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ARE UNDERWRITERS ESSENTIAL? EMPIRICAL EVIDENCE ON NON BOOK-BUILT OFFERINGS

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I. INTRODUCTION

Few dispute the underwriter's importance in a traditional book-built securities offering. The underwriter prices the offering, herds investors and provides a sales force to issue the securities. Further, in securities markets characterized by asymmetrical information, firms have difficulty developing a reputation since each of them enters the primary market infrequently. As a third party intermediary, the underwriter emerges as a specialist in establishing and developing the issuer's reputation. From many vantage points, the underwriter is able to decrease the issuer's transaction costs in the offering process.

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This paper probes the extent to which firms are willing to participate in non-traditional offerings, such as the 2004 Dutch auction completed by Google Inc. or other variations of the direct public offering (DPO). Technically, a DPO is a financing in which securities are offered to the public without an underwriter or with limited use of an underwriter. In North America, DPOs have been popular among governments at all levels (primarily for debt issues)[1] but, thus far, have been relatively unpopular among corporations and other business entities. Using focus groups and survey methodology, this paper probes reasons for the infrequent use of DPOs and asks whether this infrequency stems from issuers' fear of being ostracized by investors or their belief that they are unable to duplicate the functions of the underwriter.

Our empirical evidence suggests that firms consider underwriters to be crucial in the offering process regardless of cost savings that could result from dispensing with the underwriter in the offering. We find that investors value the verification function provided by underwriters. Furthermore, lack of familiarity with the DPO process is a barrier to undertaking and participating in these transactions for both issuers and investors. We argue that this situation will not change until more, and more well-known, firms begin to conduct DPOs. Thus, despite the cost savings of raising capital over the Internet, few firms are likely to undertake this means of capital finance in the near future. Admittedly, our survey response rate of 5% suggests the possibility of response bias, but we note that this figure is not out of line with other corporate survey studies.[2] This study also contains qualitative data which are, like the survey results, informative regarding the market participants' views with respect to non traditional offerings.

Our results highlight the idea that established underwriters have a comparative advantage in persuading investors to

1. Between 1999 and 2003, the amount of debt auctioned and placed by the United States government (through TreasuryDirect and the Commercial Book-Entry System) was $503,502,699,322.11. The main website for the Bureau of the Public Debt Online, Today's Auction Results, at http://wwws.publicdebt.treas.gov/ai/AIGateway (last visited October 04, 2006) also contains numerous other press releases indicating the success of previous U.S. government auctions.

2. J.R. Graham & C.R. Harvey, *The Theory and Practice of Corporate Finance: Evidence from the Field*, 61 J. FIN. ECON. 187, 191 (2001).

purchase securities. In addition, we uncover a belief among issuers and investors that underwriters are the first parties in the market to invest in information about a new security and that they can, therefore, be trusted as third parties to lend credibility to the issuer and the securities to be issued. We also identify a perceived need for the services that underwriters provide: underwriters act as a market mechanism that helps avoid the inherent problems with information as a public good (such as lack of verifiability).

The results of this study fill a gap in the literature. With the advent of the Internet, many market observers believed that an evolution in the role of the underwriter had begun. Yet, until this study, it was a wholly open empirical question as to why firms generally are unwilling to utilize the Internet to conduct an offering without an underwriter. We found that the marketing and distribution functions of the underwriter are so crucial that firms are unwilling to dispense with this integral party to the offering process. To date, ours appears to be the only empirical work relating to the willingness of firms to undertake non-traditional offerings such as the DPO.

Because all our data were collected from Canadian market participants, the results of our study are applicable primarily to Canadian capital markets.[3] However, the results are relevant to U.S. markets as well, since DPOs are almost as unpopular there as they are in Canada. The primary difference between the two countries in terms of non traditional offerings is the emergence of the Dutch auction IPO in the U.S., made popular by Overstock (2002), Google (2004) and Morningstar (2005).[4] All of these transactions were assisted by WR Ham-

3. For a discussion of the distinctive aspects of the Canadian regime, see Ronald J. Daniels & Jeffrey G. MacIntosh, *Toward a Distinctive Canadian Corporate Law Regime*, 29 OSGOODE HALL L.J. 863 (1991).

4. In a Dutch auction, price descends depending on the bids received. The price is initially set high and gradually lowers depending on the number of shares to be sold. In setting the price, the issuer does not use an underwriter but, rather, establishes a price range and the maximum number of shares to be sold under the offering. Investors bid on the offering by stating the number of shares they want to purchase and their preferred price within the pre-established range. Once the bids have been submitted, the issuer determines a "clearing price," which is the price at which it will sell the shares. This is the highest price within the established range at which the issuer can sell the pre-specified number of shares. Thus, there is no intermediary and the issuer has discretion over price and allocation. Anita I. Anand,

brecht, a firm that operates an auction-like system to distribute IPO shares to the public. Relatively speaking, Canada has not witnessed a surge in Dutch auction IPOs or other types of DPOs. This may be because Canadian markets are smaller with less depth than U.S. markets. Also, Canada does not have a national securities regulator, which may deter U.S. issuers from raising capital in this country.[5] While we only briefly discuss market differences in this paper, they should be borne in mind when considering the empirical results that follow.

Part 2 reviews theory and academic literature relating to DPOs and book-built offerings. Part 3 outlines qualitative data collected from a series of focus group discussions. Part 4 discusses our survey methodology for collecting quantitative data and the results from the survey. Part 5 contains our analysis and discussion of the results, focusing on the relevance of our conclusions to behavioural law and economics. Part 6 concludes our discussion.

II.
THEORY AND LITERATURE REVIEW

While DPOs occurred prior to the advent of the Internet, they were rarely completed, largely because of high costs associated with locating investors and distributing information.[6] Some argue that issuers could not raise the desired level of gross proceeds by way of a DPO. The advent of the Internet brought the opportunity to reduce these costs, as information flows more cheaply to and from potential investors through the Internet. Issuers can complete roadshows on-line, facilitating attendance by investors who are geographically far apart. In addition, issuers can deliver prospectuses electronically or post them to websites and take subscriptions over the Internet instead of having an underwriter perform this task. Furthermore, the Internet reduces an investor's cost of acquiring, analyzing, and verifying an issuer's disclosures. As in the 1996

Is the Dutch Auction IPO a Good Idea?, 11 STAN. J.L. BUS. & FIN. 233, 234 (2006).

5. Anita Anand & Peter Klein, *Inefficiency and Path Dependency in Canada's Securities Regulatory System: Towards a Reform Agenda*, 42 CAN. BUS. L.J. 41 (2005).

6. Robert Hansen, *Evaluating the Costs of a New Equity Issue*, 4 MIDLAND CORP. FIN. J. 42, 43 (1986).

Spring Street Brewery offering, the first Internet DPO completed, investors can surf the Internet, visit bulletin boards, and utilize introductory-level or sophisticated investor tools at financial websites to obtain and analyze information about a particular company.

Issuers may choose any number of variations on the "pure" DPO (i.e., an offering without an underwriter). For example, Google Inc.'s 2004 IPO offering was, in fact, a hybrid DPO that used a Dutch auction format. Google allowed investors to bid directly for the securities over the Internet through a brokerage account but required investment firms to place their bids through two lead investment banks (Morgan Stanley and CS First Boston). [7]

Academic inquiry into DPOs has been minimal. Perhaps this is a result of the infrequency of DPOs, including Internet DPOs. Fisch argues that small businesses may sacrifice managerial capital and gatekeeping expertise if the Internet is used to access public equity markets.[8] Similarly, Black raises significant doubts about whether the Internet can significantly reduce the cost of obtaining capital in the offering process because of the "lemons" problem.[9] Following Akerlof,[10] Black contends that an adverse selection problem exists because investors are unable to discern which issuers are truthful; investors therefore discount the prices that they will offer for all securities. High-quality issuers exit the market, forgoing a potentially valuable investment opportunity, because they are unable to obtain a fair price for their securities.[11] Low-quality issuers remain in the market and "[a]s a result, investors dis-

7. Further, some would argue that, although Google attempted to complete a non-traditional offering, it was not a true DPO because it did use investment banks for certain functions. At best, therefore, it was a modified DPO. However, in using the Internet for the placement of bids and limiting the function of the underwriter, the Google transaction was a form of direct public offering.

8. Jill Fisch, *Can Internet Offerings Bridge the Small Business Capital Barrier?*, 2 J. SMALL & EMERGING BUS. L. 57, 86 (1998).

9. Bernard S. Black, *Information Asymmetry, the Internet, and Securities Offerings*, 2 J. SMALL & EMERGING BUS. L. 91, 95 (1998).

10. George A. Akerlof, *The Market for 'Lemons': Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970).

11. Stewart C. Myers & Nicholas S. Majluf, *Corporate Finance and Investment Decisions When Firms Have Information that Investors Do Not Have*, 13 J. FIN. ECON. 187, 196 (1984).

count still more the prices they will pay. This in turn only drives more honest issuers away from the market and exacerbates the adverse selection problem."[12] The question, then, is whether companies can avoid the effect of this "death spiral" so that information asymmetry, and the resulting discount that investors apply to the securities of a DPO issuer, do not drive them out of the market. In a traditional offering, underwriters perform due diligence and provide comfort to investors that the issuer is *bona fide* and that the offering is fairly valued. The underwriter also lends its credibility to the issuer to reassure investors of the quality and value of the issue.[13] But, in a DPO where no underwriter is present, how can the DPO market avoid the death spiral?

It is well-documented that firms can signal firm value and credibility. [14] Issuers routinely signal the value of an IPO or the firm itself by the willingness of its original shareholders to retain equity[15], and the firm's chosen debt-to-equity ratio.[16] Of course, effective signalling may occur with many signals rather than one.[17] Thus , in the DPO context, signalling may be useful for issuers to avoid the death spiral referred to above. A number of possible signalling techniques exist in the DPO context, such as: voluntary lock-up agreements between management and significant security holders that are equivalent to, or more stringent than, those typically demanded by underwriters; management compensation schemes that include real performance-based compensation; and financial signals such as earnings forecasts, disclosures relating to

12. Black, *supra* note 8, at 92.

13. Ronald Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 620 (1984).

14. Michael Brennan & Alan Kraus, *Efficient Financing Under Asymmetric Information*, 42 J. FIN. 1225 (1987); David H. Downes & Robert Heinkel, *Signaling and the Valuation of Unseasoned New Issues*, 37 J. FIN. 1, 9 (1982); Hayne E. Leland & David H. Pyle, *Informational Asymmetries, Financial Structure, and Financial Intermediation*, 32 J. FIN. 371, 383-84 (1977); Jay R. Ritter, *Signaling and the Valuation of Unseasoned New Issues: A Comment*, 39 J. FIN. 1231 (1984).

15. Ian Gale & Joseph E. Stiglitz, *The Informational Content of Initial Public Offerings*, 44 J. FIN. 469 (1989).

16. Robert Heinkel, *A Theory of Capital Structure Relevance Under Imperfect Information*, 37 J. FIN. 1141, 1149 (1982).

17. Maxim Engers, *Signalling with Many Signals*, 55 ECONOMETRICA 663 (1987).

how well the issuer has performed in previous issues, and valuations of the company or of the company's stock.

Further, there are specific instances in which DPOs can be more efficient than traditional book-built offerings. This is the case when the additional transaction costs that arise in the absence of an underwriter are less than the underwriting fees. The result is that aggregate transaction costs are lower and net proceeds from the offering are higher. Aggregate transaction costs in a DPO are more likely to be lower than a traditional underwritten offering in circumstances including when an offering is conducted over the Internet, the issuer is seasoned, the investors are sophisticated, or the offering consists of debt rather than equity securities. The presence of each of these factors can result in lower information costs, thereby increasing the potential for an efficient DPO.[18]

While the academic literature on DPOs is relatively minimal, the same is not true for book-built offerings. Several studies point to significant short-term and long-term advantages of book-built offerings. For instance, Benveniste and Spindt focus on the relationship between underwriters and institutional investorsproviding a theoretical model under which issuers' net revenue from an IPO is maximized via the bookbuilding method. [19] Other academic works suggest that underwriters' ability to bargain with institutional investors maximizes issuers' profitability in terms of net revenue from (book-built) public offerings. For example, Ljungqvist, Jenkinson and Wilhelm examine the adoption of the U.S. book-building mechanism in Europe and Asia, concluding that the total cost of issuances (including indirect costs that stem from underpricing), decreased as these continents dispensed with auctions towards adopting the book-built offering.[20] Similarly, Ljungqvist and Wilhelm find that price discovery for new securities issues is less costly when investment banks have discretion to make

18. Anita I. Anand, *The Efficiency of Direct Public Offerings*, 7 J. SMALL & EMERGING BUS. L. 433, 434 (2003).

19. Lawrence M. Benveniste & Paul A. Spindt, *How Investment Bankers Determine the Offer Price and Allocation of New Issues*, 22 J. FIN. ECON. 343, 358-59 (1989).

20. Alexander Ljungqvist et al., *Global Integration in Primary Equity Markets: The Role of U.S. Banks and U.S. Investors*, 16 REV. FIN. STUD. 63, 97 (2003).

larger allocations to institutions.[21] Underwriters' typical long-term relationships with institutional investors may also enable this intermediary to build a market for securities by presenting IPO securities as a collection of goods (or bundle) as opposed to isolated and independent offerings.[22] In addition, underwriters can provide definite advantages to issuers as a result of their after-market activities (including analyst coverage, efforts that stabilize markets etc.) and their relationships with institutional investors.[23] Other studies theorize that underwriters can provide significant advantages to issuers due to their relationships with institutional investors and underwriters' after-market activities, including analyst coverage, efforts that stabilize markets etc.)[24]

In light of this literature, it seems unsurprising that, DPOs are not more prevalent in Canada or the United States. Canada has a large concentration of small to mid cap firms. Perhaps this explains the bias in favor of traditional offerings (i.e. where an underwriter is used). Such markets are generally less liquid and an underwriter may be necessary to ensure a successful offering and to create an after-market for the securities. It would be useful to consider whether this bias would persist in markets populated by a larger propensity of seasoned, larger issuers with a well-established investor and analyst following as well as a relatively long disclosure record. Because these issuers have likely raised capital many times in the past, their reliance on the underwriter may be reduced. From the investor's perspective, they are not as high-risk as smaller cap firms.

III.
FOCUS GROUPS

We convened two focus groups in Toronto, Canada in June 2003. The series of questions posed to the participants

21. Alexander Ljungqvist & William Wilhelm, *IPO Allocations : Discriminatory or Discretionary?*, 65 J. FIN. ECON. 167, 171 (2002).

22. Benveniste and Spindt, *supra* note 19, at 358-59.

23. Lawrence M. Benveniste et al., Information Externalities and the Role of Underwriters in Primary Equity Markets, 11 J. FIN. INTERMEDIATION 61, 83 (2002).

24. *See, e.g.*, Sean Griffith, *The Puzzling Persistence of Fixed Price Offerings* 2 (University of Connecticut School of Law Working Paper Series, Paper No. 47, 2005), *available at* http://lsr.nellco.org/uconn/ucwps/papers/47.

were based on our theoretical analysis summarized above. Participants were grouped according to expertise. The first group, labelled the "Think Tank Group," consisted of six buy-side constituents including institutional investors and regulators. The second group, called the "Issuer/Underwriter Group," consisted of eight primarily sell-side constituents including asset management and private equity professionals as well as the heads of major hedge funds. The groups also consisted of investment banking associates, a member of a major Canadian technology company, and securities lawyers with expertise in technology company underwriting. One of the participants in the second group was the chair of the first Canadian company to complete a DPO in Canada.

A. *Barriers from the Issuer's Perspective*

We sought to isolate factors that deter issuers from completing Internet securities offerings. Both focus groups expressed concerns relating to the actual sale of the offering. Participants were concerned that Internet offerings inhibited access to potential buyers since there was no direct sales force. They were also concerned that these types of offerings contained little secondary market support compared to a traditional offering where the brokerage side of the underwriter's organization would typically ensure that there was a market for newly issued underwritten shares. A consensus developed among focus group participants that "securities are sold, not bought." This phrase refers to the lack of inherent demand for securities in the absence of organized selling and marketing campaigns. Participants also used the phrase to indicate that issuers want their securities to be bought by high-quality investors, but this is not controllable in Internet transactions because of the lack of knowledge and confidence in conveying information over the Internet.

The Think Tank Group thought secondary market support and sale of the issue were the main concerns for large cap issuers, while the Issuer/Underwriter Group emphasized the importance of the investment banking relationship to the large cap issuer and the importance of this relationship in obtaining credit. Both groups stressed that, in the absence of an underwriter, issuers face a regulatory hurdle which would likely be costly to overcome in terms of legal fees. DPO issuers

are required to expend significant resources in convincing regulators that all necessary disclosures have been made and that investors have been treated fairly.

With regard to barriers for small cap companies, the Think Tank Group again stressed the lack of a sales force, as well as the lack of knowledge of these issuers stemming from less expertise in the offering market. This lack of expertise increases the cost of completing offerings generally and DPOs specifically. The Issuer/Underwriter Group also emphasized the steep learning curve required of small cap companies, especially for companies without internal investment dealer experience and knowledge.

Both groups suggested other barriers including the novelty of the DPO as a means of offering securities, lack of investor demand for this type of transaction and the need for an established distribution network to attract a sufficiently large pool of investors. With respect to all of these concepts, participants continually remarked that "securities are sold, not bought."

B. *Barriers from the Investors' Perspective*

The focus group participants also discussed factors that deter investors from participating in Internet securities offerings. Almost all of the participant concerns related to the credibility of the issuer: investors need to be able to trust the issuer in which they are investing. Many participants questioned the security of the Internet in addition to how well it is regulated, focusing in particular on investor inability to independently verify information received from the issuer over the Internet.

Both groups questioned the efficiency of a DPO in terms of dissemination of information and pricing. Regarding information transfer, focus group participants asked, who receives it first? How can the issuer itself deliver information that is truly objective? Is a filter needed to reduce information overload? Regarding pricing of the issue, will there be a price surge on the initial day of trading thereby repeating the underpricing phenomena present in traditional offerings? How can the price be verified or compared? What is fair value? Many participants asked why they should bother participating in this new method as opposed to traditional capital financing

methods. Others stated that, by raising capital through a DPO, firms could undermine their own credibility.

The Think Tank Group noted that investors have a number of reasons to avoid a DPO completed by large cap issuers, including: information overload and the need for a third party filter, the credibility/risk of the Internet, the lack of verification methods for the offering price, and the centralized nature of offering information, since dealers/brokers cannot speak for the issue. Others raised issues such as who would be liable for technical problems and how the need for independent verification would be satisfied.

The Think Tank Group suggested that the lack of a liquid secondary market was a barrier to investors investing in small cap companies. DPO securities may be easy to purchase, yet difficult to sell. The group also indicated that information overload and the need for a filter or clearing house that could verify quality and price were important concerns. The Issuer/Underwriter Group suggested that "real" companies do not use DPOs and that there is a lack of due diligence/independent verification performed in DPOs.

C. *Efficiencies and Inefficiencies of DPOs*

We asked participants to identify efficiencies in using the Internet to complete securities offerings. Both groups felt that investors would have better or equal access to information, as well as better access to deals in terms of share allocation. This, to some, meant that investment bank "spinning," the practice of allocating shares for improper reasons, would be reduced as a result of DPOs. We note that the focus groups convened in 2003 after spinning on Wall Street had been heavily discussed in the media. Both groups felt that the reduction of direct (the underwriter's spread) and indirect costs (in the form of underpricing) associated with eliminating the underwriter were the obvious benefits for issuers. Also, the groups believed that issuers would have access to a broader and more global investor base by utilizing the Internet. They asserted that issuers would have better access to capital because they would avoid the underwriter "pipeline of product or sequence of deals" and get to market faster.

The Think Tank Group proffered the creative idea that, in cases of companies with a specific investor following relating

to the product sold, issuers could target investors and reach them more efficiently because there would be a pool of investors who are familiar with and believe in the company. Both groups noted that the DPO could lower the cost of issuance if the issuer provided information directly to investors. In their view, this would mitigate the effects of biased investment bank research. Furthermore, if DPOs were a viable financing option, they may serve as price competition for traditionally inflexible underwriting fees.

However, both groups also identified inefficiencies associated with the DPO. The Think Tank Group focused on the chaos that a viable DPO market would bring to the traditional broker network mechanism. They also discussed the fragmented markets in Canada and how a DPO would probably be harder to bring to market because of heterogeneous legislation in provincial jurisdictions in Canada. The selection process in capital markets, which is driven by underwriters that weed out bad issuers, was perceived to be at risk of being damaged if DPO issues continue.

D. *Replacing the Verification Process*

With the verification function of the underwriter absent in DPOs, participants discussed alternatives that could be adopted to replace the underwriter. The most popular idea was to standardize the process by creating issuance requirements. Some suggestions included: forming and utilizing a central body for prospectus review, enacting quality based requirements, and compelling regulatory approval of Internet websites. All of these could create requirement standards for DPOs.

The Issuer/Underwriter Group suggested reforms in which the onus to verify information shifted from the underwriter to other parties. One participant indicated that investors can and should bear the costs of information gathering. To assist the investor with information gathering, issuers could use technology such as hyperlinks that direct investors to other information verifying claims in the prospectus. Some focus group participants suggested that the onus to verify information should shift to auditors and lawyers. Still others suggested that an independent third party should be responsible for verification. The groups also suggested that trade organizations,

rating agencies, or equity/credit analysts were entities capable of fulfilling the verification function.

E. *Regulatory Implications*

Focus group participants unanimously agreed that regulation should be streamlined and uniform so that the process is more cost effective than registering normal securities. They also stressed that a single national securities regulator in Canada (as opposed to the current fragmented system of thirteen provincial and territorial regulators) would further streamline the DPO process. Both groups emphasized that, in light of the prevalence of small to mid cap public companies in Canada, legislation should be customized to accommodate these types of companies and should be based on principles (such as minimum financial standards) rather than rules. The groups stressed that tough enforcement with severe penalties would discourage issuers from bending principles. There was an understanding among the focus group participants that, because of the novelty of the transaction, investors would rely to a greater extent than usual on regulatory vetting of the DPO. There seems to be an association in investors' minds between Internet transactions and securities fraud, including the "pump and dump" schemes.[25]

F. *Summary*

The evidence obtained from the focus groups supports the contention that issuers are reluctant to undertake DPOs because these transactions fail to duplicate the function of the underwriter. This concern seemed to be more prevalent than the notion that the issuer would be ostracized by the investment community if it did not use an underwriter. Three points stand out. First, the idea that securities are "sold, not bought" suggests that established underwriters have a comparative advantage in persuading investors to purchase the issue. Second, the concern regarding pricing of the security conveys a belief among focus group participants that underwriters are the first parties in the market to invest in information about a

25. Werner Antweiler & Murray Z. Frank, *Is All that Talk Just Noise? The Information Content of Internet Stock Message Boards*, 59 J. FIN. 1259, 1292 (2001).

new security and that their prominence in this process is recognized by the issuer community. Finally, focus group participants raised the concern that retail investors can free ride on information provided by institutional investors. Underwriters thus stand as a market mechanism that avoids the inherent problems with information as a public good (such as a lack of verifiability). Underwriters are viewed to be integral to the offering process for a variety of reasons including the reputational role that is generally not present in the DPO transaction.

IV.
COLLECTION OF DATA BY SURVEY AND RESULTS

A. *The Survey*

Based on the results of the focus group discussions, we constructed a survey (attached as Appendix 1) and administered it electronically to all companies listed on the Toronto Stock Exchange (approximately 1,300 firms). The survey was pre-tested on a subset of focus group participants and the final version was sent to a contact person (usually the CFO) at each company. The survey asked participants to indicate their relative receptiveness to the use of DPOs for equity, debt, and income trust securities.[26] Participants were then asked to indicate their level of agreement or disagreement on a number of potential explanatory factors and to provide some firm-specific demographic information.

Despite four mailings, the survey had a disappointing response rate, with only 60 valid responses (a response rate of about 5%). This could be an indication of the general level of interest in the market for DPOs, but more likely, senior corporate level employees lacked the time to complete the survey. It does raise the possibility of selection bias: those executives who did reply are presumably more knowledgeable about, and possibly more interested in, DPOs as an alternative financing medium. The implication of this selection bias is that we should

26. Income trust securities are hybrid securities where the holders get access on a (mostly) tax-free basis to the operating income of the underlying company. They have dominated the IPO market in Canada, comprising 94% of all issues in 2002. They are gaining popularity in the U.S. in the form of income deposit securities.

treat our results with caution, as they may represent the sentiment of a subset of the market, not the entire market. However, the response rate is not out of line with other surveys of corporate executives (e.g. Graham and Harvey, 2001). Further, the number of responses does provide us with enough data to conduct statistically meaningful empirical tests, to which we will turn in the next section.

As discussed below, some responses to the survey instrument were qualitative (Questions 2 and 17) and some were quantitative. We first summarize the non-parametric comments and then examine, in some detail, the parametric responses. For the latter, we use both ordinary least squares (OLS) and multinomial logistic regression (logit) analyses.

B. *Qualitative Responses*

In Question 2, those respondents who indicated that they had not considered using the Internet to complete an offering of equity securities were asked to explain their responses. Several firms said they had not been in the market for an offering of any kind. Another group never had the option proposed. Most firms had a complete lack of information about DPOs. Even firms with some knowledge and awareness still had uncertainty about how to go about performing DPOs. Firms have not seen it done in the past and are, therefore, hesitant. A longer track record was said to be a prerequisite, suggesting that a DPO would be more useful for a secondary financing offering. Also, larger and more experienced firms would likely possess more credibility in this market. Some firms were unsure if securities law would allow for DPOs, which were considered to raise a risk of non-compliance with applicable laws both in Canada and, more importantly, in other jurisdictions.

The responses suggest that some issuers viewed DPOs as too complicated and difficult to complete. A major concern was the marketing constraint as firms want to confirm enough buyers, timing and the right price. Firms did not feel the need to go through the DPO channel given strong and specialized conventional markets. Underwriters have the skills and experience necessary to successfully complete an offering. Corporate finance is seen as a relationship business and it is hard to reconcile this with raising capital over the Internet, however price effective it may be. A REIT representative said that a

very large percentage of their target investor market is retail; thus, they need the support of the underwriter's retail systems to successfully sell equities.

In Question 17, respondents were asked to specify which "other issues" (besides those listed in Questions 14-16) serve to inhibit their use of DPOs. In the survey, as in the focus groups, a recurring theme was that "securities are sold, not bought." Respondents felt that the services of the underwriter, in particular marketing and distribution services, were irreplaceable.[27] For securities offerings, it appears that firms prefer to use push channels rather than pull channels in order to enhance visibility. Securities offerings are about marketing, sales, and distribution, not simply order fulfilment. Also, smaller firms need the external resources in completing an offering. There was definitely the fear that the investor base would not be comfortable with a DPO and that shareholders find solace in an investment bank backing the issue.

Part of the underwriter's added value is the critical research follow-up it offers. Underwriters also give "psychological support" to an offering by providing investors with the comfort they seek about the issuer and the securities in which they are investing. Furthermore, the lead underwriter makes a secondary market in the issue since lack of a secondary market would negatively affect any subsequent offering by the issuer in terms of price support after the offering. Investment banking expertise and relationships are very difficult to replace. An issuer electing to complete a DPO may encounter hostility among brokerage firms. Finally, having investment banks involved allows for further due diligence and comfort.

These qualitative results are consistent with those of the focus groups, summarized in Section 3. In general, it appears that the biggest impediment to DPOs is fear of the unknown and the related fear of leaving the certainty of the known. The market needs more "Google-like" and more non-government deals before it will be willing to embrace the DPO concept.

27. The prevalence of this theme is noteworthy, since respondents were asked to identify "other issues" and Question 15 already states: "Investment banking expertise cannot be replaced."

C. *Quantitative Analysis – Data Description*

Analysis of the data gathered from the 60 valid responses revealed two problems. First, many of the responses to the firm demographic questions (#s 19-24) were incomplete or incorrect. We attempted regression analysis using subsets of those responses with complete data for each of those questions in turn, but results were inconclusive and the loss of degrees of freedom outweighed any additional information contained in those variables. Accordingly, the analysis to follow will focus only on Questions 5-16 as explanatory variables along with industry dummy variables constructed from the responses to Question 18. Table 1 provides descriptive statistics for the core variables while the Appendix defines the variables.

TABLE 1: DESCRIPTIVE STATISTICS

VARIABLE	MEAN	MEDIAN	STDDEV
q1	0.17	0.00	0.38
q3a	2.42	2.00	1.63
q3b	2.37	2.00	1.52
q3c	2.02	1.00	1.46
q4a	3.28	3.00	1.69
q4b	2.83	3.00	1.60
q4c	2.57	2.00	1.69
q5	0.17	0.20	0.04
q6	3.40	3.00	0.94
q7	4.02	4.00	0.65
q8	0.42	0.00	0.50
q9	0.72	1.00	0.45
q10	0.25	0.00	0.44
q11	0.25	0.00	0.44
q12	0.27	0.00	0.45
q13	0.38	0.00	0.49
q14	0.10	0.00	0.30
q15	0.55	1.00	0.50
q16	0.58	1.00	0.50

A second problem concerns significant multicollinearity among many of the variables. Multicollinearity makes it diffi-

cult to interpret the regression results. The precision of parameter estimates declines, variables are incorrectly dropped from the analysis because of inflated standard errors, and parameter estimates are sensitive to sample selection. Table 2 provides the correlation matrix for the core variables. With a sample size of 60, the critical level of simple partial correlation (using a t-test) at the 5% level is 0.254. Inspection of Table 2 indicates the pervasive nature of this problem.

The standard remedies for multicollinearity are to increase the sample size (not feasible here), to use a seemingly unrelated regression (not feasible here), to drop one of the correlated variables (not feasible given the widespread multicollinearity), or to use stepwise regression analysis. With this approach, the model selects the most significant variables and then iterates, sequentially selecting the remaining variables which are significant, given the effect of variables already selected. As discussed below, this is the approach that we used.

D. *Regression Analyses*

The OLS and logit regression approaches are based on different distributional assumptions and measure different response attributes. OLS is based on the assumption of a cumulative normal distribution function while logit is based on a cumulative logistic function. The two distributions are similar in form and converge asymptotically. The more important difference between the two approaches is that OLS estimates the contribution of an explanatory variable to the dependent variable while logit estimates the probability that an explanatory variable has an impact on the dependent variable. Hence, the estimated regression coefficients will generally have different values in the two approaches, but both should (asymptotically) result in the same variables being found to be significant.

In our analysis, we employed seven regression equations. The left-hand-side, or dependent variable, is either Question 1 (whether the firm has considered using the Internet to facilitate the sale of securities) or it is the likelihood that the company would use the Internet, in whole or in part, to complete an offering of equity, debt, or income trust securities in the future (Questions 3 a, b, c and 4 a, b, c, respectively). Question 1 required a "Yes" or "No" answer while Questions 3a-c and 4a-c requested attitudinal responses between 1 and 7, with

TABLE 2: CORRELATION MATRIX

Critical value of r (5% level) = 0.254.

Variable	q1	q3a	q3b	q3c	q4a	q4b	q4c	q5	q6	q7	q8	q9	q10	q11	q12	q13	q14	q15	q16	Dummy Oil/Gas/ Res.	Dummy Tech	Dummy Inves. / Trust / Fin.	Dummy Ind. / Trans.
q1	1.00																						
q3a	0.33	1.00																					
q3b	0.31	0.81	1.00																				
q3c	0.30	0.66	0.70	1.00																			
q4a	0.41	0.65	0.59	0.38	1.00																		
q4b	0.30	0.54	0.70	0.46	0.70	1.00																	
q4c	0.28	0.39	0.51	0.72	0.49	0.69	1.00																
q5	-0.17	-0.32	-0.22	-0.07	-0.38	-0.23	-0.01	1.00															
q6	-0.05	0.21	0.18	0.13	0.09	0.07	0.14	0.00	1.00														
q7	0.13	0.31	0.27	0.21	0.37	0.20	0.21	-0.23	0.27	1.00													
q8	-0.02	-0.07	0.02	0.06	0.04	-0.08	-0.02	0.12	-0.22	-0.23	1.00												
q9	-0.02	-0.23	-0.12	-0.07	-0.05	-0.09	-0.05	0.09	-0.13	-0.21	0.38	1.00											
q10	0.05	0.23	0.35	0.13	0.04	0.09	0.10	0.04	-0.12	-0.13	0.14	0.11	1.00										
q11	-0.05	-0.01	0.01	-0.14	-0.03	-0.11	-0.24	0.09	0.04	-0.25	0.14	0.11	0.02	1.00									
q12	0.44	0.36	0.35	0.25	0.35	0.42	0.38	-0.16	0.10	0.22	-0.20	-0.21	0.17	-0.17	1.00								
q13	0.02	0.26	0.29	0.11	0.38	0.21	0.12	-0.35	0.03	0.25	-0.11	0.04	0.02	-0.14	-0.01	1.00							
q14	0.30	0.26	0.21	0.19	0.24	0.14	0.22	-0.10	0.27	0.08	-0.06	-0.04	0.06	0.19	0.18	-0.03	1.00						
q15	-0.04	-0.31	-0.31	-0.43	-0.17	-0.16	-0.31	0.08	-0.26	-0.29	0.15	0.17	-0.02	0.21	-0.21	0.02	-0.03	1.00					
q16	0.11	0.26	0.14	0.06	0.32	0.10	0.02	-0.12	0.22	-0.08	-0.04	0.07	-0.14	0.25	0.13	0.18	0.06	-0.15	1.00				
Dummy Oil/Gas/ Res.	-0.03	-0.07	-0.08	-0.18	-0.04	-0.06	-0.28	-0.03	-0.15	-0.13	-0.17	0.13	0.00	0.00	-0.11	0.02	-0.24	0.07	0.10	1.00			
Dummy Tech	-0.11	-0.03	-0.07	-0.18	0.01	-0.05	-0.19	0.11	-0.04	0.05	0.08	-0.24	-0.19	0.19	-0.02	-0.05	0.11	0.20	0.08	-0.35	1.00		
Dummy Inves. / Trust / Fin.	-0.08	-0.06	-0.11	-0.01	-0.16	-0.15	0.01	-0.06	0.10	0.13	-0.02	-0.02	0.05	-0.26	0.03	0.02	0.00	-0.31	0.02	-0.32	-0.22	1.00	
Dummy Ind. / Trans.	0.07	0.20	0.15	0.24	0.07	0.18	0.31	0.01	0.10	-0.01	-0.07	0.00	0.14	0.05	0.11	-0.03	0.08	-0.06	-0.09	-0.39	-0.28	-0.25	1.00

"1" being "Not likely" and "7" being "Likely". For Question 1, the breakdown between "Yes" and "No" answers was 10 and 50, respectively. For the attitudinal questions, responses tended to be clustered around the lower half of the scale (see Table 1). These results suggest a general disinclination toward the use of the Internet to issue securities.

The right-hand-side, or explanatory variables, comprises the responses to Questions 5-16 as well as dummy variables for industry groupings. Companies were sorted into four industry groupings: Investment/Trust/Financial (10), Technology (12), Oil/Gas/Resource (20), and Industrial/Transportation (14). Four responses did not indicate their industry; we deal with this issue in our analysis. In order to avoid mis-specification due to over-identification of the X matrix (the "dummy variable trap" induced by the inclusion of dummy variables for each state of the world), we suppressed the constant term in all regressions.

Our core results are shown in Table 3. This table shows the p-values (for those variables which are significant)[28] for each of the seven equations. Panel A shows the basic OLS results, Panel B shows the stepwise OLS results, and Panel C shows the stepwise logit results[29]. We do not show OLS results for Question 1 as OLS is inappropriate for binary dependent variables.

The columns of Table 3 represent the left-hand-side (dependent variables) of the seven regression equations. To test for robustness, we also report the results for the full sample of 60 companies (omitting the industry dummies) and for the sub-sample regressions without the dummy variables. In this way, we are able to identify both the effect of the dummy variables (comparing the two sets of sub-sample regressions) and the additional information from the four extra companies (comparing the 56- and 60-company results without the dummy variables). The results of these robustness checks are

28. For ease of presentation, we do not show the complete regression results, as the numerous output tables (particularly for the iterative stepwise tests) provide little additional information. As indicated above, the values of the coefficient estimates themselves have little economic meaning; we therefore restrict our analysis to the statistical significance of the variables. Detailed results are available from the authors upon request.

29. The high standard errors induced by the multicollinearity cause the basic logic tests to give insignificant results.

discussed later in this section. The rows labeled "56-W/D" represent the results for the sub-sample of 56 companies for which industry identifiers are available. The rows labeled "60-W/O-D" represent the full sample of 60 companies, omitting the industry dummy variables. The rows labeled "56-W/O-D" represent the sub-sample of 56 companies, omitting the dummy variables.

TABLE 3

Summary of Regression Results

Panels A, B, and C display, respectively, the results of the ordinary least squares (OLS), stepwise OLS, and multinomial logistic (logit) regressions. Values shown are the identification numbers of the significant variables (from the survey instrument) and their p-values. The columns of Table 1 represent the left-hand-side (dependent variables) of the seven regression equations. See the survey instrument (Appendix 1) for the definitions of these variables. The rows labeled "56-W/D" represent the results for the sub-sample of 56 companies for which industry identifiers are available. The rows labeled "60-W/O-D" represent the full sample of 60 companies, omitting the industry dummy variables. The rows labeled "56-W/O-D" represent the sub-sample of 56 companies, omitting the dummy variables.

To facilitate interpretation of the results, we have developed a single word descriptor for each of the explanatory variables (the full description of each variable is contained in the survey instrument, attached as Appendix 1). The code is as follows:

#5 – "Savings"
#6 – "Jurisdiction"
#7 – "Participation"
#8 – "Banking"
#9 – "Service"
#10 – "Profile"
#11 – "Credibility"
#12 – "Customers"
#13 – "Institutions"
#14 – Unsafe"
#15 – "Expertise"
#16 – "Legal"
#17 – "Other."

PANEL A – OLS

	Q1	Q3A	Q3B	Q3C	Q4A	Q4B	Q4C
56-W/D	N/A	7(.085)	10(.01)	15(.023)	7(.008)	12(.01)	12(.03)
		10(.046)	13(.087)		13(.075)		14(.09)
			15(.056)		16(.034)		15(.089)
56-W/O-D	N/A	7(.024)	7(.071)	15(.017)	7(.000)	7(.090)	12(.015)
		10(.033)	10(.007)		12(.098)	12(.004)	14(.079)
			13(.068)		13(.067)	13(.072)	15(.044)
			15(.084)		16(.039)		
60-W/O-D	N/A	7(.009)	7(.076)	15(.008)	7(.001)	12(.011)	12(.02)
		10(.024)	10(.009)		8(.075)		15(.074)
		16(.081)	12(.083)		12(.065)		
			13(.039)		13(.058)		
			15(.065)		16(.032)		

PANEL B – OLS Stepwise

	Q1	Q3A	Q3B	Q3C	Q4A	Q4B	Q4C
56-W/D	N/A	7(.000)	7(.000)	7(.000)	7(.000)	7(.000)	7(.000)
		15(.038)	10(.003)	15(.003)	16(.002)	12(.001)	12(.01)
			15(.008)	D-I(.018)	5(.003)	13(.050)	D-I(.002)
			D-F(.042)		D-F(.048)		
56-W/O-D	N/A	7(.000)	7(.000)	7(.000)	7(.000)	7(.000)	7(.000)
		15(.038)	10(.005)	15(.005)	16(.002)	12(.001)	12(.002)
			15(.034)		5(.006)	13(.050)	
60-W/O-D	N/A	7 (.000)	7 (.000)	7 (.000)	7 (.000)	7 (.000)	7 (.000)
		12(.027)	10(.002)	15(.008)	16(.002)	12(.003)	12(.007)
		16(.044)	15(.043)		5(.014)		

PANEL C – Logit Stepwise

	Q1	Q3A	Q3B	Q3C	Q4A	Q4B	Q4C
56-W/D	12(.000)	15(.000)	8(.000)	15(.000)	D-I(.001)	12(.000)	15(.000)
56-W/O-D	12(.000)	15(.000)	8(.000)	15(.000)	8 (.001)	12(.000)	15(.000)
60-W/O-D	12(.000)	15(.000)	8(.000)	15(.000)	8 (.001)	12(.000)	15(.000)

E. *OLS Results*

We give more weight to the OLS stepwise results in Panel B, since the basic OLS results are distorted by multicollinearity. We show the basic results, however, for completeness. The usual cut-off p-value is 5%, but here, due to the data limitations, we accept values up to the 10% level, with reservations.

Question 1: Has your firm ever considered using the Internet to facilitate the completion of an offering of equity securities?

OLS is not appropriate for Question 1.

Question 3a: What is the likelihood that your firm would consider using the Internet to complete a future offering of equity securities without using an underwriter?

For the OLS stepwise regressions, variable # 7 ("If more firms completed DPOs, the DPO would become more credible. . .") and variable # 15 ("Investment banking expertise cannot be replaced") are both significant. In the basic OLS test, variable # 10 ("Because we are a well known firm. . .") replaces variable # 15.

Question 3b: What is the likelihood that your firm would consider using the Internet to complete a future offering of debt securities without using an underwriter?

The OLS stepwise results indicate that variable #s 7 (Participation), 10 (Profile), and 15 (Expertise) are significant, along with the dummy variable for Investment, Finance, and Trust firms. For the basic OLS test, variable #s 10 and 15 remain, along with # 13 ("Institutional shareholders would be more likely to invest in a DPO than retail shareholders").

Question 3c: What is the likelihood that your firm would consider using the Internet to complete a future offering of income trust securities without using an underwriter?

The OLS stepwise results show that variable #s 7 (Participation) and 15 (Expertise) are significant, along with the dummy variable for the Industrial and Transport companies. For the basic OLS run, only variable # 15 is significant.

Question 4a: What is the likelihood that your firm would consider using the Internet to complete an offering of equity securities using the underwriter to perform limited functions?

The stepwise results favour variable #s 5 (Savings), 7 (Participation), and 16 (Legal) as well as the dummy variable for investment, Finance, and Trust firms. The basic OLS test has variable #s 7 (Participation), 13 (Institutions), and 16 (Legal) as significant.

Question 4b: What is the likelihood that your firm would consider using the Internet to complete a future offering of debt securities to perform limited functions?

For the stepwise test, variable #s 7 (Participation), 12 (Customers), and 13 (Institutions) are significant. For the basic test, only variable # 12 is significant.

Question 4c: What is the likelihood that your firm would consider using the Internet to complete a future offering of income trust securities to perform limited functions?

The stepwise results show that variable #s 7 (Participation) and 12 (Customers) are significant, along with the dummy variable for Industrial and Transport companies. The basic results, in contrast, have variable #s 12, 14 (Unsafe), and 15 (Expertise) as significant.

F. *Logit Results*

Question 1: Variable # 12 (Customers) is significant.

Question 3a: Variable # 15 (Expertise) is significant.

Question 3b: Variable # 8 (Banking) is significant.

Question 3c: Variable # 15 (Expertise) is significant.

Question 4a: The dummy variable for Industrial and Transport companies is significant.

Question 4b: Variable # 12 (Customers) is significant.

Question 4c: Variable # 15 (Expertise) is significant.

G. *Robustness Checks*

We here summarize the robustness checks for the results of all three data sets: the 56 companies, with and without dummy variables, and the 60 companies, without dummies. For purposes of clarity, we show only the significant variables and their p-values.

The presence of the industry dummy variables does not materially affect any of the results. With the OLS tests, for Question 4a, variable # 12 (Customers) enters when the dummy variables are removed, and, in Question 4b, variable #s 7 (Participation) and 13 (Institutions) enter with marginal significance. With one exception (Question 4a), the logit results are consistent across all samples. In the case of Question 4a, the dummy variable necessarily disappears in the samples with no dummies, to be replaced by variable # 8 (Banking).

Similarly, in going from the 56 company sample to the 60 company sample, results remain essentially unchanged. With OLS, some variables enter with marginal significance, but the core results remain unchanged. The logit results are identical across both sample sizes.

Our results, then, appear to be reasonably robust to sample size and the presence of the dummy variables. The fact that there are some minor differences among the samples attests to the small size of our sample, but we are fairly confident that the results are representative.

There does not appear to be a significant persistent industry effect. The OLS stepwise tests show that the dummy variable for Investment, Finance and Trust firms has an effect on Questions 3B and 4A, and that the dummy variable for Industrial and Transport firms has an effect on Question 3C. These results are not corroborated by the logit tests; indeed, for Question 4A, the dummy variable for Industrial and Transport firms replaces that for the finance group.

H. *Summary and Comparison of OLS and Logit Results*

As mentioned earlier, OLS and logit are measuring different influences on the dependent variables, so we may expect some difference in results, especially with a small sample size. We here summarize and compare the results for both versions, focusing on the more significant variables and giving more

weight to the stepwise results. In the next section of the paper, we will turn to analysis and discussion of these results.

Question 1: As noted above, OLS is inappropriate for Question 1. The logit results support variable # 12 (Customers).

Question 3a: Both approaches strongly support variable # 15 (Expertise), while OLS also gives strong weight to # 7 (Participation). Some weight should also be given to variable # 10 (Profile).

Question 3b: OLS strongly supports variable #s 7 (Participation), 10 (Profile), and 15 (Expertise), as well as the dummy variable for Finance, Investment, and Trust companies, while logit supports # 8 (Banking).

Question 3c: Variable # 15 (Expertise) is consistently supported, and some weight should also be given to # 7 (Participation) and the dummy variable for Industrial and Transport companies.

Question 4a: This question has the most inconsistency across approaches and samples. OLS stepwise supports variable #s 5 (Savings), 7 (Participation), and 16 (Legal), along with the dummy variable for Finance, Investment, and Trust companies while logit supports variable # 8 (Banking) when the dummies are removed. Variable # 13 (Institutions) should also be given some weight.

Question 4b: Variable # 12 (Customers) is uniformly and strongly supported. Variable #s 7 (Participation) and 13 (Institutions) should also be given consideration.

Question 4c: Logit supports variable # 15 (Expertise), while OLS stepwise supports variable #s 7 (Participation) and 12 (Customers) and the dummy variable for Industrial and Transport companies.

V.
Analysis and Discussion of Results

We set out to explain why a vibrant DPO market does not exist. In the Canadian context, the most uniform explanatory variable is the perception that investment banking experience cannot be replaced. The next most significant determinant is the degree of unfamiliarity (hence discomfort) with DPOs. This is evident in the recurring significance of the response that more firms, and more well-known firms, need to perform

DPOs before the practice will be widely accepted. The other variables which seem to have explanatory power (the perception that the Internet is unsafe, the absence of a well-defined rule of law, and the role of a loyal customer base) are also consistent with the unfamiliarity hypothesis. The result is that when firms are faced with an uncertain environment, they tend to rely on the traditional book-built approach to raising capital and use an underwriter to complete the offering.

These results offer useful insights into the applicability of rational choice theory in the offering process. Rational choice explanations of investor behavior posit that the investor is a wholly rational individual who reads disclosure documents and makes investment decisions on a fully informed basis. These results offer a different picture of investor behavior. The focus group discussions suggest that, in the public offering process, investors do not research and process all relevant information regarding a securities offering regardless of whether that information is contained in a firm's registration statement or on the Internet. They, instead, apply a heuristic that the underwriter lowers the risk of the offering because of the information, credibility and verification functions that it provides.[30] Thus, the underwriter becomes an indispensable party in the offering process. Without underwriters, investors may be deceived by the issuer and its managers, a deception that behavioral scholars have predicted.[31]

It is true that book-built offerings are dominated by institutions as opposed to retail shareholders. However, even institutions can fall prey to irrational behavior.[32] We have found that they too seek the verification and credibility that the underwriter affords. Furthermore, institutional investors may exhibit "herding" behavior where "[t]he choice. . .to pursue an investment medium (derivatives, for example) can trigger a chain of conforming behaviors based on the perhaps illusory

30. Richard B. Carter & Steven Manaster, *Initial Public Offerings and Underwriter Reputation*, 45 J. FIN. 1045, 1062 (1990); Stephen J. Choi & Adam C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 13-14 (2003).

31. *Id.*

32. Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics about Stockbrokers and Sophisticated Customers*, 84 CAL. L. REV. 627, 656 (1996); *see also* Robert Prentice, *Whither Securities Regulation? Some Behavioral Observations Regarding Proposals for its Future*, 51 DUKE L. J. 1397, 1490 (2002).

assumption that their peers have done the homework even if they have not."[33] Institutions, thus, can be victims of peer-pressure within their own communities.

Our focus group discussions and the qualitative results from our survey revealed the relevance of peer-pressure among institutional investors as well as firms themselves. Respondents stressed the importance of "familiarity" which, in essence, is a desire to see others undertake the new activity before they are willing to step forward themselves. In the absence of competition among firms to sell securities in the DPO market, or among institutions to purchase securities in the DPO market, no peer-pressure exists and there is no reason to undertake this new transaction.

The focus groups also revealed that free-riding among smaller investors on information provided by larger institutions (for example with regards to their valuations) persists. Such free-riding exemplifies a herding mentality whereby the extent of due diligence undertaken by any one investor is relaxed as a result of reliance on the actions of the "leader" of the herd.[34] Free-riding in this manner thus differs from peer pressure discussed above. However, both phenomena counter the notion central to the rational actor model: that investor behavior is a function of the research and study of all available information about the issuer and its securities so that investment decisions are fully informed. The underwriter's information and reputation functions are powerful.

There is also an adverse selection argument that protects underwriters from DPOs:the underwriters are better informed prior to the opening of an IPO as to the inherent value of a firm (through their due diligence). A firm with high "true" inherent value has an incentive to stick with an underwriter if its value is high because the underwriter will price it correctly, whereas the equity market via a DPO would price it according to the average of firms with its observable characteristics. But then any firm just outside the margin of using an underwriter will be drawn into the market to avoid being associated with the average of the population not using the DPO – a classic case of "unraveling" that supports the informed intermediaries. Underwriters exist because of their informa-

33. Langevoort, *supra* note 32, at 644.
34. *Id.*

tional role, but, ironically, the market supports this role to an excessive degree. Perhaps a more vibrant DPO market could make the issuing process more efficient.

Our findings relating to the perceived importance of underwriters are consistent with the popularity and persistence of the book-building mechanism across countries. Sherman has found that in all countries in which the book-building mechanism has been introduced, pre-existing auction systems have decreased in popularity or disappeared altogether.[35] For instance, in France and Japan, auctions have disappeared in favour of the book-building method.[36] These authors find that issuers favour the book-building method because of quid pro quo benefits from the lead underwriter. In particular, book-built issues were more likely to be followed by the lead underwriters who would also provide a positive recommendation. This point emerged from our empirical data collection.

Despite the persistence of the book-built offering, we must attempt to explain the popularity of the Dutch auction as a recent innovation in the offering process. In its Dutch auction IPO, Google was able to build a market prior to going public. Further, Google benefited from the novelty of the transaction undertaken as well as a popular generic product (Internet search engines). In a sense, Google's successful IPO related to its own "marketing" prior to the actual IPO.[37] The need for an underwriter is less in such a case. Furthermore, because two investment banks were retained in the transaction, the Google IPO actually underscores the point in this article, which is that underwriters provide services that are indispensable, even to popular firms completing non-traditional offerings. One reason that the Google founders chose to involve underwriters despite pursuing the Dutch auction is that they

35. Ann Sherman, *Global Trends in IPO Methods: Book Building versus Auctions with Endogenous Entry*, 78 J. FIN. ECON. 615, 618-19 (2005). *See also* Ravi Jagannathan & Ann Sherman, *Reforming the Bookbuilding Process for IPOs*, 17(1) J. APPLIED CORP. FIN. 67 (2005).

36. Francois Degeorge et al., *Quid Pro Quo in IPOs: Analyst Hype in IPOs: Explaining the Popularity of Bookbuilding* 1 (Tuck School of Business at Dartmouth, Working Paper No. 2005-27, 2005). *See also* Francois Derrien & Kent L. Womack, *Auctions vs. Bookbuilding and Control of Underpricing in Hot IPO Markets*, 16 REV. FIN. STUD. 31 (2003).

37. See Victor Fleischer, *Brand New Deal: The Google IPO and the Branding Effect of Corporate Deal Structures*, 104 MICH. L. REV. 1581 (2006).

likely recognized the importance of maintaining a solid relationship with the investment banking community over the long run. Google probably understood that if it wishes to raise capital in the future and benefit from analysts following its stock, there is value in remaining on good terms with this community. Thus the underwriter has both present and prospective importance in the life of an issuer.[38]

We do not believe it to be the case that what are now considered to be innovative offerings will never become the norm. However, our research highlights a classic chicken-and-egg situation. DPOs will not be routinely accepted until more firms complete them, and more firms will not undertake them until others do so. With the obvious disinclination of the investment industry to disrupt the current economics, a resolution of this situation is not apparent in the near future. However, it may be the case that the underwriter's role shifts over time; that is, the underwriter will be used for certain services (e.g. book-building) but not others (e.g. pricing). Again, the Google IPO is instructive on this point.

VI.
CONCLUSION

In Canada and the United States, DPOs are not widely used for issuing corporate securities. On the one hand, theory suggests that asymmetric information and moral hazard support the need for an unbiased intermediary (such as an underwriter) in securities issuances. On the other hand, there are alternative ways in which issuers can verifiably signal their true worth. The empirical evidence underlying this paper suggests that Canadian capital market participants are not currently prepared to leave the security and comfort of the intermediated security issue. These findings are significant for firms, regulators and underwriters themselves. Many may question whether the Google IPO signals the beginning of a trend in public offerings. Is the underwriter's role is becoming less important? Our research indicates that the underwriter does in fact have "staying power" in the current market. While we would not be surprised to see this role evolve over time, we

38. *See* Anita Anand, *Is the Dutch Auction a Good Idea?*, 11 STAN. J. L. BUS. & FIN. 233 (2006).

have found that firms have little interest in dispensing with the book-building process, including the central role of the underwriter that this process involves.

APPENDIX 1

SURVEY INSTRUMENT

Queen's University DPO Survey

Please respond to all questions in the questionnaire below to the best of your ability and click "Submit Survey" when you are finished.

1. Has your firm ever considered using the Internet to facilitate the completion of an offering of equity securities?

   ☐ yes ☐ no

2. If you responded "no" to question 1, why not?

3. a. What is the likelihood that your firm would consider using the Internet to complete a future offering of equity securities without using an underwriter?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not Likely			Possible			Likely

   b. What is the likelihood that your firm would consider using the Internet to complete a future offering of debt securities without using an underwriter?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not Likely			Possible			Likely

   c. What is the likelihood that your firm would consider using the Internet to complete a future offering of income trust securities without using an underwriter?

☐	☐	☐	☐	☐	☐	☐

1	2	3	4	5	6	7
Not Likely			Possible			Likely

4. a. What is the likelihood that your firm would consider using the Internet to complete an offering of equity securities using an underwriter to perform limited functions (e.g. marketing the deal but not distributing the securities)?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not Likely			Possible			Likely

b. What is the likelihood that your firm would consider using the Internet to complete a future offering of debt securities using an underwriter to perform limited functions?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not Likely			Possible			Likely

c. What is the likelihood that your firm would consider using the Internet to complete a future offering of income trust securities using an underwriter to perform limited functions?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not Likely			Possible			Likely

5. In order for your firm to consider completing a DPO, the savings from the transaction compared to an underwritten offering would need to be at least:

☐ 5% ☐ 10% ☐ 15% ☐ 20%

6. Different legal requirements in Canadian jurisdictions relating to registration by a firm seeking to complete a DPO makes this transaction unattractive as a financing option.

☐ Strongly Disagree ☐ Disagree ☐ Uncertain ☐ Agree ☐ Strongly Agree

7. If more firms completed DPOs, the DPO would become more credible as a method to raise capital.

☐ Strongly Disagree ☐ Disagree ☐ Uncertain ☐ Agree ☐ Strongly Agree

Please indicate your agreement with the statements below by placing a checkmark in the box accompanying the statement. If you disagree with a statement, simply leave the space blank.

8. ☐ In deciding whether to complete a DPO, our firm would be concerned about the effect that a DPO would have on our banking relationships.

9. ☐ Our firm has benefited from the non-underwriting services that our investment bank has provided.

10. ☐ Because we are a well-known firm within our industry, we would have less difficulty completing a DPO than other firms within our industry that are less well-known.

11. ☐ A DPO would hurt our credibility if we chose this method of raising capital over an underwritten offering.

12. ☐ A DPO would be welcomed by our loyal customer base.

13. ☐ Institutional shareholders would be more likely to invest in a DPO than retail shareholders.

Please indicate which issues inhibit your firm from considering a DPO by placing a checkmark in the space accompanying the statement.

14. ☐ The Internet is an unsafe place to conduct a securities offering.

15. ☐ Investment banking expertise cannot be replaced.

16. ☐ The absence of precise legal rules relating specifically to DPOs.

17. ☐ Other issue(s) – please specify

_____

Company Information

18. Industry _____

19. Years since incorporation

20. Years as a Public Corporation

21. Dispersion of share ownership present

22. Shareholder holding more than 20%

23. Total Cost/Proceeds (%) of most recent equity offering %

24. Time taken, in days, to complete most recent equity offering (from registration to trading)

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