the H. Comm. On Ways & Means Together with Certain Portions of the Proceedings of the Committee in Executive Session*, 67th Cong. 405–06 (1921) [hereinafter *1921 W&M Executive Hearings*].

133. *See 1920–21 W&M Hearings*, *supra* note 91, at 248 (report of the Taxation Committee of the National Dry Goods Association).

134. *See id.* at 249.

135. *See id.* at 167 (statement of Otto H. Kahn).

136. *Id.*

137. *Id.*

> I think a great deal can be said for that, and I know it is recommended by a good many people whose opinion I respect. I think in theory and in principle it is a wise exemption. I do not believe it is a necessary exemption, provided our extreme surtaxes are duly reduced.[138]

He maintained that reasonable, generally applicable income tax rates were preferable to segregating profits from the sale of capital to a different category.[139] Kahn also stressed that high wealth individuals had been heavily investing in tax-exempt securities, which grounded his recommendation to enact lower rates that everyone would willingly pay.[140] He suggested a top tax rate of around 40% as being appropriate, and otherwise seems to have predicted many problems caused by a capital gains tax preference.[141]

C. *Hearings Before the Senate Committee on Finance: May 9–27, 1921*

The Senate Committee on Finance conducted its own hearings on tax reform between May 9th and 27th.[142] The transcripts begin with a letter from Secretary Mellon which, like Adams's testimony to the House Committee on Ways and Means, emphasized two points.[143] First, Mellon discussed the war debt, highlighting revenue requirements.[144] Second, he wrote that "the higher rates of income surtaxes put constant pressure on taxpayers to reduce their taxable income, interfere with the transaction of business and the free flow of capital into productive enterprise, and are rapidly becoming unproductive."[145] His main suggestions were:

> [To] [r]epeal the excess-profits tax and make good the loss of revenue by means of a modified tax on corporate profits or a flat additional income tax upon

138. *Id.*
139. *Id.*
140. *See id.* at 166–68.
141. *See id.* at 168–71.
142. *Senate Finance Committee Hearings*, *supra* note 91.
143. Note the new Secretary of Treasury since the Ways and Means hearings. *See supra* note 112 and accompanying text.
144. *See Senate Finance Committee Hearings*, *supra* note 91, at 7–9 (Letter of the Secretary of the Treasury Relative to Internal-Revenue Laws).
145. *Id.* at 10.

> corporations, and the repeal of the existing $2,000 exemption . . . . [And to] [r]eadjust the income-tax rates to a maximum combined normal tax and surtax of 40 per cent for the taxable year 1921, and of about 33 per cent thereafter, with a view to producing aggregate revenues substantially equivalent to the estimated receipts from the income tax under existing law.[146]

The Committee was thus sensitized to much of what had been discussed in the House Committee on Ways and Means, particularly the revenue requirements brought on by government spending and the perception of an excess burden caused by high tax rates.

There was less discussion of capital gains in the Senate Finance Committee's hearings than in the House discussion. However, Kellogg returned with a more structured testimony, seemingly benefiting from his previous appearance. He began by making it explicit that high taxes on the sale of capital assets had robbed the treasury of significant income by killing transactions that would otherwise have taken place.[147] His first point was clear: the Treasury was losing revenue. His second point was the "frozen capital" or locked-in gains problem discussed previously, while his final point was that the system in place was an "injustice" to the taxpayer.[148] He delivered his main pitch early in his testimony:

> I believe that I am sound in saying so, gentleman, that when a tax law ceases to produce revenue, when it operates as a full stop to business and not as a revenue producer, there must be things in it that have no business in any tax law that the United States of America should pass; and I know from my personal experience in the cases I have already mentioned to you, and many others, that this law has operated to kill many transactions which, in themselves, are perfectly laudable and perfectly worthy . . . and would have produced revenue for the United States Govern-

146. *Id.* at 10–11 (note that the $2,000 exemption referenced is of the first $2,000 of corporate income from taxation).

147. *Id.* at 534 (statement of Frederick R. Kellogg). This is the same Kellogg who testified before the House Ways and Means Committee.

148. *Id.*

> ment which has been entirely lost in those cases and which never will be produced in any similar set of cases.[149]

He repeatedly emphasized that lower tax rates would yield greater tax revenue, perhaps due to how this argument was received during his prior testimony.[150] Senator Jones responded that "we are all practically agreed on the evil that you have pointed out. It is a question of the remedy" after Kellogg again mentioned that the United States had "lost millions of dollars of revenue . . . because of the transactions that never went through."[151]

The Senate hearings appear to be the first time someone brought up inflation in the context of capital gains, at least in the hearings leading up to the 1921 reform. Senator McCumber asked Kellogg:

> Suppose property was purchased in 1914 and held until 1921 and it has increased in value 100 per cent. A dollar has decreased 50 per cent. The property has increased mainly because of the inflation and the cheaper dollar rather than from any more income that you could get out of it. Is it not unjust to say that a person, because he sells it for the same number of dollars that he purchased it for in the general market, has got to pay the Government some money?[152]

Kellogg answered: "I think you have touched the most vital point in the whole matter. . . . I believe that is one of the strongest reasons. I am very sorry that I did not think of it myself. But it is absolutely sound, as it appeals to me now."[153] Despite the importance of inflation then and now, little attention seems to have been paid to McCumber's point.

Little else was said during the Senate hearings concerning the taxation of capital gains, perhaps due to consensus that a lower tax rate on capital gains was the easiest way of generating more revenue, rendering further discussions unnecessary. However, towards the end of the hearings, Senator Jones began to suggest reform that went beyond tax rates: "[h]ave you

149. *Id.* at 537–38.
150. *See id.* at 540–42.
151. *Id.* at 542.
152. *Id.* at 545.
153. *Id.*

considered . . . . allowing an exemption equal to a reasonable return on the investment for the period that the property has been held[?]"[154] Senator McLean responded negatively, answering "[t]hat is not the thing that really determines the matter. . . . There are undoubtedly hundreds of thousands of transactions which, if they had been permitted to be made on a small flat tax, would have resulted in returning to the Treasury much more money than has been collected under existing law."[155] Timing was of the essence. Congress needed revenue immediately but was still confronted with the issue of avoidance through investment in tax-exempt securities. Senator Garner authoritatively argued that Constitutional reform to eliminate such tax-exempt instruments would be unwise, with the Committee needing to focus on "a bill here which will raise revenue for this year, and not five or ten years from now."[156]

D. *House Committee on Ways and Means Hearings in Executive Session: August 1, 1921*

On August 1, 1921, two weeks before the first draft of the revenue bill was finalized by the House, the Committee on Ways and Means held hearings in executive session with Secretary Mellon and other members of the Treasury.[157] Mellon reiterated that Treasury's priorities were to secure revenue necessary to run the government and pay off the debt coming due, reduce prohibitively high surtaxes, and eliminate the excess profits tax.[158] The Committee, or at least the Chairman, seemed to agree with these priorities. When Congressman Frear asked whether it would be a sound idea to reduce rates further than what was suggested, looked at shortly, Committee Chairman Fordney replied that "it would, except that you need the money [now]."[159]

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154. *Id.* at 546.
155. *Id.* at 547.
156. *1921 W&M Executive Hearings*, *supra* note 132, at 160 (statement of Rep. John N. Garner).
157. *Id.* at 384.
158. *See id.* at 394–97 (statement of Andrew W. Mellon, Secretary of the Treasury, accompanied by S. P. Gilbert Jr., Assistant Secretary in Charge of Fiscal Affairs, T. S. Adams, and Joseph S. McCoy, Government Actuary).
159. *Id.* at 398.

The view among Treasury staff was that lower tax rates on capital gains would raise revenue appears to reflect those in both chambers of Congress. When asked whether creating a capital gains tax preference would increase tax receipts, Mellon stated that "in the long run it will produce at least as much at a lower rate, the reason being that the higher surtax prevents the consummation of transactions that would be consummated, and from which the Government would receive revenue."[160] Echoing the point already made in various committee sessions, Mellon thought that a capital gains preference would be a revenue raiser.[161]

Congressman Hawley then turned the Committee's attention to sections 210 and 211 of Treasury's suggested revisions to the 1918 Revenue Act, presented at the session, which stated that:

> A partial tax shall first be computed upon the basis of the ordinary net income at the rates and in the manner provided in sections 210 and 211, and the total tax shall be this amount plus 15 per cent of the capital net gain, or minus 15 per cent of the capital net loss, as the case may be.[162]

When explaining the reasons behind the provision, Adams stated that there was "a legitimate demand" to reduce tax rates on profits from the sale of capital assets.[163] He further noted that the previous proposal to apportion gain over an asset's holding period once had the approval of the Treasury, but that it would create too great of an administrative burden, so they now preferred a simple, flat, low rate.[164]

Adams made another point related to the proposed capital gains preference, this time about capital losses. He explained:

> There is one other important feature of that amendment. Most of the amendments suggested in the past have not applied to losses, and in this amendment the section is made correlative . . . . [I]n my opinion there are going to be very many more such losses in

160. *Id.* at 399.
161. *See id.* at 399–400.
162. *Id.* at 405.
163. *Id.*
164. *Id.*

> the near future than gains. I feel that this provision would not only relieve this class of transactions from a prohibitive tax, but *it would reduce the deductions for losses in such a way that the net revenue to the Government would be increased.*[165]

Today, the deduction for capital losses is seen as an issue of tax neutrality, or even of fairness.[166] However, Adams's testimony suggests that the reason behind extending the lower rates to capital losses was to prevent significant capital loss deductions from eroding revenue during an economic downturn.[167] Such a provision did not exist under previous proposals but, again, was included as a means of raising net tax receipts. Adams himself would later reject this reasoning, and losses were made fully deductible against regular income under the 1921 Revenue Act.[168]

E. *The Revenue Act of 1921: H.R. 8245*

The first draft of what would become the Revenue Act of 1921, H.R. 8245, was introduced on August 15, 1921 by Congressman Fordney.[169] This was the first bill to contain a flat preferential tax rate on capital gains and losses. Section 207(b) of the Bill read:

> In the case of any taxpayer (other than a corporation) whose ordinary net income and capital net gain together exceed $40,000, there shall be levied, collected, and paid, in lieu of the taxes imposed by [the standard income tax], a tax determined as follows: [a] partial tax shall first be computed upon the basis of the ordinary net income at the rates and in the manner provided in sections 210 and 211, and the

165. *Id.* at 405–06.

166. *See, e.g.*, Alvin C. Warren, Jr., *The Deductibility by Individuals of Capital Losses Under the Federal Income Tax*, 40 U. CHI. L. REV. 291 (1973) (a particularly good, and classic, article on the matter).

167. For a more general discussion of the related 1920–1921 recession, see Patrick Newman, *The Depression of 1920–1921: A Credit Induced Boom and a Market Based Recovery?*, 29 REV. AUSTRIAN ECON. 387 (2016).

168. ZELENAK, *supra* note 7, at 144–45, 147. For a fuller discussion of the reasoning, see *infra* Section II.E.

169. A Bill to Reduce and Equalize Taxation, to Amend and Simplify the Revenue Act of 1918, and for Other Purposes, H.R. 8245, 67th Cong. (as introduced by Rep. Joseph Fordney, August 15, 1921).

> total tax shall be this amount plus 15 per centum of the capital net gain, or minus 15 per centum of the capital net loss, as the case may be.[170]

There were three particularly important features: the $40,000 floor for the applicability of the special capital gains regime (quickly reduced to $29,000); the 15% rate for capital gains or losses; and the symmetric treatment of capital gains and losses. Capital assets were defined in § 207(a), and there was no mention of any holding period.[171]

The report accompanying the draft explained why § 207 limited the taxation of gains and losses to 15%.[172] The main reason was the "belie[f] that the passage of this provision would materially increase revenue" since the sales of capital assets including farms, financial instruments, and natural resources were being harshly taxed as lump sums in one tax year rather than spread out over the holding period.[173] The symmetric deduction reasoning given by Adams during the Committee on Ways and Means executive session laid the foundation for subjecting losses to the 15% rate rather than making them fully deductible: "the limitation of 15 per cent is also applied to capital losses. Under present conditions there are likely to be more losses than gains."[174]

The bill was passed on August 16,[175] then sent to the Senate on August 22.[176] The Senate made several changes, including some restructuring through which the capital gains section became § 206.[177] Moreover, the provision's scope was broadened to include corporations by removing the applicability to all persons "other than a corporation."[178] The Senate also modified the capital gains tax rate. Instead of it being a fixed,

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170. *Id.* at § 206.

171. *Id.* The final version of the Revenue Act of 1921 included a holding period before the preferential rate could be accessed. Revenue Act of 1921, Pub. L. No. 67-98, § 206(a)(6), 42 Stat. 227, 233 (1921).

172. H.R. REP. NO. 67-350, at 10–11 (1921).

173. *Id.*

174. *Id.* at 11.

175. H.R. 8245 (as passed by House, August 16, 1921). The rate was amended from 15% to 12.5%, however, everything else remained the same. H.R. 8245 § 206 (as referred to S. Comm. on Fin., August 22, 1921).

176. H.R. 8245 (as referred to S. Comm. on Fin., August 22, 1921).

177. H.R. 8245 § 206 (as reported by Sen. Penrose, September 26, 1921 and passed by Senate, November 7, 1921).

178. *Id.* at § 206(b).

flat rate, it was changed such that 40% of capital net gains would be included in income and subject to the surtax.[179] Finally, any mention of capital losses was eliminated, making capital losses fully deductible.[180]

The report submitted on September 26 by Senator Penrose from the Senate Committee on Finance explains the changes. It began by acknowledging, as did the House report, that transactions involving the sale of capital assets had been mostly halted due to prohibitively high tax burdens.[181] It likewise reported that the committee had removed the restriction on corporations, while also removing the $29,000 floor and creating a formulaic approach to broaden the provision's applicability.[182] This broadening was suggested by Adams. During the September Senate Committee on Finance discussions, attended by the Committee, Adams, and various members of Treasury, several Senators, notably Senator Walsh, questioned why the flat rate existed if it "discriminate[d] in favor of those who have incomes of over $29,000."[183] Others had sent in letters complaining of this point as well.[184]

In response, Adams devised a method "which seem[ed] to [him] altogether simple and escape[d] the objections which ha[d] been entered against this paragraph."[185] His alternative allowed taxpayers to only include 40% of capital gains as taxable income, which he noted would apply to everyone and escape the problem of discrimination in favor of higher earners.[186] The Senators did not forget the primary goal of raising revenue: Senator McClean asked what the result would be on returns, and after hearing that it would increase revenue he asked the same question phrased differently to make sure.[187]

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179. *Id.*

180. *Id.*

181. S. Rep. No. 67-275, at 12 (1921).

182. *Id.* at 13. In the September 26 report Senator Penrose provides a summary which paints a slightly different picture than what really happened regarding the 60% exclusion rate. *See* discussion *infra* and accompanying notes.

183. *Internal Revenue: Hearings on H.R. 8245 Before the S. Comm. On Fin.*, 67th Cong. 39 (statement of Sen. David I. Walsh, Member, S. Comm. On Fin.).

184. *Id.* at 38–41.

185. *Id.* at 305.

186. *Id.*

187. *See id.* at 307.

Adams proposed to remove the limitation on capital losses for the reasons explored in Part II, though his change of heart from first denying losses, to favoring symmetrical loss treatment, and finally advocating for full deductibility is curious.[188] The Senate Finance Committee Report gave more opaque reasons for the change, explaining that the decision to exclude capital losses took "an intermediate position between the extreme views embodied, respectively, in the present American and British laws."[189]

The Senate proposed further amendments. Its final draft, completed on November 4, is notable for two reasons in addition to those just discussed. First, the definition of "capital asset" under § 206(a) was changed to include a holding period of more than two years, whereas previously there had been no holding period requirement.[190] This amendment was introduced by Senator Walsh to exclude speculative transactions from the preference's ambit.[191] While his suggested holding period was originally three years, after an exchange with Senator McCumber it was reduced to two years as a compromise since McCumber thought three years was too long.[192] Second, "stock or shares in a corporation" was removed from the definition of capital asset.[193] During Senate debate, Senator Lenroot argued that if stock sales were taxed at preferential rates, then corporations would cease to issue cash dividends and instead issue stock dividends, which could be sold and taxed at preferential rates.[194] He and Senator Walsh, therefore, agreed

188. *See id.* at 305–06. *See also* ZELENAK, *supra* note 7, at 144–45.

189. S. REP. NO. 67-275, at 13 (1921) (capital losses could only be deducted against capital gains in the United States, while capital gains but not losses were excluded altogether under British law). *See* Harry Wallop, *Capital Gains Tax: A Brief History,* TELEGRAPH (May 27 2010, 7:00 PM), https://www.telegraph.co.uk/finance/personalfinance/capital-gains-tax/7771799/Capital-Gains-Tax-a-brief-history.html.

190. A Bill to Reduce and Equalize Taxation, to Amend and Simplify the Revenue Act of 1918, and for Other Purposes, H.R. 8245, 67th Cong. § 206 (as passed by Senate, November 7, 1921).

191. *See* 61 CONG. REC. 6575 (1921) (statement of Sen. David I. Walsh).

192. *See id.* (statements of Sen. David I. Walsh and Sen. Porter McCumber).

193. H.R. 8245 § 206(a)(6) (as passed by Senate, November 7, 1921).

194. 61 CONG. REC. 7477–78 (statement of Sen. Irvine Lenroot).

that the preferential tax on the sale of stock should be removed to prevent this development.[195]

The November 19 Conference Report summarized the negotiations between the Senate and House, outlining which amendments were accepted or rejected.[196] One of the rejected amendments was the provision's inapplicability to corporate stock.[197] Next, the report discussed the rejection of amendment 115 concerning the change from a flat tax of 12.5% to 40% includability, the elimination of the $29,000 floor, the application of the provision to corporations, and the full deductibility of capital losses.[198] During Senate deliberations the clerk read a letter written by Senator Penrose, explaining that 40% includability for capital gains was inadvisable, since this would set a top rate of 23% which "is high enough to freeze up or prevent capital transactions of the kind which, for the sake of the revenue, it is desired to encourage."[199] Penrose further noted that 40% includability coupled with the Senate amendment to allow the capital gains preference to apply to corporations resulted in a 5% capital gains tax for corporations.[200] He wrote that this "discrimination or difference between the individual and corporation taxes on capital gains impressed the conferees as extreme and accordingly . . . it is recommended that the privilege of paying a reduced rate on capital gains be confined, as in the House bill, to individuals" and that individuals be able to include capital gains derived from the sale of stock.[201]

Senate debate following the conference and preceding the ultimate adoption of the law reveal pushback, especially concerning the rejection of 40% includability. Senator Jones decried the 12.5% flat rate, arguing that the 40% rate applied to everyone while only those earning above $31,000 or more (approximately $450,000 in 2021 dollars) would benefit from

195. *Id.* at 7478 (statements of Sen. Irvine Lenroot and Sen. David I. Walsh).
196. H.R. Rep. No. 67-486, at 1–2 (1921).
197. *Id.* at 20.
198. *Id.* at 3, 20.
199. 61 Cong. Rec. 8109 (statement of Sen. Boies Penrose).
200. *Id.* Note that 40% of 12.5% = 5%.
201. *Id.*

the 12.5% rate.[202] Other senators joined in, with Senator King calling the 12.5% flat rate a "monstrous inequality" and expressing his disbelief that the conference committee would willingly adopt such a rule.[203] Regardless, the Senate would reject their complaints, ultimately agreeing that a 12.5% rate was the right course of action to raise revenue.[204] The Senate further noted several inconsistencies with a 40% includability rule, including that the rate on ordinary corporate income was 12.5% meaning its application to corporations resulted in a 5% tax rate, which was too low, and that the 40% includability rule resulted in a top marginal capital tax rate of 23%, which was too high.[205]

The Revenue Act was signed into law on November 23, 1921. Section 206 of the Act defined capital gains as "taxable gain from the sale or exchange of capital asset" in § 206(a)(1), with capital losses being deductible losses "resulting from the sale or exchange of capital assets."[206] Under § 206(a)(6), capital assets were "property acquired and held by the taxpayer for profits or investments for more than two years (whether or not connected with his trade or business)" with some exceptions for property held for personal use, consumption, or inventory.[207] Finally, § 206(b) outlined the taxation of capital gains. It stated that instead of having their net capital gains included as ordinary income, taxpayers could elect to have them taxed at a preferential rate of 12.5%.[208] Additionally, the provision stipulated that "if the taxpayer elects to be taxed under this section the total tax shall be in no such case less than [12.5%] of the total net income."[209]

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202. *Id.* at 8172 (statement of Sen. Andrieus Jones). Inflation adjustment using *CPI Inflation Calculator*, U.S. BUREAU OF LAB. STAT., https://www.bls.gov/data/inflation_calculator.htm (last visited Jan. 23, 2022) (calculated based on December 2021 buying power of $31,000 in January 1921).

203. *Id.* (statement of Sen. William H. King).

204. This can be seen from the final bill. *See* Revenue Act of 1921, Pub. L. No. 67-98, § 206(b), 42 Stat. 227, 233. Note that the 12.5% rate for capital sales was equal to the corporate income tax rate, which was one of the reasons why the special rate did not apply to corporations.

205. *See* 61 CONG. REC. 8109.

206. Revenue Act of 1921 § 206(a)(1)–(2).

207. *Id.* § 206(a)(6).

208. *Id.* § 206(b).

209. *Id.*

F. *Discussion of the Enactment of the Capital Gains Tax Preference*

The reason for the preference under § 206 of the 1921 Revenue Act is there in the title: revenue. Time and again, the winning pitch for the capital gains preference was not that capital gains should be taxed less on the grounds of fairness or efficiency, but rather that reducing the tax rate on sales or dispositions of capital assets was the simplest way to raise revenue.[210] This argument was based on perceptions of lackluster receipts from high-income taxpayers during the 1917–1921 period when capital had been taxed at high rates (over 70%).[211] In effect, the preference was a recognition that the high-rate capital gains tax regime under the 1917 Act had not worked as intended with taxpayers easily able to avoid such taxes. Congress could have responded by either fixing the leaks or reducing the rates to the point where the leaks did not matter. It chose the latter, which would profoundly impact tax policy for at least a century to come.

Although the focus was on revenue, efficiency and equity were still relevant but only insofar as they were assessed from a framework of cost-effective revenue-raising. For example, Adams's complaint about unreasonable burdens on capital gains was not a normative or philosophical appeal to persuade Congress to cut rates. Instead, it appears he meant that the high tax rates made little sense precisely because they yielded less revenue than was anticipated, with reasonable tax burdens being those which maximized revenue. Additionally, Congress understood that a flat 12.5% preferential rate would only benefit high-income earners with marginal tax rates above 12.5%, but thought that the additional revenue they would receive from such a preference outweighed the social inequity.[212] Their belief that a 23% rate was still too high grounded their rejection of the 40% inclusion rule proposed by the Senate, which would have extended the benefits of the preference to

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210. *See* discussion *supra* Sections II.B–E. Only Kellogg seems to have mentioned fairness. *See Senate Finance Committee Hearings*, *supra* note 91, at 534–36 (statement of Frederick Kellogg).

211. *See* discussion *supra* Sections III.B–E,.

212. *See, e.g.*, *1920–21 W&M Hearings*, *supra* note 91, at 13 (statement of T.S. Adams). *See also* 61 CONG. REC. 8108–09 (1921).

all taxpayers, not just the wealthy.[213] However, Congress also rejected the 40% inclusion rule since it would have disproportionately benefited corporations by leaving them subject to a trivial 5% tax rate on capital gains, leaving some space for notions of tax fairness.

Congress showed little interest in eliminating tax distortions when it conflicted with raising revenue. Senator McCumber correctly identified the need to tax real appreciation rather than nominal appreciation; a realization that would lead to some of the most important tax policy proposals and debates of the late 20th and early 21st centuries.[214] Senator McClean even suggested exempting the reasonable rate of return which, while mechanically different from immediate expensing of investment followed by full inclusion, is effectively the same type of consumption tax proposed by Bill Andrews in 1974.[215] Kellogg spoke at length about the various ills inflicted by realization coupled with large capital gains tax rates, but Congress seemed to exclusively care about the argument that a lower tax rate on capital gains would increase tax receipts. Any points raised about frozen capital or suboptimal allocation of resources only seemed relevant insofar as this prevented transactions that would have raised revenue, while Congress viewed more holistic tax reform proposals as too complicated to be worthwhile.

Much of Congress's reasoning regarding the impact of high tax rates on revenue hinged on the behavior of high-income taxpayers.[216] The idea that the wealthy had invested in tax-exempt bonds, deferred realization of capital gains, or found other ways to avoid the tax featured prominently during the hearings.[217] Having seen that high tax rates induced behavior that robbed Treasury of revenue, Congress hypothe-

213. *See* 61 CONG. REC. 8108–09.

214. *Senate Finance Committee Hearings*, *supra* note 91, at 545. This refers to consumption taxes. For a discussion of various proposals that almost became law and an overview of a consumption tax as a system, see Weisbach, *supra* note 18, at 181–95.

215. *See generally* Andrews, *supra* note 15.

216. *See supra* notes 91–124, 147–53, 199–201 and accompanying text.

217. *See supra* notes 97, 101, 104, 140 and accompanying text.

sized that lower rates would reduce avoidance and other behavioral responses and hence increase tax receipts.[218]

Their theory had merit and closely tracks a branch of public economics developed during the 1980s and 1990s, which aims to determine optimal capital gains tax rates by studying the extent to which taxpayers respond to different rates.[219] This branch is known as the study of the elasticity of taxable income, which quantifies how much distortion is caused by changes in tax rates.[220] For example, taxpayers can respond to increases in capital gains tax rates by investing in tax-free sources like municipal bonds,[221] engaging in tax planning, evading taxes, or simply deferring realization of gains and accelerating losses.[222] A large subset of the scholarship focuses

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218. *See supra* notes 105, 118–24, 147, 149–51, 160–61, 173, 181 and accompanying text.

219. The tax responsiveness literature is voluminous. For an overview, see Dowd & Richards, *supra* note 16. *See also* Emmanuel Saez et al., *The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review*, 50 J. ECON. LITERATURE 3 (2012); LOUIS KAPLOW, THE THEORY OF TAXATION AND PUBLIC ECONOMICS 82–87 (2008); Seth H. Giertz, *The Taxable Income Elasticity over the 1980s and 1990s,* 97 PROC. ANN. CONF. ON TAX'N & MINUTES ANN. MEETING NAT'L TAX ASS'N 236 (2004). For the direct works, see Lawrence B. Lindsey, *Individual Taxpayer Response to Tax Cuts: 1982–1984: With Implications for the Revenue Maximizing Tax Rate*, 33 J. PUB. ECON. 173 (1987); Martin Feldstein, *The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act*, 103 J. POL. ECON. 551 (1995); Leonard E. Burman & William C. Randolph, *Measuring Permanent Responses to Capital-Gains Tax Changes in Panel Data*, 84 AM. ECON. REV. 794 (1994); Alan J. Auerbach & James Poterba, *Capital Gains Taxation in the United States: Realizations, Revenue, and Rhetoric*, 1988 BROOKINGS PAPERS ON ECON. ACTIVITY 595 (1988); Austan Goolsbee, *What Happens When You Tax the Rich? Evidence from Executive Compensation*, 108 J. POL. ECON. 352 (2000); Alan J. Auerbach & Jonathan M. Siegel, *Capital-Gains Realizations of the Rich and Sophisticated*, 90 AM. ECON. REV. 276 (2000).

220. For an overview of public economics and behavioral responses, not just to capital gains taxes but more broadly, see KAPLOW, *supra* note 219.

221. High wealth taxpayers found municipal and state bonds particularly attractive since the interest was tax-exempt. In 1921 it was settled that the federal government could not tax State or municipal bonds as a matter of constitutional law. Pollock v. Farmers' Loan & Trust Co., 157 U.S. 429, 586 (1894). The Supreme Court reversed this position in 1988 in *South Carolina v. Baker*, 485 U.S. 505, 524 (1988).

222. For example, if the capital gains tax were set to increase one year from now, taxpayers would trigger gains now. If taxes were to fall one year from now, taxpayers would defer all gains.

on reported capital gains for high wealth (top-bracket) taxpayers.[223]

Congress's largely unscientific, heuristic, anecdote-riddled reasoning nonetheless reflects the elasticity literature's main takeaways, despite predating that scholarship by more than 50 years. Congress understood and applied the somewhat counterintuitive point that higher tax rates may not necessarily lead to greater tax receipts and that capital was far more sensitive to tax rates than other income,[224] at least in the short-term.[225] However, their steadfast belief that a 12.5% rate was revenue-maximizing was almost certainly incorrect. A recent piece by Natasha Sarin et al., mentions how the prevailing wisdom among the tax legislation community is that present estimates of the revenue-maximizing capital gains tax rate is around 30%,[226] though this rate is contested as being on the low end.[227] Tim Dowd and Zach Richards survey the literature on reported capital gains elasticities, highlighting the vastly different ranges in estimates for behavioral responses resulting from small changes in econometric specifications, even within the same study.[228] Thus, Congress had no real reason behind their seeming fixation on 12.5% as the revenue-maximizing rate. Given that the current revenue-maximizing rate is generally regarded to be about 30%, it seems reasonable to think

223. *See, e.g.*, Goolsbee, *supra* note 219; Auerbach & Siegel, *supra* note 219; Jon Gruber & Emmanuel Saez, *The Elasticity of Taxable Income: Evidence and Implications*, 84 J. PUB. ECON. 1 (2002).

224. Discussed at length in JAMES BANKS & PETER DIAMOND, *The Base for Direct Taxation*, *in* DIMENSIONS OF TAX DESIGN 548 (Stuart Adam et al. eds., 2010).

225. Burman & Randolph, *supra* note 219, at 795, stress the difference between long-term and short-term effects. They find that short-term elasticities to changes in the capital gains tax rate are far larger than long-term elasticities. *Id.* at 806–07. This point is similarly made by Auerbach & Siegel, *supra* note 219, at 276, who additionally estimate that only rich taxpayers who engage in avoidance and have access to tax planning advice significantly change their long-term behavior.

226. Sarin et al., *supra* note 17, at 2. There is a discussion about how relevant discussions relating to the optimal rate in 1921 is to current tax policy in Section III.A. *infra*.

227. *See* Sarin et al., *supra* note 17, at 3–4.

228. Dowd & Richards, *supra* note 16.

that rates as high as 15%, 25%, 35%, or perhaps even higher would have outperformed 12.5%.[229]

III.
The Effectiveness of the Capital Gains Preference Between 1915 and 1925

The important follow-up question is whether the capital gains preference successfully raised revenue as was predicted, which is what this Part seeks to answer. Regarding the taxation of capital and savings, the architects of the 1921 reform envisioned two mechanisms through which the capital gains preference would be a revenue raiser. The first was that tax avoidance and investment in tax-free sources would fall.[230] The second was that taxpayers would be more willing to sell locked-in gains: appreciated assets which they were holding on to in order to avoid paying high taxes on their disposition.[231]

The finding that the capital gains preference was a revenue raiser would be significant due to the dramatic reduction in the applicable tax rate from 73% to 12.5%. Moreover, if the rate reduction successfully raised tax receipts, then both taxpayers subject to those top rates and the ultimate recipients of those tax receipts would be better off, making the 12.5% rate Pareto superior to the 73% rate.[232] Since the primary targets

229. Sarin et al., *supra* note 17, at 3–4, 12–13, 16. There are, of course, many differences between now and the 1920s, but two large ones appear to be the proliferation and sophistication of tax planning today and the relative infancy of the revenue collection agency (the IRS) back then. The first effect would tend to mean that the optimal rate would be higher in the 20s, while the second would suggest the opposite.

230. *See, e.g.*, *1920–21 W&M Hearings*, *supra* note 91, at 13–15 (statement of T. S. Adams).

231. *Id.* at 128–29 (statement of Frederick R. Kellogg). *See also Senate Finance Committee Hearings*, *supra* note 91, at 534–36, 539 (statement of Frederick R. Kellogg).

232. To explain, imagine the government reduces tax rates on top-bracket taxpayers, which results in increased labor effort and lower noncompliance. Should these behavioral responses increase taxable income to the point where tax receipts under the lower rate exceed tax receipts under the larger rate, then top-bracket individuals and the government are better off since both have more money. Presumably, there would also be greater economic efficiency. The government can now achieve greater transfers or fund more public goods and services for lower-income individuals, increasing their welfare, while rational top-bracket individuals would not choose to work more unless it were utility increasing. This explanation follows the distribution-

of the capital gains preference in 1921 and modern proposals to tax savings are high wealth individuals, this Part focuses on the performance of the top marginal rate and hence the impact of the capital gains preference on "top-bracket taxpayers," defined as persons with over $1,000,000 in annual income,[233] equivalent to about 14.5 million in 2021 dollars.[234] A graphical representation of top marginal rates is presented in Figure 1, but note that between 1915 to 1925, top marginal rates did not always start at exactly $1,000,000.[235]

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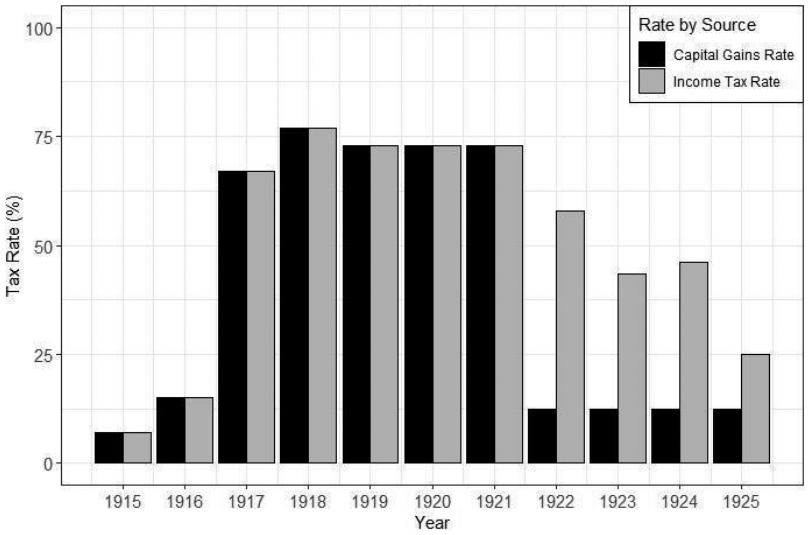
neutral income tax adjustment analysis described in KAPLOW, *supra* note 219, at 25–29. Thus, everyone is better off and the tax reform was a Pareto improvement compared to the initial rate.

233. As discussed shortly in the text, the period looked at is 1915–1925. In 1915, the top rate was 7% and applied to all income above $500,000. *See* 1913 Revenue Act, *supra* note 41, § 2(A), at 166. In 1916, the top rate was 15% on income above $2,000,000, and 13% on income above $1,000,000. *See* Act of Sept. 8, 1916, Pub. L. No. 64-271, § 1(b), 39 Stat. 756, 756–57. In 1917, the top rate was 67% on income above $1,000,000. *See* Act of Oct. 3, 1917, Pub. L. No. 65-50, § 1, 40 Stat. 300, 300–01. In 1918, a top rate of 77% applied to income applied to income above $1,000,000, and between 1919 and 1921, the rate was 73%. *See* 1918 Revenue Act, *supra* note 70, § 2, at 1062, 1064. In 1922, the top rate was 58% on income above $200,000, s*ee* Act of Nov. 23, 1921, Pub. L. No. 67-98, §§ 210–11, 42 Stat. 227, 233–37, while in 1923, the top rate was 43.5% on income above $200,000 after the 25% credit, *see* Act of June 2, 1924, Pub. L. No. 68-176, §§ 209(b), 210–11, 43 Stat. 253, 264–66. The top rate in 1924 was 46% on income above $500,000, which likewise established the 25% credit for 1923. *See* Act of June 2, 1924, *supra*, § 211, 43 Stat. at 267. The top rate in 1925 was 25% for income above $100,000. *See* Act of Feb. 26, 1926, Pub. L. No. 69-20, §§ 210–11, 44. Stat. 9, 21–23. Of potential importance would be taxpayers manipulating their income to fall just below the $1,000,000 mark, which would be particularly easy to do with capital gains. The benefit of doing so would depend on the steepness of the surtax. In practice, the benefit would be very small (with only a few percentage points' difference in marginal tax rates between brackets). Thus, this effect is ignored. For a graphical representation of the top marginal rates as they compare to the top rate preferential rate on capital, see Figure 1.

234. *CPI Inflation Calculator*, U.S. BUREAU OF LAB. STAT., https://www.bls.gov/data/inflation_calculator.htm (last visited Jan. 23, 2022) (calculated based on December 2021 buying power of $1,000,000 in January 1921).

235. *See supra* note 233 and accompanying text.

FIGURE 1: INCOME AND CAPITAL GAINS TAX RATE BY YEAR



Since the IRS Statistics deemed the top income class in this period to be those earning above $1,000,000, that group is the subject of the analysis here. For consistency, I call those individuals top-bracket taxpayers, despite the slight misnomer. The analysis focuses on the 1915 to 1925 period to try and develop insight into the longer-term effects of the reform on top-bracket dispositions of property, since only looking at 1921 and 1922 would emphasize transitory responses. "Dispositions of property" means income from the sale of capital assets that would classify as capital gain regardless of whether the holding period is satisfied, including what would today be long-term and short-term gain.[236] This broad definition is necessary since capital gains only existed following 1921, and the question then becomes whether top-bracket tax rates on capital were more productive before or after 1921.

Numerically, yearly tax receipts from dispositions of property by the group of taxpayers subject to the top marginal rate averaged 7.01 million between 1917 and 1921 and 14.39 million between 1922 and 1925. However, concluding that tax receipts rose because of the capital gains preference is poten-

236. 26 U.S.C. § 1222(1)–(2).

tially misleading, as many factors could have substantially impacted income and tax receipts from dispositions of property. Some confounders include the use of corporate solution for shareholder-level deferral, the rapid development of U.S. capital markets in the early 1900s, changing corporate payout policy, the development of the tax-free reorganization rules, and the general impact of the war.[237]

Congress's reasoning and the relevant economics literature both predict that the dramatic reductions in rates for the disposition of property in the 1921 Act should have led to significant capital gains being triggered following 1921, with a larger transitory response in 1921 and 1922 and a smaller though still significant permanent response from 1922 to 1925. While expectations are clear for income, the same cannot be said for tax receipts. Since tax receipts depend on the magnitude of behavioral responses, elasticities—of taxable income, of labor, of capital gains, and so on—are critical in estimating expectations of the effectiveness of tax reforms.[238] Unfortunately, there are no elasticity estimates and little data for the 1915–1925 period, though the testimony given in support of the capital gains preference speaks to a commonly held belief that the capital gains preference would increase tax receipts. As will now be seen, the data is consistent with this hypothesis.

A. *IRS Statistics of Income Data*

I used data on tax receipts and reported taxable income for the 1915–1925 period obtained from publicly available IRS Statistics of Income.[239] The hand-crafted data set is manually compiled and transcribed from publicly available IRS Statistics of Income for the 1915–1925 period, such that all graphs and figures presented here are original. Macroeconomic information, like GNP, is taken from Department of Commerce statis-

237. *See* discussion *supra* Section I.C.

238. *See generally* KAPLOW, *supra* note 219.

239. *See SOI Tax Stats Archive - 1916 to 1933 Statistics of Income Reports,* INTERNAL REVENUE SERV., https://www.irs.gov/statistics/soi-tax-stats-archive-1916-to-1933-statistics-of-income-reports (last visited Jan. 25, 2022). Complete data from 1915 is unavailable, but some data points exist in data for subsequent years.

tics.[240] 1915 is chosen as the start date because that is when the IRS began collecting data, though most relevant income and tax data is only available from 1917 onwards. I take 1925 as the end date in an attempt to escape the influence of exceptional stock market performance and speculation of the mid-to-late 1920s, though other work on tax receipts in the 1920s takes the entire 1920–1929 period into account.[241] Another benefit of choosing the 1915–1925 period is that the 1921 reform occurred at roughly the midpoint.[242] As mentioned, only looking at 1921 and 1922 would produce disproportionate effects and potentially conflate transitory and permanent tax reform ef-

240. *See* BUREAU OF THE CENSUS, U.S. DEP'T OF COM., LONG TERM ECONOMIC GROWTH, 1860–1965 (1966), https://fraser.stlouisfed.org/files/docs/meltzer/cenlon66.pdf (last visited Jan. 23, 2022). Inflation data is taken from the Bureau of Labor Statistics CPI Databases. *See Consumer Price Index (CPI) Databases*, U.S. BUREAU OF LAB. STAT., https://www.bls.gov/cpi/data.htm (last visited Jan. 25, 2022).

241. *See, e.g.*, Gene Smiley & Richard H. Keehn, *Federal Personal Income Tax Policy in the 1920s*, 55 J. ECON. HIST. 285 (1995). By including the 1925–1929 period, the outcome may be biased in favor of the success of the reform: in other words, in favor of higher returns from lower taxes and predicting higher behavioral responses since the various effects of the "roaring twenties" may be more easily conflated with tax effects. Conversely, estimates obtained by excluding those years will be more conservative and potentially biased against the success of the reform, as an added precaution.

242. Note that there were several Mellon tax cuts in the early and mid-1920s. All rate changes between 1915 and 1925 are accounted for, though the focus of the analysis is on the 1921 reform since that saw the enactment of the capital gains preference. See Figure 1 above for a graph of the applicable top-bracket tax rates between 1915 and 1925, and see the 1921 Congressional Record, *supra* note 191, at 6592, for the rates.

fects. Other metrics such as bond yields,[243] trading volumes,[244] and stock indexes are examined in Section III.B.[245] Where necessary, all figures are inflation-adjusted.[246] The two important categories of data are top-bracket income and tax receipts from dispositions of property.

1. *Top-Bracket Gross Income for the 1915 to 1925 Period*

Table 1 presents results for top-bracket gross income, which fell by about a third between 1916 and 1917. This effect may have been exacerbated by the anticipation of high rates in 1917. Moreover, between 1916 and 1921, reported income was strictly falling. This finding includes 1919, which is an interesting data point for reasons discussed shortly. The downward trend is expected, but the economic contraction of 1920–1921

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243. Bond spreads (high grade corporate yields less high grade municipal bonds yields) are taken from the NBER Macrohistory database. *See NBER Macrohistory: XIII. Interest Rates*, NAT'L BUREAU OF ECON. RSCH., https://www.nber.org/research/data/nber-macrohistory-xiii-interest-rates (last visited Jan. 25, 2022). The data is cross-referenced with the data from Global Financial Data ("GF") and the Federal Reserve Economic Database ("FRED") for historic economic and financial time-series data. While the municipal bond yield exists for the 1915–1925 period, corporate bond yields only exist starting in 1919. This makes bond-related data even less helpful in addition to the yield spread being a very noisy indicator. However, the corporate-municipal spread generally rises between 1919 and 1921, and it generally begins to fall around late 1921. Speculatively, this could very loosely be interpreted as showing that demand for tax-exempt municipal bonds was falling, though the data is quite inconsistent and inconclusive in this respect.

244. These trading volumes include the New York, Boston, Chicago, Los Angeles, and San Francisco stock exchanges. Trading volume for the 1915–1925 period was (in millions) 192.5 for 1925; 267.5 for 1916; 205 for 1917; 157.5 for 1918; 353 for 1919; 260 for 1920; 193 for 1921; 315 for 1922; 288 for 1923; 338 for 1924; and 520 for 1925. *See* TWENTIETH CENTURY FUND, THE SECURITY MARKETS: FINDINGS AND RECOMMENDATIONS OF A SPECIAL STAFF OF THE TWENTIETH CENTURY FUND 750–51 (1935). For an overview of the development and trading volume of the 1880s–1930s, see Mary O'Sullivan, *The Expansion of the U.S. Stock Market, 1885-1930: Historical Facts and Theoretical Fashions*, 8 ENTER. & SOC'Y 489 (2007).

245. Dow Jones Industrial Index data is taken from the GFB Finaeon database. *See GFB Finaeon Database*, GLOB. FIN. DATA, http://www.globalfinancialdata.com (data on file with author) (presented *infra* Figure 3) (last visited Jul. 20, 2021).

246. Where appropriate, the data is normalized to 1929 values. 1929 values are chosen since that is what GNP is normalized to in the Department of Commerce data used. *See* BUREAU OF THE CENSUS, U.S. DEP'T OF COM., *supra* note 240.

likely had a large impact. The data clearly shows that profits from dispositions in the 1917–1921 period were far lower than those between 1922 and 1925.

TABLE 1: TOP-BRACKET INCOME AND PROFITS FROM DISPOSITION, IN MILLIONS, PLUS ASSOCIATED RATIOS

YEAR	GNP	GROSS INC	GI/GNP (‰)[a]	PD[b]	CAP GAINS	PD/GI (%)	PD/GNP (*pcm*)[c]
1915	60,424						
1916	68,870	851.64	12.37				
1917	67,264	486.43	7.23	13.60		2.80	20.22
1918	73,361	215.64	2.94	2.88		1.33	3.92
1919	74,158	194.74	2.63	39.41		20.24	53.15
1920	73,313	93.40	1.27	4.06		4.34	5.53
1921	71,583	55.98	0.78	0.32		0.57	0.45
1922	75,788	169.69	2.24	59.61	55.34	35.13	78.65
1923	85,819	182.53	2.12	74.29	73.94	40.70	86.57
1924	88,361	188.43	2.13	53.08	50.15	28.17	60.07
1925	90,529	460.35	5.09	261.35	234.20	56.77	288.69

NOTE – GNP = Gross National Product, Gross Inc or GI = gross income, PD = profits from dispositions, Cap Gains = capital gains.

[a] Per mille is used to facilitate comparison across years.

[b] Profits from dispositions includes taxes on capital gains beginning in 1922.

[c] Per cent mille is used to facilitate comparison across years.

The lowest reported income for top-bracket taxpayers occurred in 1921 and was significantly lower than in other years, which could have resulted at least partially from large timing (transitory) responses or the recession.[247] Gross income throughout the 1922–1925 period strictly increased. The ratio of top-bracket gross income to GNP fell between 1916 and 1921, then trended upwards between 1922 and 1925, although it was slightly higher in 1922 than in 1923 and 1924. The most dramatic results from Table 1 regard profits from dispositions. Except for 1919, the 1917–1921 period shows relatively little profits from dispositions, as amounts, percentage of top-

247. The importance and magnitude of large timing responses is well known in the elasticity literature. For a discussion, see Saez et al., *supra* note 219; Slemrod & Kopczuk, *supra* note 17; Giertz, *supra* note 219; Burman & Randolph, *supra* note 219; and Auerbach & Siegel, *supra* note 219.

bracket total gross income, or as a faction of GNP. 1919 is striking, with profits from dispositions being almost 4 times the 9.3 average of the 1916–1921 period, more than 7 times the 5.2 average if 1919 is excluded, and roughly 14 times greater than 1918 and 10 times greater than 1920. These results are mostly the same in terms of the profit from disposition to gross income ratio. The substantial profit from dispositions in 1919 is curious since taxpayers would presumably have expected tax rates to fall following the 1918 armistice.[248]

Each year between 1922 and 1925 saw profit from dispositions in the tens or hundreds of millions. In millions, the average reported income from sales of capital assets across the 1922–1925 period was 112.08, the average for the 1917–1921 period was 12.05, and the average for the 1917–1920 period was 14.98.[249] 1923 saw greater profits from dispositions than 1922. Between 1922 and 1925, net capital gains made up the majority (at least 89% each year) of yearly top-bracket income from dispositions, meaning individuals had been holding assets for at least 2 years to access capital gains treatment. Finally, comparisons between total top-bracket dispositions as a share of gross income and GNP are dramatic. The average ratio of dispositions of property to GNP were almost 8 times higher between 1922 and 1925 (128.50 *pcm*) than between 1917 and 1921 (16.65 *pcm*), and the ratio of income from dispositions to gross income rose from an average of 5.86% between 1917 and 1921 (7.18% between 1917 and 1920), to 40.19% between 1922 and 1925.

Table 2 presents gross income by source, presented graphically in Figure 2. In millions, the average yearly top-bracket wage income between 1922 and 1925 was 5.31 and barely exceeded the 5.30 average between 1917 and 1921, though it was lower than the 6.98 average between 1916 and 1921, with yearly wage income falling between 1922 and 1924. Wage income was consistently a relatively small share of top-bracket taxpayer gross income. Top-bracket taxable interest income and dividend income were strictly falling between 1917

248. Roy G. & Gladys C. Blakey, *The Revenue Act of 1918*, 9 AM. ECON. REV. 214, 214 (1919).

249. Standard deviation for the 1922–1925 period was 99.9. Standard deviation for the 1917–1921 period was 16.01, while standard deviation for the 1917–1920 period was 16.97.

and 1921, then strictly increasing between 1922 and 1925.[250] Dividends were a major source of top-bracket income, averaging 54.16% of gross income between 1916 and 1925, with dividend income between 1922 and 1925 falling below that average. In 1925, profits from dispositions were higher than dividend income (almost twice) for the first time since the IRS began collecting taxpayer statistics, whether by percentage of gross income or numerical amounts.

TABLE 2: TOP-BRACKET TAXPAYER GROSS, WAGE, DIVIDEND, INTEREST, INCOME AND PROFITS DISPOSITIONS (MILLIONS)

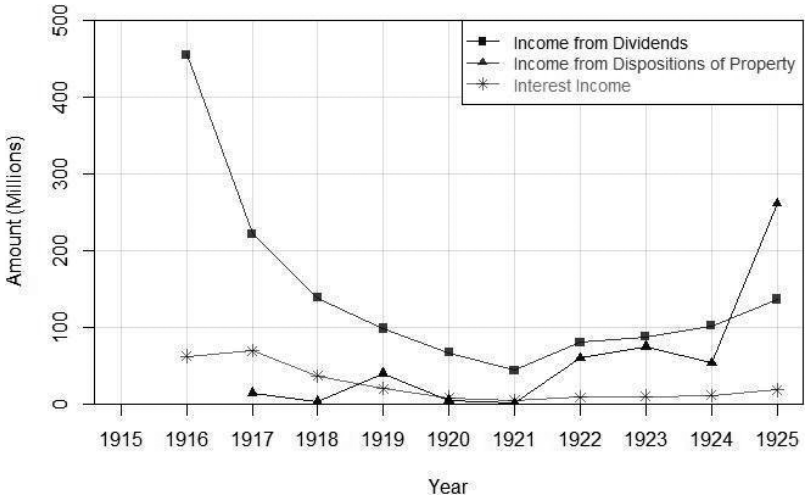
YEAR	WAGE INC	WI/GI (%)	PD[a]	PD/GI (%)	DIV INC	DIV/GI (%)	INT INC	INT/GI (%)
1915								
1916	15.39	1.81			455.43	53.48	62.05	7.29
1917	12.34	2.54	13.60	2.80	221.75	45.59	69.05	14.20
1918	5.08	2.35	2.88	1.33	138.48	64.22	36.20	16.79
1919	3.36	1.73	39.41	20.24	97.89	50.27	19.48	10.00
1920	3.25	3.48	4.06	4.34	66.44	71.13	7.94	8.50
1921	2.46	4.40	0.32	0.57	43.61	77.91	4.11	7.35
1922	5.02	2.96	59.61	35.13	79.78	47.01	8.11	4.78
1923	4.51	2.47	74.29	40.70	87.09	47.71	9.59	5.25
1924	3.99	2.12	53.08	28.17	101.71	53.98	11.06	5.87
1925	7.73	1.68	261.35	56.77	136.23	29.59	17.64	3.83

NOTE – Wage Inc or WI = wage income, GI = gross income (reported in Table 1), PD = profits from dispositions, Div Inc or Div = dividend income, Int Inc = interest income.

[a] Profits from dispositions includes taxes on capital gains beginning in 1922.

250. Dividends appear to be somewhat sticky, which is one of the key findings of the extensive research in finance about dividends. For dividend income data, see Figure 2 and Table 2. The standout year of 1916 may be attributable to a few corporate owners paying out accumulated earnings in anticipation of the 1917 tax increase. *See generally* Franklin Allen & Roni Michaely, *Payout Policy*, *in* HANDBOOK OF THE ECONOMICS OF FINANCE 337 (George M. Constantinides, Milton Harris, & René M. Stulz eds., 2003). *See also* John Lintner, *Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes*, 46 AM. ECON. REV. 97 (1956) (foundational piece which has proven to be quite an accurate representation of how management sees dividends); Christian Andres & Ulrich Hofbaur, *Do What You Did Four Quarters Ago: Trends and Implications of Quarterly Dividends*, 43 J. CORP. FIN. 139 (2017) (more recent confirmation of this insight into dividends).

FIGURE 2: TOP BRACKET PROFIT FROM DISPOSITIONS, INTEREST INCOME, AND DIVIDENDS



2. *Top-Bracket Tax Receipts for the 1915 to 1925 Period*

Tax receipts between 1915 and 1925 are reported in Table 3. Regarding total top-bracket tax receipts, the 1917–1919 years were the largest between 1915 and 1925. Despite 1920 and 1921 being recession years, 1920 compares favorably to 1924 and exceeds 1923. Thus, except for taxes from dispositions of property, the higher tax rate years produced greater revenue. Between 1917 and 1921, top-bracket tax receipts and the ratio of top-bracket taxes to total taxes were strictly decreasing, even in 1919. However, each year between 1922 and 1925 saw greater tax receipts from dispositions than 1917–1921, except for 1919. Again, 1919 is an outlier within the 1917–1921 period and saw greater tax receipts from dispositions of property than any other year except 1925. Average yearly tax receipts from top-bracket taxpayer dispositions of property were 7.01 million for the 1917–1921 period, and 14.34 for 1922–1925.[251] This finding coincides with the enactment of the capital gains preference in 1921, with income

251. Standard deviation is 10.5 and 13.6, respectively. If 1919 and 1925 are excluded from the sample variance and standard, deviation falls significantly, as does the mean.

from dispositions, which includes capital gains, increasing significantly following its enactment (except for 1919).

TABLE 3: AGGREGATE AND TOP-BRACKET TAX RECEIPTS, IN MILLIONS, PLUS ASSOCIATED RATIOS

YEAR	TAX REV	TB TAX	TBT/TR (%)	TAX ON DISP[a]	CAP TAX	TD/TBT (%)	TD/GNP (*pcm*)[b]
1915	114.82						
1916	284.35	84.44	29.70				
1917	985.86	159.76	16.21	4.85		3.04	7.21
1918	1,375.27	108.44	7.88	1.86		1.72	2.54
1919	1,320.42	102.99	7.80	25.57		24.83	34.48
1920	956.80	43.77	4.58	2.59		5.91	3.53
1921	647.45	28.28	4.37	0.20		0.72	0.29
1922	869.67	50.01	5.75	8.48	6.92	16.96	11.19
1923	676.92	36.50	5.39	7.06	6.84	19.35	8.23
1924	697.22	46.74	6.70	7.13	6.07	15.26	8.07
1925	727.21	66.20	9.10	34.72	28.56	52.45	38.35

NOTE – GNP = Gross National Product, Tax Rev or TR = aggregate revenue from income taxes for the tax year, TB = top-bracket taxpayers, TBT = aggregate tax receipts from top bracket taxpayers, Tax on Disp or TD = tax on income from profits on dispositions, and Cap Tax = tax on capital gains.

[a] Profits from dispositions includes taxes on capital gains beginning in 1922.

[b] Per cent mille is used to facilitate comparison across years.

B. *Systemic Factors, Causal Effect, and the Capital Gains Preference*

Before jumping into continued discussion about the capital gains preference, it is worth summarizing the conclusions of the empirical analysis. First, there is a clear trend in terms of both income and tax receipts from dispositions of property, with the post-reform years (1922 and after) generally performing much better than the high tax 1917–1921 years.[252] Superficially, this suggests that the capital gains preference was successful and that taxpayers responded quite dramatically to rates and changes in rates. We can draw two possible conclusions regarding realization-based capital income taxes. The first, and more brazen conclusion, is that tax rates on capital

252. As discussed above, 1919 is a bit of an exceptional year. *See supra* Section III.A.2.

should be low since wealthy taxpayers are simply more sensitive to them. Under this conclusion, the capital gains preference works regardless of the tax system in which it is embedded. The second, more nuanced conclusion, is that tax rates on capital should be low when avoidance opportunities are plentiful and when people think that rates are not permanent. Hence, given the general structure of tax law and the political and economic climate, the capital gains preference was and may continue to be necessary for revenue-maximization. The corollary of this more narrow conclusion is that the structure of the tax code matters deeply in whether a given tax rate is optimal. This seems to be the correct way of interpreting the results, for reasons that will now be explored.

The summary statistics presented above should not be taken as showing that the capital gains preference caused an increase in tax receipts between 1922 and 1925 relative to the period between 1917 and 1921. There was a great deal happening in terms of tax policy, socio-economic changes, financial markets, the war, and interactions between capital and entity level tax regimes, all of which likely had a large impact on dispositions of property. Thus, it would be premature to conclusively declare Congress lowering rates on capital gains taxes in 1921 as an outright victory. The idea that behavioral elasticities depend in part on the structure of the Code has been discussed before, with Joel Slemrod and Wojciech Kopczuk modeling how deductions and policy tools can influence taxpayer elasticities.[253]

As seen in Part I, between 1913 and 1916 taxpayers were disincentivized from adopting sales-based investment strategies. Interest was taxed at the same rate as gains but deductible (with limits) at the corporate level, and dividends were excluded from the normal tax.[254] A large drawback was that capital losses only became deductible following 1916.[255] Thus, at that time, there were serious tax disincentives to adopting sales-based investment strategies, meaning that they may have been underdeveloped.

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253. *See* Slemrod & Kopczuk, *supra* note 17; *see also* Wojciech Kopczuk, *Tax Bases, Tax Rates and the Elasticity of Reported Income*, 89 J. PUB. ECON. 2093 (2005).

254. *See supra* Part I.

255. *See* 1916 Act, *supra* note 56, at §5(a).

This situation changed in 1916. Rising tax rates made dividend and interest income less appealing, whereas dispositions from capital losses could be deducted at high rates. More importantly, the realization requirement meant that the possibility of deferring gains made sales-based strategies more tax-favorable than interest or dividends. The 1900s, 1910s, and 1920s also saw dividend payout and retained earnings policy change dramatically, with corporations reducing dividends and increasing the amount of retained earnings for business purposes.[256] The introduction of high rates in 1917 saw retaining earnings through corporate solution become a valuable source of deferral for high wealth investors and a "shield" against the surtax, although this was tempered by the excess profits tax.[257] The tax benefits of retained earnings, the effects of the excess profits tax, and the reduction of yearly dividend payouts all affected deferrals and hence all had some effect on tax receipts from dispositions of property. Similarly, the development of tax-free reorganization rules in 1918 and their expansion in 1921 probably had some impact on dispositions of property.[258]

Taxpayers probably also thought that the dramatic increases in tax rates caused by World War I would be temporary.[259] This would have greatly increased the incentive to defer realization until tax rates fell, which taxpayers could have assumed would happen soon after the war ended. Such an effect would have increased (probably greatly) the propensity of top-bracket taxpayers to engage in deferral strategies. The war, the short-lived post-war boom, and the 1920–1921 recession likewise impacted tax receipts in complex ways which are otherwise difficult to disentangle from the effects of tax policy.

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256. BANK, *supra* note 4, at 91–92; WILLIAM H. LOUGH, BUSINESS FINANCE: A PRACTICAL STUDY OF FINANCIAL MANAGEMENT IN PRIVATE BUSINESS CONCERNS 477 (1917); *see also* Jack W. Wilson & Charles P. Jones, *An Analysis of the S&P 500 Index and Cowles' Extensions: Price Indexes and Stock Returns, 1870–1999*, 75 J. BUS. 505 (2002).

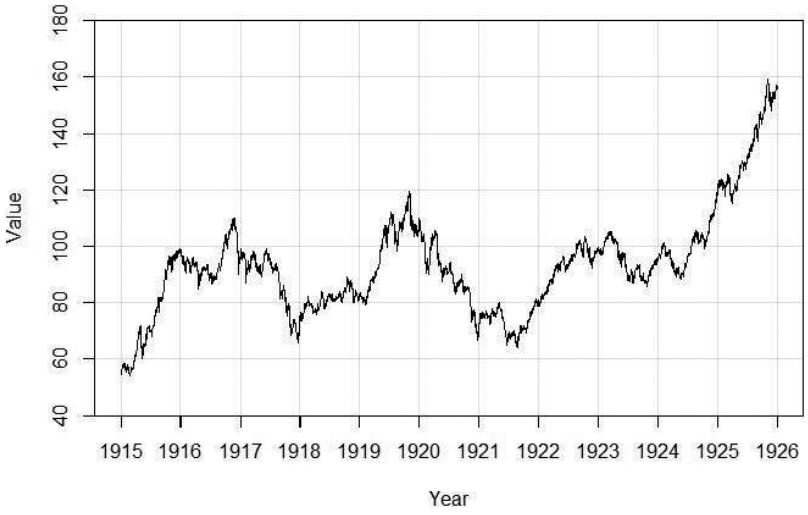
257. BANK, *supra* note 4, at 84, 101.

258. *Id.* at 120–38.

259. It is possible that taxpayers could have looked to the experience of the first income taxes in the 1860s, seen in Section I.A *supra*. There, the tax was repealed outright a few years after the war ended. *See* 1870 Act, *supra* note 33; Hutchison, *supra* note 5; *supra* note 24 and accompanying text.

World War I also saw a dramatic expansion of public involvement in capital markets. According to some estimates, the number of Americans owning publicly traded NYSE stock grew from only one hundred thousand before the war to more than two million by 1920.[260] Furthermore, Bank notes that both the number of companies going public and trading volumes on public exchanges increased significantly between 1915 and 1920.[261] He also writes that the eleven million people who purchased Liberty Bonds had now been introduced to the world of investing, and brokers who previously marketed Liberty Bonds now promoted the purchasing of publicly traded securities.[262] This increased demand could have contributed to a favorable climate for top-bracket taxpayers to generate capital gains.

FIGURE 3: DOW JONES INDUSTRIAL AVERAGE (1915–1925)



260. BANK, *supra* note, 4 at 116–17. The following materials are also relevant and are likewise quoted by Bank: ROBERT SOBEL, INSIDE WALL STREET: CONTINUITY AND CHANGE IN THE FINANCIAL DISTRICT (1977); JONATHAN BARRON BASKIN & J.R. MIRANTI, A HISTORY OF CORPORATE FINANCE (1997).

261. For an overview of the development and trading volume of the 1880s–1930, see O'Sullivan, *supra* note 244.

262. BANK, *supra* note 4, at 116–17.

Stock market performance and income and tax receipts from dispositions of property appear relatively correlated, as would be expected. Figure 3 presents the Dow Jones Industrial Average between 1915 and 1925, with both 1919 and 1925 being very good years for the index. This may be a partial explanation as to why 1919 was such an exceptional year in terms of income and tax receipts from dispositions of property, as wealthy taxpayers chose to trigger a highly taxed gain rather than risk a highly deductible investment loss.

The Statistics of Income are consistent with large behavioral responses to tax rates on dispositions of property, though again, this is inconclusive as to causation. Income from dispositions in 1921 is the lowest of the period by far at roughly $320,000, despite stock markets beginning to recover in late 1921, suggesting large transient responses. Similarly, tax receipts from top-bracket taxpayers generally fell between 1917 and 1921 (except from dispositions of property in 1919) and then rose between 1922 and 1925, with seemingly larger effects in 1921 and 1922. This is consistent with deferral of realization-based gains, top-bracket taxpayers shifting investment portfolios in response to tax rates, and accounts of top-bracket individuals' vast holdings of tax-exempt bonds between 1917 and 1921.[263] Stock trading volume was also higher each year between 1922 and 1925 compared to the period between 1917 and 1921 (except 1919).[264] Interestingly, Table 2 provides some indicia that the increase in profit from dispositions did not significantly erode other tax bases. Wage, dividend, and interest income appear to be stickier than income from sales, as expected, although wage income fell between 1922 and 1924. Such a drop could have been caused by rate arbitrage as taxpayers shifted compensation from salaries to capital gains, which could have equally happened between 1917 and 1921 to defer earnings.[265]

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263. *See supra* Part II.

264. See O'Sullivan, *supra* note 244, and associated numerical values outlined in the note for trade volume data.

265. The most famous example of rate arbitrage is exactly the case of the entrepreneur. *See* James M. Poterba, *Venture Capital and Capital Gains Taxation*, 3 TAX POL'Y & ECON. 47 (1989); Christian Keuschnigg & Soren Bo Nielsen, *Start-ups, Venture Capitalists, and the Capital Gains Tax*, 88 J. PUB. ECON. 1011 (2004).

There are some limited but nonetheless important takeaways that we can draw from the 1921 experience. First, tax policy is hard, and there are many moving parts which makes coming to clear-cut conclusions difficult. This is especially true when data is over a hundred years old, but as Dowd and Richards write, it equally applies today.[266] Even though the 12.5% capital gains preference does indeed seem to be associated with higher tax receipts from the highest income taxpayers, the story is a bit more complicated than just directly looking at the numbers from the IRS Statistics of Income would suggest.

Second, there is a clear takeaway from the story behind the creation of the capital gains preference—given the situation faced by the United States in the late 1910s and early 1920s, the capital gains preference seems to have been a policy success.[267] At a higher level, the policymaker's question is how to maximize societal welfare through the tax system—how to ensure that everyone in society is best off.[268] One component of this is taxing capital. To craft policy, the policymaker can both look to theory, which is plentiful but not necessarily an accurate representation of the physical world,[269] and to the past, which, while an accurate representation of reality, may not be applicable today.[270] The analysis presented here falls into the latter category. Hence, understanding the context behind the capital gains preference is a critical part of the story.

While there are notable differences between the 1910s–1920s and today, there are likewise some striking similarities, which renders the experience insightful for modern tax policy. One of the nuances explored above is that "structural" issues embedded in the wording of tax law itself leading

266. Dowd & Richards, *supra* note 16.

267. *See supra* Section III.A.

268. For a framework, see KAPLOW, *supra* note 219.

269. Dowd & Richards, *supra* note 16 (for a discussion in the context of the elasticity of capital gains).

270. This is well known in statistics. *See generally* JAMES H. STOCK & MARK W. WATSON, INTRODUCTION TO ECONOMETRICS (4th ed. 2019). The idea is that certain sets of factors (confounders) may have existed in the past which no longer exist and, if they are not controlled for, can generate spurious association. This is the risk here with capital gains taxes, requiring careful examination of the context behind the 1917–1925 period.

to capital gains taxes being easy to game.[271] This is equally true today.[272] Additionally, we see that deferral is especially useful when tax rates are expected to fall, which was likely the case during World War I.[273] Today's climate of political uncertainty and volatility similarly means that tax policy is far from constant, lowering the chance that a spike in capital gains tax rates will become a permanent feature of the tax code.[274] In that case, much like taxpayers could have done after 1917, taxpayers can realistically avoid selling and simply wait until Congress passes lower rates. Worse still, taxpayers could harvest losses during the high tax years and capture gains during low tax years.

To summarize: the enaction of the capital gains preference is consistent with the idea that capital gains in a realization-based system should be taxed at somewhat low rates, given several important factors.[275] The 70% rate appears to have failed relative to a 12.5% rate precisely because taxpayers could easily defer triggering gains until rates fell again, had ample access to tax planning opportunities, and probably thought that high rates would be temporary. In the abstract, if tax planning was heavily limited and rates were stable (such that a 70% rate would be seen as a permanent tax rate), then a 70% rate would have performed much better than it did during the 1917–1921 period. This does not mean that a 70% rate is the theoretically best rate. But it does mean that context matters when evaluating tax policy reform, which is a critical

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271. The main issue is the realization principle and deferral at the corporate level. *See* Bank & Mehrotra, *supra* note 4, at 187–88; *supra* Sections II.B–C.

272. *See, e.g.*, Daniel I. Halperin & Alvin C. Warren, Jr., *Understanding Income Tax Deferral*, 67 TAX L. REV. 317 (2014).

273. See the explanation given *supra* note 259.

274. COVID-19 seems to have particularly exacerbated this trend. *See* Julie Jiang et al., *Political Polarization Drives Online Conversations About COVID-19 in the United States*, 2 HUM. BEHAV. & EMERGING TECHS. 200 (2020). In the tax context, see David Kamin & Jason Oh, *The Effects of Capital Gains Rate Uncertainty on Realization* (UCLA Sch. of L., Law-Econ Research Paper No. 19-06, 2019), https://papers.ssrn.com/abstract=3365305.

275. The main factors, all of which are discussed in this section, are the ability to defer capital gains taxes because of the realization requirement, other legal structural concerns in tax law like the ability to use corporate solution as a further deferral mechanism, the belief that rates would change (hence taxpayers are more willing to defer to get hit by a lower applicable rate) and developing financial markets.

point often forgotten in both political and academic discussions.[276] A capital gains preference may make sense in one context, given one set of laws and political realities, while being welfare reducing tax policy in other contexts.

Conclusion and Insight for Current Tax Policy

The enactment of the capital gains preference repeats a well-known story. The golden rule of taxation, which was true in the 1920s, is true in the 2020s, and will remain true forevermore, is that taxpayers will always try to minimize their taxes.[277] The legislative history and associated IRS Statistics presented here are nothing more than a manifestation of the idea that capital-rich taxpayers are especially sensitive to high tax rates, partly because the foundational norms of the current taxation of capital allows taxpayers to easily escape the present taxation of accrued capital value. Right now, it seems like small rate increases on capital gains could bring in more revenue.[278] However, if Congress wants to tax capital substantially more heavily then it must go beyond simply raising rates and change the very structure of capital taxation, which currently rests on the same foundational norms that existed in 1921.

The circumstances surrounding the enactment of the capital gains preference show the importance of the architecture of the Code and interaction between provisions when forecasting responses to changes in rates or evaluating reform proposals. This Note cautions against estimating changes in tax receipts from capital gains without controlling for the impact of other sections of the Code, which is similar to the point made by Dowd and Richards, and Slemrod and Kopczuk, regarding the elasticity literature.[279] For example, in an environment of high personal income tax rates but comparatively lower corporate tax rates, wealthy taxpayers may use corporate solutions as a deferral mechanism, as appears to have been the case in the

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276. This point is closely related to those raised by Dowd & Richards, *supra* note 16.

277. For the leading treatise on tax administration and enforcement, see Joel Slemrod & Christian Gillitzer, Tax Systems (2014), which includes a discussion of avoidance historically and across different cultures.

278. The optimal rate seems to be about 30%. *See* Sarin et al., *supra* note 17.

279. Dowd & Richards, *supra* note 16, at 23; Slemrod & Kopczuk, *supra* note 17, at 6.

1910s. This means that high tax rates will not necessarily raise more revenue than lower rates, just as they did not during the 1915–1925 period (regardless of whether that was caused by the rates themselves). Deep discussions about how taxpayers respond to different tax systems and associated rates should be front and center in policy debates on reforming capital taxation, including for wealth taxes.[280]

To note that the wealthiest are not paying their stated tax burdens is an important first step in tax reform, but the critical questions are why and how that happens. The strength and weakness of a tax regime will be felt most strongly when rates are high. Thus, for high tax rates to be effective policymakers need to minimize avoidance opportunities. In 1921 Congress settled on the easier path of simply lowering tax rates to reduce the marginal benefit of avoidance, but that solution seems untenable today given surging deficits, rising inequality, and a Code that does not adequately tax capital. Further lowering rates would almost certainly not be revenue increasing.[281] However, if Congress decides to seriously increase the tax burden on capital, these increases must be coupled with significant reform targeting how and when the Internal Revenue Code captures return to investment. Otherwise, capital-rich taxpayers will find ways around the high rates like they did between 1917 and 1921.

The current taxation of capital is unsatisfactory for a multitude of well-known reasons, whether from the perspective of revenue-raising, welfare maximization, or regarding questions of inequality.[282] If Congress wishes to fix this problem—and it does—then there are three broad paths of increasing complexity that it can go down. The first is to leave the general structure of the tax code unchanged while modifying tax rates.

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280. *See* Ole Agersnap & Owen M. Zidar, *The Tax Elasticity of Capital Gains and Revenue-Maximizing Rates* (Nat'l Bureau of Econ. Rsch, Working Paper No. 27705, 2020) (using data from the 1980–2016 period to estimate behavioral elasticities and finding that the revenue-maximizing tax rate on capital is between 38% and 47%, mostly assuming linear responses).

281. If the revenue-maximizing rate is about 30% (or even higher), per Sarin et al., *supra* note 17, at 2, then going below that is undesirable. Note that this assumes that the welfare-maximizing rate is also about 30% or higher.

282. *See supra* note 1 and accompanying text; *see also* Saez & Zucman, *supra* note 17.

It seems that, under current law, the general consensus is that rates should be increased to about 30%.[283] Should Congress do away with capital gains altogether and impose a maximum rate beyond 30%, then they would likely find themselves with the same types of problems which existed in the 1910s and early 1920s and which gave rise to the capital gains preference. If 30% is indeed the optimal top rate, then it seems like proposals like those of Senators Warren[284] and Sanders[285] go too far by imposing tax rates of well over 40%, while the top 25% capital gains tax rate under the Build Back Better Act (H.R. 5376) is still too low.[286] The benefit of rate changes is that they involve minimal effort, but their issue is that they leave distortions and inefficiencies in the tax code unchanged.

The second option is to change some of the serious but easy-to-fix issues with the capital gains tax, including stepped-up basis at death and charitable giving, both of which can be used to escape capital gains taxation altogether.[287] There would be many benefits to eliminating these easy loopholes, primarily that it would increase the amount of capital gains subject to tax. In doing so, the optimal rate would change, such that the top optimal rate under this slightly changed system would be higher than the assumed optimal rate of 30% under current law.[288] Though exactly how high is entirely speculative, it may be 40% or even 50%.[289] The problem is

283. Sarin et al., *supra* note 17, at 2.

284. *See* Team Warren, *supra* note 20; *see also* Jordan McDonald, *These Are the Taxes Elizabeth Warren Has Proposed in the 2020 Race*, CNBC (Oct. 5, 2019, 9:30 AM) https://www.cnbc.com/2019/10/05/these-are-the-taxes-elizabeth-warren-has-proposed-for-2020.html.

285. *See* Friends of Bernie Sanders, *supra* note 20.

286. *See* Build Back Better Act, H.R. 5376, 117th Cong. § 138202 (2021) (addressing increase in capital gains rate for high income earners).

287. This point is likewise made by Summers, *supra* note 22. For stepped-up basis at death see, e.g., Michael J. Graetz, *"Death Tax" Politics*, 57 B.C. L. Rev. 801 (2016). For charitable giving, see, e.g., Ross Gittell & Edinaldo Tebaldi, *Charitable Giving: Factors Influencing Giving in U.S. States*, 35 Nonprofit & Voluntary Sector Q. 721 (2006); Daniel Halperin, *A Charitable Contribution of Appreciated Property and the Realization of Built-In Gains*, 56 Tax L. Rev. 1 (2002).

288. *See* Sarin et al., *supra* note 17, at 2.

289. The magnitude of the behavioral response depends on the exact legal structure of the tax code. If it is less porous, and capital gains taxes are harder to avoid, then people will be hit regardless of the tax. Hence, a larger tax generates more revenue with less distortion. *See supra* Part III, Section

that political volatility makes those rates unlikely to be binding. If there is fluctuation between higher and lower rates, then taxpayers would simply know to harvest losses during the high tax periods and trigger gains during the lower-tax periods.[290] This intermediate option does involve structural tax reform, but by targeting low-hanging high-impact loopholes, it should be relatively simple.[291] A capital gains preference would still likely make sense because of its impact on savings, but the tax avoidance story would become a much less important facet of the debate.[292] Such incremental but high-impact reforms seems like the best path precisely because of large potential impact coupled with its relatively ease.

The third option involves eliminating the realization requirement and hence dramatically reconceptualizing the tax system. This would end deferral, which is one of the most significant problems with the capital gains tax today and which featured prominently in the story behind the inception of the capital gains preference. One option to eliminate much of the benefit of deferral comes directly from the discussions leading up to the enactment of the capital gains preference in 1921: apportioning gains across an asset's holding period and applying the rate which applied each year, regardless of the applicable rate in the year in which the asset was sold.[293] Such an approach would be administratively difficult for both taxpayers and the revenue service, since it would involve constantly updating tax liabilities from prior years because of graduated

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III.B. The welfare maximizing rate is a very hard one to figure out, since it involves heavy assumptions as to consumption and savings. *See* BANKS & DIAMOND, *supra* note 224, at 548.

290. This would have a similar effect to that explored in *supra* Section III.B.

291. Again, this appears to be the preferred approach of Summers. *See supra* note 22.

292. One of the most extensive reports on taxation, the 2010–11 Mirrlees Review, recommends that capital should be taxed at graduated rates lower than those on wage income in part because of tax noncompliance issues. *See* Alan J. Auerbach, *The Mirrlees Review: A U.S. Perspective*, 65 NAT'L TAX J. 685 (2012); BANKS & DIAMOND, *supra* note 224.

293. The entire benefit would not be ended here since a taxpayer would not be paying interest on taxes accrued in earlier years. To that end, there is still a lock-in effect. *See generally* Halperin & Warren, *supra* note 272.

rates, and is ultimately the reason it was not adopted in 1921.[294]

A subset of this last option is a wealth tax, which has recently received a windfall of academic and political attention both in the United States and abroad.[295] Some of the current popularity of a wealth tax can be attributed to Piketty famously advocating for a more progressive tax system in his book, *Capital in the 21st Century*.[296] He writes that "the [optimal] top tax rate in the developed countries is probably above 80 percent" on incomes for the top 1% or 0.5% of earners.[297] He further notes that the United States is large enough to implement such a policy by itself and argues:

> The evidence suggests that a rate on the order of 80 percent on incomes over $500,000 or $1 million a year not only would not reduce the growth of the US economy but would in fact distribute the fruits of growth more widely while imposing reasonable limits on economically useless (or even harmful) behavior.[298]

In addition to an income tax on capital, Piketty recommends the implementation of a wealth tax.[299] He notes that a wealth tax may be more effective since it would be harder to avoid than an income tax,[300] and that it would increase incentives to efficiently allocate capital.[301] There have been many responses to Piketty's work, but his claims regarding an 80% capital gains tax coupled with a wealth tax are readily explored here, especially since Congress imposed similar rates (less the wealth tax) between 1916 and 1921.[302]

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294. This would happen because of graduated rates. *See supra* Section II.B.

295. *See, e.g.*, Saez & Zucman, *supra* note 17; Scheuer & Slemrod, *supra* note 22; Kopczuk, *supra* note 253; Daniel Hemel, *Taxing Wealth in an Uncertain World*, 72 NAT'L TAX J. 755, 755–76 (2019). For the political dimensions, see sources cited *supra* note 20. For the international attention see ARUN ADVANI ET AL., WEALTH TAX COMMISSION, A WEALTH TAX FOR THE UK (2020) and related background papers.

296. PIKETTY, *supra* note 19, at 660.

297. *Id.* at 512–513.

298. *Id.* at 513.

299. *Id.* at 544. Piketty suggests rates of over 2% for €5,000,000.

300. *Id.* at 524.

301. *Id.* at 526–27.

302. *See, e.g.*, Daron Acemoglu & James A. Robinson, *The Rise and Decline of General Laws of Capitalism*, 29 J. ECON. PERSPS. 3 (2015) (pertinent to the

Under current law and without first changing the actual structure of the federal income tax, both the elasticity of capital gains literature and the history behind the enactment of the capital gains preference suggest that 80% rates are far from revenue or welfare maximizing. In fact, the capital gains preference exists almost entirely as a response to the perceived failure of tax rates on capital gains, which were almost as high as 80%. Moreover, there is extensive testimony that the 1917–1921 period was characterized by significant deferral at the shareholder level, as well as investment in tax-free sources, which is supported by IRS data. According to Alan Auerbach and Kevin Hassett, there is little support for adopting Piketty's rate structure, at least not without extensive structural tax reform, and the 1915–1925 period is yet more evidence against it.[303] As was discussed, a porous Code, easy avoidance mechanisms, and volatile tax policy (especially tax rates) can all contribute to large behavioral responses to high tax rates on capital gains.[304]

As for wealth taxes, they are far from a silver bullet. The European experience with wealth taxes has generally been regarded as a failure, with enforcement proving a first-order consideration.[305] Much like an income tax, a wealth tax's success will depend on its specific legal architecture.[306] The Ultra-Millionaire Tax Act before Congress, introduced by Senator Warren and seven others (including Senator Sanders), is strikingly sparse in terms of actual "legal" provisions rendering analysis difficult.[307] While a wealth tax along proposed rates would significantly increase the tax burden of ultra-wealthy Americans, which would typically result in massive behavioral responses, it

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discussion on wealth accumulation, inequality, and fairness). For a discussion of some of the criticisms and defenses of Piketty's work, see J. E. King, *The Literature on Piketty*, 29 Rev. Pol. Econ. 1 (2017) (one of the key criticisms regards enforcement).

303. Alan J. Auerbach & Kevin Hassett, *Capital Taxation in the Twenty-First Century*, 105 Am. Econ. Rev. 38, 41 (2015).

304. For a discussion of political polarization, see Alan Abramowitz & Jennifer McCoy, *United States: Racial Resentment, Negative Partisanship, and Polarization in Trump's America*, 681 Annals Am. Acad. Pol. & Soc. Sci. 137 (2019).

305. *See* Scheuer & Slemrod, *supra* note 22, at 227; Slemrod & Kopczuk, *supra* note 17, at 93.

306. This point is likewise made by Scheuer & Slemrod, *supra* note 22, at 214–15.

307. *See generally* Ultra-Millionaire Tax Act, *supra* note 20.

would resolve the problem of taxpayers being able to choose when to realize taxable gains or losses and hence end the problem of deferral.[308]

However, ending realization and deferral through a wealth tax comes at the cost of other serious, likely first-order problems like valuation,[309] timing,[310] and questions of how such a tax would impact financial markets and the economy more generally.[311] Though wealth taxes have their proponents, it seems unlikely that an annual wealth tax would be an effective welfare-increasing policy choice for capital taxation. It would involve moving towards a relatively novel system instead of trying to fix the system that we know and which has worked to some extent for over a hundred years. Much of the recent scholarship on wealth taxes appears to share this skepticism,[312] and it is further unclear whether a wealth tax would even be constitutional.[313] Similarly, the final report of the United Kingdom's Wealth Tax Commission (2020) likewise ended up recommending against a recurring wealth tax, primarily because of enforcement and administrative concerns.[314] It may be better to combine some of the approaches of a wealth tax and an income tax, as is attempted in several types of retrospective capital taxation models developed by va-

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308. *Id.* The wealth tax would impose a 2% tax on net wealth between 50 million and 1 billion, then a total of 3% on all wealth above 1 billion.

309. For an overview, see Lindsay Pentelow, *UK Tax Valuation and Potential Wealth Tax* 5 (Wealth Tax Comm'n Background Paper No. 146, 2020); Jeffrey N. Pennell, *An Alternative to a Wealth Tax: Taxing Extraordinary Income*, 171 TAX NOTES FED. 891 (2021). *But see* Saez & Zucman, *supra* note 17, at 32–34. *See generally* Slemrod & Kopczuk, *supra* note 17, at 96.

310. *See, e.g.*, Andy Summers, *Ways of Taxing Wealth: Alternatives and Interactions*, 42 FISCAL STUD. 485–507 (2021); *see also* ADVANI ET AL., *supra* note 295, at 11.

311. *See* Saez & Zucman, *supra* note 17, at 36–38; Kopczuk, *supra* note 253, at 23–24.

312. *See, e.g.*, Summers, *supra* note 22; *see also* Kopczuk, *supra* note 253, at 22.

313. *See, e.g.*, Ari Glogower, *A Constitutional Wealth Tax*, 118 MICH. L. REV. 717 (2020); *see also* Erik M. Jensen, *Is a Tax on Wealth Constitutional?*, 36 J. TAX'N INVS. 79 (2019); Calvin H. Johnson, *A Wealth Tax Is Constitutional*, 38 ABA TAX TIMES 6, 6 (2019). *See generally* Dawn Johnsen & Walter Dellinger, *The Constitutionality of a National Wealth Tax*, 93 IND. L.J. 111 (2018); Brian Fletcher, *Con or Constitutional: An Analysis of the "Net Worth" Wealth Tax*, 54 CREIGHTON L. REV. 87 (2020).

314. ADVANI ET AL., *supra* note 295, at 8.

rious scholars.[315] Nevertheless a wealth tax, like any tax, will have to be judged based on its legal provisions. The devil will most certainly be in the details, but after a hundred years of the capital gains preference, it may be wise to stick with the devil that we know and somewhat understand over the one that we do not.

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315. *See* Alan J. Auerbach, *Retrospective Capital Gains Taxation*, 81 AM. ECON. REV. 167 (1991); Alan J. Auerbach & David F. Bradford, *Generalized Cash-Flow Taxation*, 88 J. PUB. ECON. 957 (2004).