# Diamonds in the Rough: The Value of Scouting for Early-Stage Funding

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## Abstract

IPOs of small early-stage companies have largely declined in the last few decades. Governments and exchanges have responded with new regulations to encourage access for small firms to public markets. Critics caution, however, that lower standards for going public may be worse for investors. In this paper, we document one exchange's approach to encourage small IPOs: founders establish shell companies through which to scout and promote funding of early-stage companies. We find that founders earn compensatory returns for their search role, and that the average long-term performance of these companies is similar to that of small conventional IPOs, underscoring that conventional IPOs may fail to identify or screen companies of similar quality asymmetrically. Consistent with prior literature on small IPOs, the long-term post-IPO performance of both the conventional and alternative funding processes are highly right skewed and poor, on average, but not statistically different.

## 1. Introduction

The IPO activity of small firms in the U.S. has declined sharply over the past few decades. Gao et al. (2013) document that the average number of small company IPOs dropped from 165 IPOs per year in 1980-2000 to 28 IPOs per year in 2001-2012. More recent data by Ritter (2019) shows that the trend has not reversed, and that the number of small company IPOs for 2013-2018 remained low. The fall in the number of small companies going public in recent years raises a question as to whether the conventional IPO process is failing to attract or identify companies that would normally go public through this channel.

In this paper, we shed light on the issue of early-stage funding for small companies by analyzing one exchange's approach to encouraging small IPOs. Using data from an alternative funding program in Canada in which founders create shell companies with the goal of scouting for and taking small companies or projects public, we identify that a large number of small projects and companies are financed through this alternative process; moreover, we find that they are of similar quality to those financed by the conventional IPO process. For founders of these shell companies, we provide evidence that they earn returns for their scouting and promotion role. Finally, consistent with the literature on post-IPO performance of small companies, we document that companies going public through both alternative and conventional means exhibit similarly poor long-term post-IPO performance. Under both IPO methods, the long-term returns are highly right-skewed with a few companies exhibiting very positive performance and many companies offering no return. In this way, the conventional IPO process may be failing to attract some acceptable quality firms, and/or screens them asymmetrically. Taken together, our results suggest that alternative funding mechanisms can serve an important role in the funding of early-stage companies.

We note that the issue of funding poor quality companies through the IPO process is a long-standing one. The market for early-stage companies is characterized by a low supply of companies with good projects relative to the large supply of companies with bad projects (Brealey, Leland, and Pyle, 1977). As such, investors in this market are exposed to high adverse selection due to the lack of information about the quality of companies seeking financing. To mitigate this risk, the investor is incentivized to set a sufficiently high premium on seed capital to both compensate for potential adverse selection and dissuade low quality firms from seeking funding. Our findings suggest that this hurdle may create a barrier to entry that acts as a screen not only for low-quality firms, but also for companies of acceptable quality that may be unable or unwilling to meet the investor's terms.

We use data between 2001 and 2016 from the Capital Pool Company (CPC) program at the Toronto Stock Exchange (TSX) Venture Exchange and a sample of similarly small non-CPC IPOs to study the efficacy of, and returns to, scouting and promoting early-stage companies seeking to go public. The CPC program establishes a vehicle that rewards those who successfully conduct this type of scouting. Founders of the CPC acquire initial funding for the search and promotion process through a small IPO prior to a seasoned public offering or reverse takeover; thus, the second stage issuance of shares from a CPC performs a similar role to that of a financial intermediary in a conventional IPO. To ensure that founders have some "skin-in-the-game" and their interests are aligned with those of initial investors at the search stage, lock-up provisions are established. Hence, founders have an incentive to identify a company with sufficient quality such that the subsequent issuance of shares succeeds, and they are compensated for their services.

We find evidence that founders and outside investors in the initial IPO earn compensation on the capital they commit to the search and promotion process. CPCs experience strong positive

performance from IPO to the end of the month following a reverse takeover or seasoned offering to acquire either a project or a small company—known as the "qualifying transaction (QT)". On average, the stock price doubles from IPO to QT. The returns to founders and initial investors provide compensation for their exposure to both the founders' ability to identify and secure a project, but are not necessarily related to the underlying quality of the project. Next, we analyze the role that founder quality plays in the success of the CPC by examining which founder characteristics relate to this performance. We find that CPCs exhibit higher post-IPO returns when founders contribute a larger stake at the initial funding stage and when they more quickly secure a QT. We also find that CPCs in which institutions form part of the founding group also experience higher returns, illustrating the benefits from higher capabilities and skills brought by organizations (Shleifer and Vishny (1986) and Huddart (1993)).

In addition to our analysis on the value of scouting and promotion, we provide a detailed assessment of the long-term post-IPO performance of small early-stage companies. Following the reverse takeover/seasoned offering, we measure the long-term performance of CPCs, where we find that the average cumulative return is poor, with an average of -41%. The poor long-term performance is not, however, unique to CPCs: we find that the returns for our sample of comparably tiny (<$2 million) non-CPC IPOs are similar. Our results on the poor long-term performance of CPCs and other small IPOs on the Venture Exchange are consistent with previous studies. For example, Bradley et al. (2006) report that the average return of U.S. penny stocks over the three years post-IPO is -21.7%, which is significantly lower than the 44.4% observed for ordinary IPOs during the same period. Ritter (2019) reports that the three-year post-IPO market adjusted returns of small companies (those with under $1 billion in sales) from 1980 to 2017 is -19.9% compared to 7% for larger companies. The persistent evidence of poor long-term

performance of early-stage companies supports the concern of Gao et al. (2013) about the potential harm to the economy from regulatory reforms designed to increase the number of such companies going public.

We document that the long-term cumulative returns are highly skewed, confirming the large supply of underperforming projects in the market for early-stage companies. The industry-adjusted post-IPO long-term cumulative returns have a median (mean) return of -85% (0%).[1] Over 80% of CPCs have a negative industry-adjusted post-IPO cumulative return but the top 1% of CPCs have cumulative returns which generate between 11 and 213-times original investment. The highly right skewed return distributions of CPCs are consistent with the survey evidence on return distribution of angel investments and seed funds,[2] suggesting that our sample is representative of other early-stage companies studied in the literature.

Our paper contributes to the literature on alternatives to the conventional IPO process that are designed to encourage more exchange listings by early stage companies. Cole et al. (2019) finds that U.S. companies that go through a two-stage IPO with the first stage being an OTC listing benefit from lower underpricing and short-term post-IPO return volatility. The results of Cole et al. (2019) are consistent with the U.K. (see Derrien and Kesckés, (2007)), but not the Taiwanese market (see Chang et al. (2017)). Knyazeva (2019) examines the impact of a reduction in compliance and disclosure requirements through an amended Regulation A and finds that the number of smaller younger firms choosing to go public increased as a result of the amendments. However, neither paper examines whether the long-term post-IPO performance of small

[1] Brau et al. (2012) report that long-term post-IPO performance is weakest when companies conduct acquisitions in the first year following IPO. Given that CPCs are set up to acquire assets, this research suggests weak long-term performance for these securities.

[2] For example, see Capizzi (2015), Wiltbank and Boeker (2007), Pohlmeyer and Rosenthal (2016), and Gompers et al. (2016).

companies that choose these alternative paths to going public perform better than those who choose the conventional IPO process. A significant contribution of our paper is to examine the long-term post-IPO performance of small early-stage companies emerging from an alternative IPO process.

Finally, our study contributes to the literature on investor performance in early-stage companies through our detailed data set on investor returns at each stage of the funding process. Entrepreneurial finance studies face continual challenges due to the private nature of the data on shareholdings and returns to investors (e.g. Wong (2002), Kerr et al. (2014), Gompers, et. al. (2016)). Most companies never go public, and those that do, go public years following their inception, which leaves researchers with mainly survey data to estimate effective investor returns and to understand how founder's characteristics affect such returns. Furthermore, the few studies that do have actual return data on private companies are also open to inherent selection bias because only private companies, which have been acquired, liquidated or recently financed, can be used to measure returns. This leaves unknown the investor returns of early-stage companies that have had neither an exit (acquired or liquidated) nor recent follow-on financing. Our study circumvents these problems by examining a set of companies that are essentially founded as public entities. Given the nature of our data, we are able to measure the returns to founders and outside investors from the time of the company's inception. The data also allows us to examine different agency problems faced by outside investors participating at different stages of the company. In particular, we can relate the characteristics of the founders and the company's initial capital formation to the investors' long-term performance.

Given the poor long-term performance of small IPOs, there is a debate about how—or whether—to respond to their recent decline. Some governments and exchanges have enacted reforms to make it easier for small firms to go public. Knyazeva (2019) found that there was a net

increase of small companies listed following the changes to Regulation A that relaxed the requirements for going public in the U.S. On the other hand, concerns have been raised about whether lowering standards for going public may cause harm; in particular, the smallest IPOs have been linked to poor corporate governance and long-term post-IPO underperformance. Recently, the concern over poor governance has lead NYSE and NASDAQ to re-impose tougher listing requirements for small firms (see Osipovich, 2019). Furthermore, Gao et al. (2013) argue that the decrease in small company IPOs was a result of more favourable conditions for small companies to be acquired rather than remain independent. Such companies can more readily realize economies and bring new technology to market faster with the support of a large parent company. As further evidence of this point, they find that small firms have significant underperformance post-IPO whereas large firms do not on average have long-term underperformance post-IPO. They conclude that taking steps to encourage small firms to remain independent might harm the economy. Our findings contribute to this discussion, suggesting that alternative mechanisms designed to bring small firms public do not necessarily lead to worse outcomes for investors, despite the appearance of lower levels of scrutiny.

The remainder of the paper is as follows. Section 2 provides a detailed background on the Capital Pool Company Program and situates it in the sphere of similar investment vehicles in Canada and the United States. Section 2 also describes the data set and filters used. Section 3 examines how founder-outside investor alignment affects the short and long-term returns on these investment vehicles and on small (<$2 million) non-CPC IPOs. Section 4 concludes.

## 2. Background and Data

### 2.1 The Capital Pool Company Program

Pandes and Robinson (2014) document that the first use of blind pool offerings in Canada occurred in Alberta in 1986, as a means to finance struggling resource companies in a period of falling oil prices. The inaugural year was marred by scandal, as 10% of blind pool offerings ended with company founders convicted of fraudulent behavior. In response, the Alberta Securities Commission (ASC) developed a set of rules for such financings under the newly titled Capital Pool Company (CPC) program, deployed in October of 1986. The Commission's goal was to create a means to help small early-stage companies raise funds and gain the benefits of a listing on a public exchange, while protecting investors from fraud.[3] The resulting CPC issues were listed on the Alberta Stock Exchange. British Columbia and Manitoba launched similar programs in 1995 and 1998 respectively on their provincial junior exchanges. In 2001, these junior exchanges were acquired by the Toronto Stock Exchange to form the Canadian Venture Exchange and all CPCs thereafter were issued by the Venture Exchange. In 2002, the Ontario and Quebec regulators allowed the CPC program to operate within their provinces.

Pandes and Robinson (2014) suggest that regulations of the CPC program were designed to align the interests of founders with those of outside investors, using some of the mechanisms employed by venture capitalists; for example, CPCs require principals to invest at least $100,000 of their own capital in the company, albeit at a price per share as low as one-half of the price per share of the IPO offering to outside shareholders. Founders are required to hold their shares in escrow, only to be released at intervals during an 18-month to 3-year period following the

[3] Pandes and Robinson (2014) found that the new rules were effective in protecting investors from fraud.

completion of the qualifying transaction. The timed release is 25% of escrowed shares following the QT and 25% at the end of every 6 months for the following 18 months. The CPC is also required to initiate a QT within two years, of the IPO, applying pressure on the company to deploy capital, rather than dissipate capital in an extended search process.

The IPO offering is very small—averaging several hundred thousand dollars—as its purpose is to cover the search and negotiation costs for the QT. The tiny size of the IPO combined with the discounted price at which founders acquire shares prior to the IPO means that the interests of founders are not highly diluted. Carpentier and Suret (2006) document that the directors and officers of these CPCs following the IPO (but before the QT) hold, on average, 65% of the voting shares of the companies. In contrast, the QT normally requires much more funding, which is generally obtained either through a seasoned offering to new, outside investors, or, through a reverse-takeover offer of a much larger private company. The much larger size of this round of funding and the expiry of the lockup provisions generally means the founders lose their dominant voting interest in the company following the QT.

Not all rules of the TSX Venture Exchange help align the interests of founders and outside shareholders. The Exchange requires that at least 300 individuals must subscribe to the offering, with each shareholder's subscription capped to 2% of the offering. At an average offering size of half-million dollars, individual outside investors can buy no more than $10,000 in CPC equity. While these IPO subscription caps promote liquidity, they create an atomistic base of shareholders who have little individual incentive to undertake extensive initial screening and post-IPO monitoring. Consistent with this lack of external shareholder influence, Brav and Gompers (1997) show that IPOs backed by individual investors underperform those in which institutional investors

participate. Furthermore, in the CPC program, outside shareholders do not have the right to veto the qualifying transaction.

### 2.2 Comparison to Other Types of Search Vehicles

CPCs share a common goal with Special Purpose Acquisition Corporations (SPACs), a financing vehicle much more common in the U.S. also designed to search for and acquire operating assets. SPACs, however, differ from CPCs in some key areas. CPC IPOs only raise a small amount of cash to cover search costs, while SPAC IPOs raise a pool of cash sufficient to buy the target. Kolb and Tykvová (2016) identify 236 SPAC IPOs on U.S. markets from 2003 to 2015 and report that the mean (median) total asset size is $335 ($144) million—more than a hundredfold larger than CPCs. If the acquisition is not successful, the SPAC will return cash to shareholders, leaving the initial founders of the SPAC responsible for search costs. Cumming et al. (2014) and Rodrigues and Stegemoller (2014) note that raising cash upfront creates a special dynamic for a SPAC IPO: by raising a large amount of cash at time of their IPO, SPACs do not need to rely on a seasoned offering to finance their acquisitions. Moreover, unlike CPCs, outside shareholders in SPACs may veto the acquisition.

The difference in exposure of the founders to the costs of search highlights CPCs as an ideal vehicle to study the value of search and promotion in the path to an IPO: whereas SPACs require founders to search, promote, *and* absorb costs associated with a failed qualifying transaction, founders of the CPCs are compensated for their value-added to the search and promotion aspect, only. In both cases, founders have "skin in the game", and thus their interests are aligned with outside investors during the search process, as they seek to locate a project that will compensate them for their investment. Founders of the SPAC, however, bear the majority of costs in the case of a failed transaction, and additionally, it is not enough to locate a suitable project

by their standards alone: founders of a SPAC must obtain a favorable vote from investors, who may have diverse opinions and valuations of the founders' proposed acquisition.

In Canada, despite the introduction of regulation that allowed their creation in 2009, SPACs have not exhibited the same popularity as CPCs: the first SPAC IPO did not occur until 2015, and by 2017 only six SPACs had registered; of the six registered SPACs, only two had successfully completed a qualifying transaction, and two others had their shares redeemed by investors (Willis, 2017). Given the availability of both programs in the Canadian environment, it may be that the additional protections granted to outside investors of SPACs (at a cost to founders) may lead founders to select CPCs as search vehicles, especially if founders compete for funding from investors who have a low preference for voting rights on the QT. To this point, the total funding sought by CPCs is, on average, an order of magnitude smaller than SPACs, and thus may target smaller investors. For example, the average CPC offering is almost 600 times smaller than the minimum funding required for a SPAC ($30 million on the TSX). As the types of investors contributing to a CPC would likely be too small to hold meaningful voting power for the QT, these investors may view voting rights as not worth the premium that these rights require.

The goal of CPCs is also similar to that of search funds, through which a group of investors fund an entrepreneur (normally an MBA graduate of an Ivy League school) to locate and acquire a privately held company (Pohlmeyer and Rosenthal, 2016). Search funds differ from CPCs in that they are normally backed by a small number (usually about 15) of wealthy investors and these investors have the right of first refusal to participate in a second round of funding at the time when an acquisition transpires.

## 2.2 Data and filters

We collect our sample of Capital Pool Company IPOs from the *Financial Post New Issues* database for the period January 2001 through December 2012. We choose to conclude the sample in 2012 to ensure a sufficient period over which to measure post-IPO performance. We also identify all other equity IPOs of similarly small sizes in the same period to help isolate the impact of the founder-outside alignment effects we attribute to CPCs from the more general phenomenon of weak penny stock performance. To correspond with the size of CPC IPOs, we select non-CPC IPOs in which the gross proceeds are under $2 million.

The *Financial Post New Issues* database provides details on each IPO: underwriting commission, original listing exchange, and pricing of the issue. Using SEDAR and the TSX and TSX Venture monthly e-Reviews, we track the history of the company and its common stock following the IPO.[4] In the case of CPC IPOs, we identify the date of the qualifying transaction, and the industry in which the company thereafter operated. We also identify and account for events that may affect CPC listings and returns: acquisitions including reverse takeovers, stock splits, reverse splits, delisting and change-of-listing.

Table 1 provides descriptive statistics on the sample of 1022 CPC IPOs and 168 non-CPC IPOs whose gross proceeds do not exceed $2 million. The CPC IPOs are very small issues. The mean (median) size of all gross issues is $492,000 ($300,000). The mean (median) underwriting commission for CPC IPOs is 9.74% (10%) of gross proceeds. [5] The preponderance of underwriting fees at the 10% level for these small issues is reminiscent of the very common 7% underwriting

[4] SEDAR is the acronym for the System for Electronic Document Analysis and Retrieval. SEDAR is a database of all corporate filings of companies listed on Canadian exchanges.

[5] Given the fixed nature of underwriting costs, the smallest IPOs tend to have the highest underwriting costs on a percentage basis. Garner and Marshall (2014) report total underwriting compensation increases from 10% to 19% of proceeds as offer size declines from $16 to $1 million. Berger and Udell (1998) suggest that the minimum viable asset size for an IPO is about $10 million.

spread identified by Chen and Ritter (2000) with U.S. IPOs during the 1990s. In addition to underwriting commissions, an investigation of nearly 100 CPCs finds an underwriting overallotment generally equal to 10% of the issue. Because we find that the value of CPCs tends to double from the time of IPO, the implied total cost of underwriting, including the overallotment option, is approximately 20% of the issue, similar to the figure for underwriting fees reported by Garner and Marshall (2014) from their sample of small U.S. IPOs (between $1 and $2 million).

We also note that only a quarter of the CPCs and non-CPC IPOs in our sample are underwritten by the top 20% of Canadian underwriters; in contrast, the same group of underwriters handles over 95% of all dollar-value underwriting in Canada. Our results suggest that underwriting tiny, new issues is concentrated among correspondingly small underwriters.

All but 12% of CPCs lead to a qualifying transaction following an IPO. Consistent with the findings of Pandes and Robinson (2014), this result suggests that almost all CPCs achieve their major purpose as a financing vehicle to find, negotiate, and acquire operating assets. Almost all CPCs change their name at the time of the QT, to reflect the nature of the operating assets acquired. The average time from IPO to QT is approximately two years, consistent with the mandated time limit to complete the QT.

Table 1 presents more information on the fate of these companies post-IPO. By June 30, 2016, shares in nearly half of CPC IPOs and 60% of non-CPC IPOs either are renamed or are acquired in a share exchange by other companies listed on the TSX Venture Exchange. In 91 CPC IPOs, investors end up holding shares of a company listed on the Toronto Stock Exchange. Given that the TSX is a senior exchange, we expect this to be a positive outcome for investors. 83 CPC IPOs end up on NEX. The NEX is a trading platform for companies that do not meet the TSX Venture listing requirements. In 101 cases, CPC IPOs result in shares that are halted or suspended

from trading, while in 180 cases, the shares are permanently delisted.[6] In only 63 cases are investments in CPCs ultimately acquired for cash.

While both CPCs following QTs and non-CPC IPOs are concentrated in the resource sector, CPCs include a broader spectrum of industries. Following a QT, 45% of CPC IPOs operate in the materials (mainly mining) industries, versus nearly 90% of non-CPC IPOs. The next largest sectors in which CPCs operate are energy, information technology and industrials, respectively.

Figure 1 shows the annual number of CPC and small non-CPC IPOs. The rise in the number of IPOs until 2007 and subsequent decline is consistent with the boom and bust in commodities before and after the financial crisis. The number of new CPC issues dropped from a peak of 200 in 2007 to approximately 50 in 2009.

Table 2 shows the survival rate of all companies in our sample, from year-to-year and cumulatively. At the beginning of the second year (following CPC IPOs), we identify 1022 companies. During that year, two companies are delisted. After year three, the sample size reduces further because our data ends in the middle of 2016 and thus we do not have four full years of data for companies that went public in 2012. By the start of the 16$^{th}$ year post-IPO, only 4 companies remain in our CPC sample. These are the CPC companies that went public in 2001 and survived until the start of 2016. Cumulative survival rates of CPCs are comparable to non-CPCs: nearly half of both types of investments remain listed in some form—as shares of the original company, exchanged in a recapitalization or acquired by a bidding company through a share exchange. Peters (2010) reports this slow rate of exit as a characteristic of early-stage private companies.

[6] The halts for these stocks are "Exchange halts" implemented by the listing exchange due to an ongoing review of the company or business issues such as non-payment of fees (i.e., not short-term trading halts). Suspensions arise because companies do not meet listing requirements.

## 2.3 Characteristics of Founder Groups

We now look at different attributes of founder groups behind CPCs transactions. Panel A of Table 3 provides information on the composition and experience of founder groups leading the CPC IPOs. Over 70% of the founder groups are comprised entirely of individuals while just 6.8% include only institutional investors. Thus, despite our expectation that they have fewer resources than institutions, individual investor teams have founded most of the CPCs. It is also interesting to observe that less than half of the CPCs have groups of founders with prior experience with CPCs. There are even fewer founder teams that have experience in achieving a qualifying transaction. Overall, this is not a market dominated by serial entrepreneurs.

We also examine the concentration of power within the founder group prior to the IPO. A group with many founders each with significant votes will likely find it more difficult to agree on the choice of executives and support of their strategy to lead the search and negotiate the terms of the qualifying transaction. In this way, a larger number of founders will likely increase the chance of failure of the search. On the other hand, a larger number of founders will create a larger network of leads for potential deals that will in turn increase the likelihood of a successful search. Generally, control of CPCs is very concentrated among a small group of founders. We find CPCs have an average (median) of 3.36 (3) founders each with over 10% of the votes. In addition, 226 (22.11%) of CPCs have a single founder who holds over 50% of the votes of the founder group. Following Ghoul et al (2016), to measure dispersion of control among founders we also compute the adjusted Herfindahl index of difference in voting rights between the five largest shareholders[7]:

[7] Cont1, Cont2, Cont3, Cont4 and Cont5 are the percentage of votes held by the first, second, third, fourth and fifth largest shareholders.

$$\frac{(Cont1 - Cont2)^2 + (Cont2 - Cont3)^2 + (Cont3 - Cont4)^2 + (Cont4 - Cont5)^2}{100}$$

From Panel B in Table 3, we find that the median adjusted Herfindahl index is 2.68 indicating a sharing of power among the typical group of founders. Thus, there is a possibility that differences of opinion among the founder groups could arise that could lead to disagreement on a potential qualifying transaction.

The last attribute that we report is the founders' willingness to invest in their own project. This attribute constitutes an observable proxy for the quality of the project underlying the CPC, as founders will invest more funds if they expect a greater return. The last row in Panel B shows that the ratio of founders' capital to total capital received has an average (median) of 28% (29%).

## 3. Empirical Results

In this section, we first examine the returns to shareholders in small public issues and test whether CPCs and non-CPCs provide different average returns to investors. We then look at factors that impact the post-IPO performance of CPC issues and determine the most important scouting abilities of the founding team.

### 3.1 Returns Before and After the Qualifying Transaction

Table 4 reports the cumulative returns to shareholders who invest in small public issues. For CPCs, we examine the cumulative returns: 1) from the time of IPO until the end of the month after the qualifying transaction and 2) from the month after the qualifying transaction until exit.

For both CPCs and non-CPCs, we examine the returns from IPO until exit. The time of exit is set as the earliest of the day the company is acquired for cash, bankrupt, delisted or June 30, 2016.[8,9]

Consistent with strong founder-outside shareholder alignment from the time of IPO until the end of the month after the QT, the returns for CPCs are very large and significantly positive. The mean (median) cumulative return is 109% (32%) over an average of 2 years. We attribute this finding to the incentive of the founders who hold large blocks of shares to negotiate a qualifying transaction that benefits them as current shareholders, compensating them for the scouting service in the initial funding stage. Thus, outside CPC shareholders who participate in the IPO and hold their shares until the QT will benefit.

In contrast, the long-term CPC returns following QTs are significantly negative with a mean (median) of -41% (-89%). These poor returns are similar to those of non-CPC IPOs of similar size companies. Independent of the capital pool structure, tiny IPOs have, on average, poor long-term performance.

Beyond the disparity between pre and post QT returns, the distribution of returns exhibits strong right skewness. For all samples, the mean is well above the median. For the full sample of CPC IPOs issued from 2001 to 2012, the mean cumulative return from IPO to exit is 25% versus a median of -87%. The mean is not significantly different from zero, whereas the median is significant and negative. In over 80% of the cases, the gross returns are negative. In a limited

[8] In this paper, we compute buy and hold returns given that the securities are highly illiquid and as a result, investors would not be expected to actively trade these securities.

[9] An alternative benchmark to compare long-term shareholder returns would be to study equally small IPOs of US companies. However, there are only 31 IPOs of this size that have complete data in SDC. Previous studies such as Bradley et al. (2006) document long-run returns for US penny stock IPOs from 1989 to 1998 and find that the average return over the three years following the IPO is -21.7%, which is significantly lower than the 44.4% observed for ordinary IPOs during the same period.

number of cases, however, the returns are extremely positive. The top percentile of CPC IPOs generates cumulative returns in excess of 1,100%. The maximum cumulative return is 21,392%.

The finding of skewness in long-term returns is consistent with previous research of IPOs and reverse takeovers (RTOs) in Canada. Carpentier et al (2012) show that long term returns following IPOs and RTOs are highly skewed. While there are a few very large returns over sixty percent of returns are negative in the period 1993 to 2003. The lottery like distribution of these returns found in Carpentier et al (2012) and in our paper over different time periods strongly suggest that investors in these securities have a preference for lottery like returns. Carpentier et al (2012) also find that RTOs have more negative and more right skewed returns than IPOs. The poorer returns of RTOs are attributed to their looser regulation. Similarly, Johan (2010) show that junior exchanges in Canada are associated with poorer quality IPOs than are senior exchanges.

We re-assess the previous evidence and adjust for industry-related factors in stock returns. We do so by computing the holding period returns net of the return on investment, which is calculated from the Cumulative Return Index for the industry of that company for the corresponding period from the TSX. Effectively, we compare post-IPO holding returns to a matched portfolio of more seasoned companies in the same industry. Net of industry effects, the significant disparity between the positive returns of CPCs pre-versus post-QT persists. As well, skewness of the individual securities is apparent (see Table 5, Figure 2). Nearly 40% of the CPC IPO investments lead to industry-adjusted losses in excess of 100%—a result of 100% losses for the CPCs in a period of positive returns for seasoned industry counterparts.

The median for both the CPC and non-CPC post-IPO net holding returns underperform mean returns. We compute an industry-adjusted mean (median) for the sample period for all CPCs of -8% (-82%). Furthermore, we find no significant difference in the means and medians for CPC

and non-CPC net holding period returns, post-IPO. Both types of tiny IPOs greatly underperform their more seasoned industry counterparts. Finally, Figure 2 indicates there is a higher level of skewness for industry-adjusted returns of CPCs than those of non-CPCs. In particular, there is a higher percentage of cases of extremely low returns for CPCs offset by a few cases of extremely high returns. This is consistent the fact that CPCs face a two-stage challenge. To survive, they must first achieve a QT. In addition, the higher skewness of CPCs is also consistent with the higher skewness of RTOs versus other types of IPOs observed by Carpentier et al (2012).

### 3.2 Performance evaluation over similar holding periods

Because of the different post-IPO investment holding periods for these CPCs, we also compute their internal rates of returns to evaluate performance on a consistent basis across our sample. The question arises as to how to compute the IRR on an investment in which there is no recovery of capital when the holding period is not exactly one year. For the purposes of creating a histogram, we begin by assuming the IRR in all such cases would be -100%. This is the minimum shown in Table 6. To calculate the mean IRR for the sample of new issues while accounting for the complete loss of capital associated with some investments, we undertake a two-step procedure. First, we determine the proportion of IPOs that result in a 100% loss of capital. Nearly one-quarter of companies in our sample fall into this category. We then assume that the amount of initial cash outlay needed for remaining investments (where there is some return on capital) needs to be increased by a factor 100/75 or 1.33. That is, because of these 100% losses, for every dollar invested in projects with some payoff, there is a need to invest an extra $0.33. The larger initial capital required lowers the mean IRR of the remaining sample of investments.

Table 6 presents mean and median IRRs for our sample. We find that mean IRRs for both CPCs and non-CPCs, from IPO to exit are significantly negative. If we split our sample into pre-

QT and post-QT periods, we find that mean and median IRRs are significantly positive for CPCs from time of IPO to QT, and significantly negative thereafter. Statistical tests indicate distributions of long-term returns of CPC and non-CPC IPOs are not significantly different.

The mean IRR for CPCs (IPO to exit) is -37% for the 2001 to 2012 period. It is interesting that the mean IRR is significantly negative, but the mean cumulative holding period return is positive. This suggests that the instances of very high cumulative holding period returns have longer than average post-IPO periods. For example, Desco Exploration, the CPC with the highest cumulative post-IPO return of 21,392% had a fourteen-year investment horizon, one of only a few companies in our sample to have such a long survival period. In summary, investors in the CPC IPOs lose their capital relatively quickly on many deals, but make large gains in a few cases over a long horizon.

The results are generally similar when we examine the industry-adjusted rates of return (see Table 7, and Figure 3). The only notable difference is the median of the industry-adjusted CPC IRR from IPO to QT, which is single-digit negative, rather than single-digit positive. After adjusting for industry, the mean pre-QT CPC IRR remains large and positive, at 39%.

**3.3 Which scouting abilities matter for long-term performance of CPCs?**

We next seek to understand which factors impact the post-IPO performance of small issues. We first include factors that are specific to CPCs like the successful completion of a QT, and the industry in which the company operates. The intuition behind the industry factor is that there could be some variation that may affect small issue performance. For example, because there are more resource deals than those in any other sector, it is likely that investors in resource CPCs will have a clearer understanding of the risks involved in such deals.

We also consider whether aspects of underwriting affect the long-term returns post-IPO. For example, a high underwriting commission may be a signal of a more difficult issue to sell or of a higher uncertainty associated with the outcome. As such, we expect the returns to be lower when underwriting commissions are higher. In addition, Carter et al. (1998) provide empirical evidence that positive underwriter reputation is a signal of a more attractive deal for investors. Issue size may also affect the post-IPO returns: a smaller issue may indicate that the principals are more efficient in their capacity to achieve a qualifying transaction. As previously discussed, the number of CPC IPOs peaked in 2007 just prior to the financial crisis. Noting the shift in CPC activity around this pivotal date, we control for the possibility that the financial crisis tempered CPC activity post-2007. We expect that, in the wake of the financial crisis, investors would require a higher return on CPC investments. Finally, we expect that level of interest in an offering should be correlated with more favorable returns. We measure this effect by calculating the number of shares issued as a percentage of the maximum available, as set by the underwriter in the preliminary prospectus.

The next list of attributes that we consider is related to characteristics of CPC founders. As argued in Baum and Silverman (2004), social, intellectual, and human capital are key signals of start-up potential. We thus expect that the larger the start-up potential, the higher the long-term return. We employ several variables that are potentially correlated with one or more of these signals. First, companies whose founders are mostly institutions (investment vehicles such as limited partnerships and holding companies) should benefit not only from higher capabilities and skills of these organizations, but also from a more developed network. Another variable that we study is the speed with which the QT is achieved. Timely execution of the investment could signal the innovative capability of founders and their ability to secure a profitable venture. We also

consider variables of power concentration in the group of founders, which, as argued in Section 2.3, could have a positive or negative impact on the success of the venture. The market for CPCs is characterized by informational differences between founders and outside investors. Given that the supply of good projects is low relative to the supply of bad projects in this market, outsiders could face severe adverse selection problems. In that context, Brealey et al. (1977) provide a theoretical model of capital structure and financial equilibrium in which a signal about the project quality comes from the entrepreneur's willingness to invest in his own project. Thus, we use the ratio between founders' capital to total capital of the CPC as a proxy for project quality, and expect returns to be higher when this ratio is higher. We include these controls in our analysis of the IRR, and perform the following OLS cross-sectional regression:

$$
\begin{aligned}
IRR_i = {} & \alpha + \gamma_1 QT_i + \gamma_2 Energy_i + \gamma_3 Materials_i + \gamma_4 IT_i \\
& + \gamma_5 Industrials_i + \gamma_6 Commission_i + \gamma_7 Top20\% Underwriter_i \\
& + \gamma_8 GrossProceeds_i + \gamma_9 PostCrisis_i + \gamma_{10} Percentage\ of\ Shares\ Issued_i \\
& + \gamma_{12} Percentage\ of\ Founders\ that\ are\ Institutions_i \\
& + \gamma_{12} Number\ of\ Previous\ QTs_i + \gamma_{13} Time\ to\ QT \leq 2\ Years_i \\
& + \gamma_{14} Number\ of > 10\%\ Founders_i + \gamma_{15} One > 50\%\ Founder_i \\
& + \gamma_{16} Adjusted\ Herfindahl\ Index_i + \gamma_{17} \frac{Founder's\ Capital}{Total\ Capital} + \epsilon_d,
\end{aligned}
\tag{1}
$$

where the dependent variable is industry-adjusted IRRs for CPC IPOs net of internal rate of return of the Cumulative Return Index for the industry of that company for the corresponding period. The period of estimation extends from the IPO date to the earliest of the following dates: firm acquired for cash, financial distress or June 30, 2016.

Explanatory variables are defined as follows: *QT* is a dummy variable with a value of 1 when the Qualifying Transaction occurs and 0 otherwise. *Energy, materials, IT (information technology)* and *industrials* are dummy variables corresponding to the industry in which the company operates. *Commission* is the percentage of gross proceeds of the new issue paid to the underwriter. *Top 20% underwriter* is a dummy variable with a value of 1 where the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO. *Gross Proceeds* is the natural logarithm of the total proceeds of the IPO. *Post Crisis* is a dummy variable with a value of 1 where the IPO occurs after 2007 and 0 otherwise. *Percentage of Shares Issued* is the actual number of shares issued in the IPO divided by the maximum set by the underwriter in the preliminary prospectus. *Number of Previous QTs* is the number of qualifying transactions involving at least one member of the founder group that occurred prior to the IPO. *Time to QT ≤ 2 Years* is a dummy variable with value 1 where the time from IPO to QT is less than or equal to 24 months. *Percentage of founders that are institutions* is the percentage of founders who are investment vehicles such as limited partnerships and holding companies. *Number of Founders* is the number of founders who each hold over 10% of the votes of the founding group. *Controlling Founder* is a dummy variable with value of 1 if there is one founder who controls over 50% of the votes of the founding group. *Adjusted Herfindahl index* measures concentration of ownership among founders (as described in Section 2.3). *Founder Capital / Total Capital* is the amount of the founders' pre-IPO investment divided by the combined amount of capital invested by the founders prior to the IPO and by outside investors in the IPO.

We present the results of the OLS cross-sectional regression in the second and third columns of Table 8. Not surprisingly, the results indicate that returns are higher by 39% when qualifying transactions materialize. IPOs in the material sectors tend to have superior performance of 8% compared to other sectors. This stronger performance is consistent with the fact that the expertise among sponsors is likely highest in the mining sector given its high share of the Canadian venture

exchange. In contrast, IPOs in the industrial and energy sectors underperformed by 13% and 8% respectively. Regarding underwriting deal effects, we find that higher underwriting commissions are associated with lower post-IPO returns. Interestingly, we do not find evidence that underwriter reputation impacts post-IPO returns or that smaller issues are associated with higher post-IPO returns. The significant positive coefficient for post-crisis indicates that returns have been higher by 5% in recent years, perhaps because investors seek higher compensation for bearing risk. Consistent with our hypothesis, we find that a higher percentage of maximum shares issued correlates with a higher post-IPO return.

We also report results for two variables associated with founders' composition, experience, and financial commitment. CPCs with founders that are institutions are associated with a 10% higher long-term performance. We also observe that CPCs with founders that have founded other CPCs and achieved QTs with them are positively related to higher long-term performance, although this increase is just 1% for every previous QT achieved. Furthermore, achieving the QT before the regulatory deadline of two years increases the long-term performance of CPCs by 5%. In addition, the higher the proportion of capital from initial founders, the stronger the long-term performance of the CPCs. This last point shows that when the founders have a bigger financial interest in the CPC, shareholder returns tend to be higher.

None of the variables measuring concentration of votes across founders is significant in explaining post-IPO performance. We attribute this result to the fact that multiple founder groups in CPCs are highly cohesive. To the extent all founder shares are escrowed prior to the qualifying transaction and there is a deadline to qualifying transaction, they share a collective interest in achieving a qualifying transaction.

Because of the non-normality of the data, we also analyze the cross-sectional post-IPO performance by separating companies into positive and negative industry-adjusted returns. We present coefficients and marginal effects for this Probit regression in the fourth and fifth columns of Table 8, respectively. The results are generally consistent with our aforementioned analysis. Most of the coefficients of the variables are of the same sign and remain statistically significant. The impact on post-IPO performance remains negative with higher underwriting commissions and IPO issue proceeds, decreasing the probability of achieving a positive return by 2% and 6%, respectively. The impact on post-IPO performance remains significantly positive when CPCs occur during and after the financial crisis, which increases the probability of having a positive performance by 7% and it is similar in magnitude to the case when the CPC has reached a QT within two years following the IPO. However, several of the coefficients with more marginal t-statistics in the OLS regression are no longer statistically significant in the Probit regression.

Given the high level of information asymmetry between entrepreneurs and investors and the rather poor performance of most early-stage companies, the results show that good quality CPCs could be identified by outside investors from some observable variables available at the time of the investment. In doing so, these investors could mitigate in part the agency risk associated with markets of these types of companies.

### 3.4 Likelihood of securing a qualifying transaction

In this section we evaluate the scouting abilities of the founding team to find and secure a QT. To this end, we run a Probit regression where the dependent variable (*D_CPC*) has a value 1 if the CPC achieves a qualifying transaction and 0 otherwise.

The explanatory variables consist of the subset of variables from equation (1) that are known at the time of the CPC IPO. Table 9 indicates that the post-crisis dummy variable is the

most significant negative predictor of a qualifying transaction occurring. After 2007, the likelihood of a qualifying transaction occurring declined for new CPC issues by 13%. In wake of the financial crisis, getting financing to support the qualifying transaction was likely more difficult, and so reducing the completion rate of QTs.

Perhaps more intriguing, however, none of the characteristics of the underwriting or of the founding group show a significant relationship with the likelihood of qualifying transaction completion. The lack of significance of any of the measures of concentration of votes among the founding group indicates that even where there are multiple founders, there is a high level of agreement that results in a qualifying transaction being achieved. This finding reinforces the view that the CPC structure produces a strong alignment between founders and initial investors' interests.

On the other hand, the ratio of founders' capital to total capital is positively related to the qualifying transaction completion. The high marginal impact of this variable, 24% on average, shows that the willingness of the person(s) with inside information to invest in the project might relate to the true quality of the project (Brealey, Leland, and Pyle, 1977). The short-term likelihood of failure associated with this type of company requires founders to weigh this risk against the long-run survival and performance. Thus, looking at the amount of capital that founders are willing to invest in the project provides a sufficient proxy about their scouting capabilities to secure a deal.

### 3.5 Endogeneity in Performance Evaluation of CPCs

Our previous analysis has not taken account of the endogenous nature of the firm's selection process, since it is up to a company or the management team to select the type of mechanism through which they prefer to list their shares in the market. Given that these choices are not usually

random, we now evaluate firm performance while controlling for this unobservable decision and the potential selection bias in our previous analyses.

To account for this type of selection bias, we employ a two-step procedure (Heckman, 1979). The first step consists of a Probit model that searches to explain the firm's decision of listing through a CPC or non-CPC program from a list of exogenous variables. The second step corresponds to the outcome of the selection, which in our case is the industry-adjusted IRR. One particularity of our case is that we observe the outcome for both types of companies, so we can estimate separately the outcome of firms selecting CPC or non-CPC. Formally, our model can be written as follows:

$$\mathrm{CPC}_i^* = \mathrm{Z}_\mathrm{i}' \gamma + \epsilon_i, \tag{2}$$

$$IRR_{CPC,i} = x_i' \beta_{CPC} + u_{CPC,i}, \text{ and} \tag{3}$$

$$IRR_{non-CPC,i} = x_i' \beta_{non-CPC} + u_{non-CPC,i}. \tag{4}$$

Equation (2) corresponds to the unobservable selection decision made by the firm. Given the outcome of this decision is binary, we discretize the dependent variable in Equation (2) with the variable *CPC* that takes a value of 1 if *CPC** is greater than one (the firm selects a CPC) or takes the value of 0 otherwise. The Probit estimation of Equation (2) provides estimates of the unobservable endogenous component associated with the selection decision, the Mills-ratio variable, which in turn becomes a new term added to the regression as a right-hand-side variable in (3) and (4). We refer the reader to Woolridge (2002, pg 631) for specific details about the estimation of this model.

The vector *Z* in Equation (2) contains the list of exogenous variables determining the decision's outcome. Here we include dummy variables associated with the industry in which the company operates (*Energy, materials, IT (information technology)* and *industrials*), the percentage of gross

proceeds of the new issue paid to the underwriter (*Commission*), a dummy variable with a value of 1 if the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO (*Top 20% underwriter*), the natural logarithm of the total proceeds of the IPO (*Gross Proceeds*), a dummy variable with a value of 1 where the IPO occurs after 2007 and 0 otherwise (*Post Crisis*), and the actual number of shares issued in the IPO divided by the maximum set by the underwriter in the preliminary prospectus (*Percentage of Shares Issued*). We also include in this set market variables likely to characterize the financing environment faced by firms during the decision process. In this category, we include *Corporate Spread (AAA/BBB),* which corresponds to the yield spread between BBB Canadian corporate bonds and AAA Canadian corporate bonds. Yields are computed from the ICE BofAML Canada corporate index in DataStream. The other variable in this category corresponds to *Market return,* which is the monthly return computed from the S&P/TSX index. Yields and index values are measured in percentages and computed six-months before the IPO date of each issue.[10]

Table 8 shows estimation results for the first-step estimation regression. These results show that CPCs are less likely to be employed in the Materials industry and for companies seeking large proceeds with the IPO. This last relation is consistent with the goal of CPCs helping small early-stage companies raise funds and gain the benefits of a listing on a public exchange. In addition, we find that business conditions affect the selection of CPCs, as lower credit spreads and higher market returns are related with higher probabilities of selecting these programs. Finally, high commissions by the underwriter are associated with a higher likelihood of CPCs being employed, suggesting that these payments relate to the higher risk underlying this type of issue.

[10] We obtain similar results for three-month or one-month lagged values of corporate spreads and market returns.

Table 9 presents results for the second-step regressions. The vector *x* in Equations (3) and (4) contains the same variables as those of vector *Z* in Equation (2), with the exception of market variables *Corporate Spread (AAA/BBB)* and *Market return,* which help capture the business environment close to the time of the decision. Another reason to exclude these variables is because of potential collinearity issues and to facilitate identification (Wooldridge, 2002). From the table, we observe that values, signs, and significance of variables differ between equations, revealing a degree of heterogeneity between CPC and non-CPC with respect to changes in similar variables. For instance, three dummy variables for industries are positive and significant for CPC IPOs but are negative for non-CPC issues. Nonetheless, variables such as commission, gross proceeds, and percentage of shares issued have similar impacts on both equations. Looking at the control variable associated with the unobservable endogenous selection in the model (Mills in the Table), we find that it is not significant in both equations.

We conclude our analysis by directly testing the difference in performance between CPC and non-CPC companies while taking into account the endogenous nature of the selection process and other controls. To this end, we estimate equations (3) and (4) jointly and test for the difference of industry-adjusted IRR between CPC and non-CPC programs.[11] In line with our previous results, we find that there is no statistical difference between the performance of CPC and non-CPC IPOs.

### 3.6 Short term Measures of IPO Performance

In this paper, we focus on long term IPO performance and do not analyze measures of short-term IPO performance. Most notably we exclude two short term measures of IPO performance: underpricing and post-IPO liquidity that have been extensively examined in research such as

[11] The augmented regression contains a dummy variable that identifies if a given observation corresponds to a CPC or a non-CPC company. We perform a t-test about the significance of this coefficient. See Wooldridge (2002, p. 631) for details.

Cumming and Johan (2019). We believe that short-term IPO performance of CPCs is best examined separately because the conditions expected to affect the short-term performance of CPCs are distinct from those occurring in the long run. Furthermore, the conditions immediately following the CPC IPOs are also different from those of non-CPC IPOs. There are several reasons for these differences.

First, before they announce a QT, CPCs are shell companies whose primary asset is cash. Thus, in the absence of news associated with a QT, it is not expected that their underlying valuation will change much in the days following the IPO for fundamental reasons. In contrast, non-CPC IPOs generally have operating assets whose values will be affected by fundamental factors.

Second, in the period immediately following the IPO, it is only the retail investors who can sell their shares. The founders are prohibited from selling any of their shares until there is a QT. While it is expected that founders of some non-CPCs may be prohibited from selling their shares for a period following the IPO, it is unlikely that their lock-up period will be as long as that of CPCs.

Third, the retail investors in a CPC are prohibited from subscribing to more than $10,000 in equity. Thus, the composition of sellers immediately following a CPC IPO is expected to be different than the mix of sellers in the long term. There is no limit on size of subscription to non-CPC IPOs.

Because of these three distinct conditions in the period following CPC IPOs, we exclude from this study the performance measures of underpricing and liquidity. We also note that a future study of liquidity of CPCs and tiny non-CPC IPOs would need to consider the impact of their very low issue prices. With a median issue price of $0.15 and $0.20 for CPC and non-CPC IPOs,

respectively, and a tick size of $0.005, the minimum bid ask spread of both securities and the related transaction costs would be very high. High transaction costs should reduce liquidity.

## 4 Conclusions

Our paper examines an alternative process for IPOs, through which we examine the value of searching for and promoting small early-stage companies. We analyze a large sample of capital pool companies (CPCs) that raise seed capital in tiny IPOs with funding from a group of founders and outside investors and whose sole purpose is to search for a small project or company to take public i.e. a so-called qualifying transaction. We document a striking difference between the returns of CPCs before and after the qualifying transaction: on average, outside investors that contribute initial funding to the search process double their money by the end of the first month following the qualifying transaction, but investors that enter at the qualifying transaction earn a significantly negative cumulative return. We attribute this difference to the value of scouting, as the negative returns of investors entering at the qualifying transaction do not underperform investors of comparably tiny non-CPC IPOs. In addition, we provide evidence that founders matter for long-term performance: CPCs where the founding group exhibits a larger initial capital commitment and greater institutional participation experience better long-term performance over their peers.

Our study also addresses the debate regarding appropriate requirements for taking small companies public. Following the recent marked decline in the number of small early-stage company IPOs, the relaxation of regulations surrounding such IPOs has led to the introduction of alternatives such as the CPC program to complement the conventional IPO process. Although a large number of small projects and companies are financed through these CPCs, we provide evidence that the problem of long-term underperformance of small IPOs remains. This supports

the concerns raised by Gao et al. (2013) and recent moves of the NYSE and NASDAQ to tighten the regulations for small IPOs.

Taken together, our findings suggest that companies going public through the CPC program are not, on average, of lower quality than other IPOs. Thus, the conventional IPO process fails to attract or identify all projects and companies of similar, acceptable quality, and alternative mechanisms may remedy the problem. Our findings also suggest that the scouting service provided by CPC founders provides a market-based solution to identifying projects that are either ignored by conventional lenders, or do not enter the IPO market, perhaps because the perception that doing so is too costly. In this way, CPCs play a role in early-stage funding by increasing overall IPO participation and/or reducing early-stage funding costs for companies that would otherwise seek initial financing from a large institution or venture capital firm. Nonetheless, as argued by Gao et al. (2013), encouraging small firms to remain independent and seek capital in public markets introduces high risks in the economy due to the poor quality associated with their long-term performance.

Finally, by studying a set of companies that were started as public entities, our paper also addresses a gap in the literature by providing comprehensive data on realized returns of early-stage companies. Different from self-reported survey data used to study returns from early-stage company investing, our study relies on a comprehensive sample of companies that have accessed public markets for early-stage financing. This feature of our data is particularly appealing since it provides an alternative source not subject to the inherent bias of surveys.

## References


Baum, J. A., & Silverman, B. S., 2004. Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups, Journal of Business Venturing, 19, 411-436.

Berger, A. and G. Udell, 1998. The economics of small business finance: the roles of private equity and debt markets in financial growth cycle. Journal of Banking and Finance, 22, 613–673.

Bradley, D.J., Cooney Jr, J.W., Dolvin, S.D. and Jordan, B.D., 2006. Penny Stock IPOs. Financial Management, 35(1), pp.5-29.

Brau, J., Couch, R. and N. Sutton, 2012. The desire to acquire and IPO long-run underperformance. Journal of Financial and Quantitative Analysis, 47, 493–510.

Brav, A. and P. Gompers, 1997, Myth of reality? The long-run underperformance of initial public offerings: Evidence from venture and nonventure capital-backed companies, Journal of Finance, 52, 1791-1821.

Brealey, R., Leland, H. E., & Pyle, D. H., 1977, Informational asymmetries, financial structure, and financial intermediation, The journal of Finance, 32, 371-387.

Capizzi, V., 2015, The returns of business angel investments and their major determinants, Venture Capital, 17, 271-298.

Carpentier, C. and J. Suret, 2006, Bypassing the financial growth cycle: Evidence from Capital Pool Companies, Journal of Business Venturing, 21, 45-73.

Carpentier, C., D. Cumming and J. Suret, 2012, The Value of Capital Regulation: IPOs versus Reverse Mergers, Journal of Empirical Legal Studies, 9, 56-91.

Carter, R., Dark, F. and A. Singh, 1998, Underwriter reputation, initial returns, and the long-run performance of IPO stocks, Journal of Finance, 53, 285-411.

Chang, C., Chiang, Y., Qian, Y. and J. Ritter, 2017. Pre-market trading and IPO pricing. Review of Financial Studies 30, 835–865.

Chen, H. and J. Ritter, 2000, The seven percent solution, Journal of Finance, 55, 1105-1131.

Cole, R., I. Floros, and V. Ivanov, 2019, U.S. exchange upgrades: Reducing uncertainty through a two-stage IPO, Journal of Financial Intermediation, 38, 45-57.

Cumming, D., L. Hab and D. Schweizer, 2014, The fast track IPO – Success factors for taking firms public with SPACs, Journal of Banking and Finance, 47, 198-213.

Cumming, D. and S. Johan. 2019. *The Oxford Handbook of IPOs*. New York: Oxford University Press.

Derrien, F. and A. Kecskés, 2007. The initial public offerings of listed firms. Journal of Finance 62, 447–479

Gao, X., Ritter, J. and Z. Zhu, 2013, Where Have All the IPOs Gone? Journal of Financial and Quantitative Analysis, 48, 1663-1692.

Garner, J. and B. Marshall, 2014, Underwriter compensation structure: Can it really bond underwriters? The Financial Review, 49, 21-48.

Ghoul, S., Guedhami, O., Wang, H. and Kwok, C., 2016, Family control and corporate responsibility, Journal of Banking and Finance, 73, 131-146.

Gompers, P., Gornall, W., Kaplan, S.N. and Strebulaev, I.A., 2016, How do venture capitalists make decisions? (No. w22587). National Bureau of Economic Research.

Huddart, S., 1993, The effect of a large shareholder on corporate value, Management Science, 39, 1407–1421.

Johan, S., 2010, Listing Standards as a Signal of IPO Preparedness and Quality, International Review of Law and Economics, 30, 128-144.

Kerr W.R., J. Lerner, A. Schoar, 2014, The consequence of entrepreneurial finance: evidence from angel financings, The Review of Financial Studies, 27:1, 20-55.

Kolb, J. and T. Tykvová, 2016, Going public via special purpose acquisition companies: Frogs do not turn into princes, Journal of Corporate Finance, 40, 80-96.

Knyazeva, A., 2019, Financial innovation in microcap public offerings, Journal of Banking and Finance, 100, 283-305.

Osipovich, A., 2019, Exchanges Cool on Mini-IPOs, Wall Street Journal, June 11. B.1.

Pandes, J. and M. Robinson, 2014, Is effective junior equity market regulation possible? Financial Analysts Journal, 70, 42-54.

Peters, B., 2010, *Early exits: Exit strategies for entrepreneurs and angel investors (but maybe not venture capitalists),* MeteorBytes Data Management Corp.

Pohlmeyer, S. and S. Rosenthal, 2016 search fund study: Selected observations, Case: E-605, Graduate School of Stanford Business.

Ritter, J., 2019, Initial Public Offerings: Updated Statistics, accessed June 9, 2019, <https://site.warrington.ufl.edu/ritter/files/2019/04/IPOs2018Statistics-1.pdf>

Rodrigues, U. and M. Stegemoller, 2014, What all-cash companies tell us about IPOs and acquisitions, Journal of Corporate Finance, 29, 111-121.

Shleifer, A., and R. Vishny, 1986, Large shareholders and corporate control, Journal of Political Economy, 94, 461–488.

Wiltbank, R. and W. Boeker, 2007, Returns to Angel Investors in Groups, Report, Ewing Marion Kauffman Foundation and Angel Capital Education, November.

Willis, A., 2017, An Obituary for Canadian SPACs, *The Globe and Mail,* March 9. https://www.theglobeandmail.com/report-on-business/big-deals/an-obituary-for-canadian-spacs/article34225181/

Woolridge, J., 2002, *Econometric Analysis of Cross Section and Panel Data*, MIT Press.

Wong, A., 2002, Angel finance: the other venture capital, working paper, University of Chicago.

**Table 1. Descriptive Statistics**

The table provides descriptive statistics for the sample of capital pool company (CPC) IPOs and non-CPC IPOs under $2 million in proceeds through the Toronto Stock Exchange and the TSX Venture Exchange. The sample period spans January 2001 through December 2012. The data is extracted from the *Financial Post New Issues* database.

| | Capital pool companies (CPC) IPOs | Non-CPC IPOs < $2 million | T-test for difference in mean | Mann Whitney Test |
|---|---|---|---|---|
| **Size of IPOs Proceeds in $000s** | | | | |
| Mean | 492 | 810 | -9.73 | |
| 25th percentile | 211 | 540 | | |
| Median | 300 | 746 | | -11.77 |
| 75th percentile | 600 | 1000 | | |
| **Underwriter Commission %:** | | | | |
| Mean | 9.74% | 8.61% | 9.63 | |
| Median | 10.00% | 8.00% | | 10.14 |
| Minimum | 4.00% | 3.00% | | |
| Maximum | 10.00% | 15.00% | | |
| **Top 20% Underwriter Used:** | | | | |
| Number (Percentage) of cases | 255 (24.95%) | 39 (23.21%) | | |
| **Stock Price at Issue:** | | | | |
| Mean | $0.16 | $0.24 | -6.88 | |
| Median | $0.15 | $0.20 | | -9.28 |
| Minimum | $0.10 | $0.10 | | |
| Maximum | $1.00 | $1.00 | | |
| **Qualifying Transaction followed CPC IPO:** | | | | |
| Number (Percentage) of cases: | 899 (88%) | NA | | |
| **Number of Months from CPC IPO to Qualifying Transaction:** | | | | |
| Mean | 25 | | | |
| Median | 23 | | | |
| Minimum | 2 | | | |
| Maximum | 119 | | | |

**Table 1. Descriptive Statistics (Continued)**

The table provides descriptive statistics for the sample of capital pool company (CPC) IPOs and non-CPC IPOs under $2 million in proceeds through the Toronto Stock Exchange and the TSX Venture Exchange. The sample period spans January 2001 through December 2012. The data is extracted from the *Financial Post New Issues* database.

| | Capital pool company (CPC) IPOs | Non-CPC IPOs <$2million |
|---|---|---|
| **Original Listing Exchange:** | | |
| TSX Venture Exchange | 1022 | 135 |
| Canadian Securities Exchange (an alternative trading venue for venture companies established in 2003) | 0 | 33 |
| **Listing Exchange June 30, 2016:** | | |
| Toronto Stock Exchange | 91 | 7 |
| TSX Venture Exchange | 462 | 101 |
| NEX | 83 | 12 |
| Canadian Securities Exchange | 32 | 18 |
| Other Exchanges | 10 | 0 |
| Acquired for Cash | 63 | 7 |
| Trading Halted/Suspended | 101 | 9 |
| Delisted | 180 | 14 |
| Total | 1022 | 168 |
| **Industry Classification (in case of CPC, only those with QT):** | | |
| Materials (Mainly Mining) | 415 | 147 |
| Energy | 126 | 5 |
| Information Technology | 124 | 4 |
| Industrials | 101 | 3 |
| Financials | 77 | 0 |
| Health Care | 40 | 4 |
| Miscellaneous | 16 | 5 |
| Total | 899 | 168 |

**Table 2. Survival Rates of Sample Companies**

This table reports the percentages of Capital Pool Companies (CPCs) and non-CPCs with under $2 million IPOs that remain listed (not delisted for reasons such as bankruptcy or acquisition) over different time horizons since initial listing. The percentage cumulative surviving is computed as the product of the percentage survival rates up to and including that year.

| | CPCs | | | Non-CPCs | | |
|---|---|---|---|---|---|---|
| Years since IPO | Surviving in year | | Cumulative Surviving | Surviving in year | | |
| | # | % | % | # | % | % Cumulative Surviving |
| 1 | 1022 | 100.00% | 100% | 168 | 99.40% | 99% |
| 2 | 1022 | 99.80% | 100% | 167 | 100.00% | 99% |
| 3 | 1020 | 98.33% | 98% | 167 | 99.40% | 99% |
| 4 | 1003 | 97.01% | 95% | 166 | 98.80% | 98% |
| 5 | 963 | 93.98% | 89% | 161 | 97.52% | 95% |
| 6 | 840 | 94.17% | 84% | 129 | 96.12% | 92% |
| 7 | 701 | 93.72% | 79% | 105 | 98.10% | 90% |
| 8 | 600 | 94.33% | 74% | 87 | 96.55% | 87% |
| 9 | 528 | 91.86% | 68% | 77 | 96.10% | 83% |
| 10 | 345 | 92.75% | 63% | 51 | 94.12% | 78% |
| 11 | 221 | 91.40% | 58% | 33 | 90.91% | 71% |
| 12 | 148 | 91.22% | 53% | 21 | 95.24% | 68% |
| 13 | 90 | 92.22% | 49% | 12 | 91.67% | 62% |
| 14 | 41 | 100.00% | 49% | 10 | 90.00% | 56% |
| 15 | 32 | 90.63% | 44% | 5 | 100.00% | 56% |
| 16 | 4 | 100.00% | 44% | 0 | NA | |

**Table 3. Descriptive Statistics on CPC Founders**

The table provides descriptive statistics for the founders of the sample of capital pool company (CPC) IPOs on the TSX Venture Exchange. The sample period spans January 2001 through December 2012. The data is extracted from the System for Electronic Disclosure and Reporting (SEDAR).

***Panel A: Composition and Prior Experience***

| Composition of Founder Group | All founders are individuals | All founders are institutions | Founders include both individuals and institutions | Total |
|---|---|---|---|---|
| Number of Cases | 717 | 70 | 235 | 1022 |
| Percentage | 70.2% | 6.8% | 23% | 100% |

| Prior experience of founders with QTs | None of the founders have experience with QTs | Only a single QT achieved by any one of the founders | More than one past QT achieved by those in the founder group | Total |
|---|---|---|---|---|
| Number of Cases | 710 | 135 | 177 | 1022 |
| Percentage | 69.5% | 13.2% | 17.3% | 100% |

| Prior experience of founders with CPCs | None of the founders have prior experience with CPCs | Only a single CPC founded by any one of the founders | More than one past CPC founded by those in the founder group | Total |
|---|---|---|---|---|
| Number of Cases | 588 | 154 | 280 | 1022 |
| Percentage | 57.5% | 15.1% | 27.4% | 100% |

***Panel B: Ownership Characteristics***

| | Mean | 25% | Median | 75% |
|---|---|---|---|---|
| Adjusted Herfindahl Index | 10.29 | 0.45 | 2.68 | 8.79 |
| (Founders Investment)/(Total Investment) | 28% | 18% | 29% | 35% |

**Table 4. Long-term Shareholder Return for Small Public Issuers**

The table reports the long-term shareholder return of CPCs and non-CPCs with small (<$2 million) IPOs that were issued between 2001 and 2012. Column 1 shows the results for CPCs from IPO to the month end following the qualifying transaction (QT). If there is no QT, then the period of estimation extends to the last recorded month-end price. Column 2 shows the results for CPCs from the month end following the QT until exit date. We define the exit date as the earliest of the day of acquisition of the stock for cash, financial distress or June 30, 2016. Column 3 shows the results for CPCs from IPO until exit date. Column 4 shows the results for non-CPCs from IPO to exit. * and ** indicate significance at the 5% and 1% levels, respectively for the t-test (sign test) that the sample mean (median) is not equal to zero.

| | CPCs (IPO to QT) | CPCs (QT to Exit) | CPCs (IPO to Exit) | NonCPCs (IPO to Exit) | t-stat for means and Mann Whitney test for Medians | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) – (2) | (2) – (4) | (3) – (4) |
| Number of IPOs | 1022 | 899 | 1022 | 168 | | | |
| Mean | 109%** | -41%** | 25% | -34%** | 13.78** | -0.57 | 1.51 |
| Minimum | -100% | -100% | -100% | -100% | | | |
| 25% Percentile | -28% | -99% | -100% | -97% | | | |
| Median | 32%** | -89%** | -87%** | -85%** | 20.76** | -0.76 | -0.34 |
| 75% Percentile | 123% | -44% | -34% | -42% | | | |
| 80% Percentile | 155% | -23% | -3% | -18% | | | |
| 85% Percentile | 220% | -2% | 28% | 20% | | | |
| 90% Percentile | 325% | 34% | 100% | 69% | | | |
| 95% Percentile | 540% | 141% | 306% | 138% | | | |
| 99% Percentile | 1487% | 547% | 1110% | 626% | | | |
| Maximum | 4750% | 2400% | 21392% | 1577% | | | |

**Table 5. Industry-Adjusted Long-term Shareholder Return for Small Public Issuers**

The table reports the industry-adjusted long-term shareholder return of CPCs and non-CPCs with small (<$2 million) IPOs issued from 2001 to 2012. The shareholder returns are computed net of return on investment calculated from Cumulative Return Index for the industry of that company for the corresponding period. Column 1 shows the results for CPCs from IPO to the month end following the qualifying transaction (QT). If there is no QT, then the period of estimation extends to the last recorded month-end price. Column 2 shows the results for CPCs from the month end following the QT until exit date. We define the exit date as the earliest of the day of acquisition of the stock for cash, financial distress or June 30, 2016. Column 3 shows the results for CPCs from IPO until exit date. Column 4 shows the results for non-CPCs from IPO to exit. * and ** indicate significance at the 5% and 1% levels, respectively for the t-test (sign test) that the sample mean (median) is not equal to zero.

| | CPCs (IPO to QT) | CPCs (QT to Exit) | CPCs (IPO to Exit) | NonCPCs (IPO to Exit) | t-stat for means and Mann Whitney test for Medians | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) – (2) | (2) – (4) | (3) – (4) |
| Number of IPOs | 1022 | 899 | 1022 | 168 | | | |
| Mean | 92%** | -63%** | -8% | -44%** | 13.75** | -1.22 | 0.62 |
| Minimum | -845% | -449% | -1086% | -384% | | | |
| 25% Percentile | -44% | -111% | -128% | -103% | | | |
| Median | 21%** | -77%** | -82%** | -71%** | 20.21** | -1.31 | -1.05 |
| 75% Percentile | 113% | -46% | -40% | -28% | | | |
| 80% Percentile | 142% | -31% | -22% | -8% | | | |
| 85% Percentile | 206% | -11% | 15% | 22% | | | |
| 90% Percentile | 301% | 26% | 97% | 74% | | | |
| 95% Percentile | 517% | 102% | 275% | 153% | | | |
| 99% Percentile | 1519% | 563% | 1144% | 627% | | | |
| Maximum | 4754% | 2437% | 21278% | 1586% | | | |

**Table 6. Internal Rate of Return for Small Public Issuers**

The table reports the long-term internal rate of return (IRR) of CPCs and non-CPCs with small (<$2 million) IPOs issued from 2001 to 2012. Column 1 shows the results for CPCs from IPO to the month end following the qualifying transaction (QT). If there is no QT, then the period of estimation extends to the last recorded month-end price. Column 2 shows the results for CPCs from the month end following the QT until exit date. We define the exit date as the earliest of the day of acquisition of the stock for cash, financial distress or June 30, 2016. Column 3 shows the results for CPCs from IPO until exit date. Column 4 shows the results for non-CPCs from IPO to exit. Because a large proportion of the IPOs result in a complete loss of capital, we make an adjustment for the calculation of mean IRRs. We first compute the IRRs of IPOs where there is some return on capital by increasing the amount of the initial cash outlay i.e. if 40% of CPC IPOs result in a complete loss of capital, the cash outlay on all other IPOs is multiplied by 100/60 or 1.67. That is, because of these 100% losses, for every dollar invested in projects with some payoff, there is a need to invest another $0.67. * and ** indicate significance at the 5% and 1% levels, respectively for the t-test (sign test) that the sample mean (median) is not equal to zero.

| | CPCs (IPO to QT) [a] | CPCs (QT to Exit) | CPCs (IPO to Exit) | NonCPCs (IPO to Exit) | t-stat for means and Mann Whitney test for Medians | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) – (2) | (2) – (4) | (3) – (4) |
| Number of IPOs | 1022 | 899 | 1022 | 168 | | | |
| Mean | 62%** | -40%** | -37%** | -32%** | 12.10** | -2.89** | -2.41** |
| Minimum | -100% | -100% | -100% | -100% | | | |
| 25% Percentile | -22% | -65% | -99% | -44% | | | |
| Median | 2%** | -35%** | -25%** | -25%** | 21.84** | -2.6** | -2.1* |
| 75% Percentile | 43% | -13% | -9% | -11% | | | |
| 80% Percentile | 64% | -9% | -5% | -7% | | | |
| 85% Percentile | 98% | -5% | -1% | -2% | | | |
| 90% Percentile | 148% | 2% | 5% | 4% | | | |
| 95% Percentile | 306% | 12% | 17% | 9% | | | |
| 99% Percentile | 2241% | 57% | 44% | 36% | | | |
| Maximum | 2241% | 232% | 164% | 44% | | | |

[a] These IRRs for CPCs (IPO to QT) were winsorized at the 1% level.

**Table 7. Industry-Adjusted Internal Rate of Return for Small Public Issuers**

The table reports the industry-adjusted long-term internal rate of return (IRR) of CPCs and non-CPCs with small (<$2 million) IPOs issued from 2001 to 2012. The returns are computed net of internal rate of return from Cumulative Return Index for the industry of that company for the corresponding period. Column 1 shows the results for CPCs from IPO to the month end following the qualifying transaction (QT). If there is no QT, then the period of estimation extends to the last recorded month-end price. Column 2 shows the results for CPCs from the month end following the QT until exit date. We define the exit date as the earliest of the day of acquisition of the stock for cash, financial distress or June 30, 2016. Column 3 shows the results for CPCs from IPO until exit date. Column 4 shows the results for non-CPCs from IPO to exit. Because a large proportion of the IPOs result in a complete loss of capital, we make an adjustment for the calculation of mean IRRs. We first compute the IRRs of IPOs where there is some return on capital by increasing the amount of the initial cash outlay i.e. if 40% of CPC IPOs result in a complete loss of capital, the cash outlay on all other IPOs is multiplied by 100/60 or 1.67. That is, because of these 100% losses, for every dollar invested in projects with some payoff, there is a need to invest another $0.67. * and ** indicate significance at the 5% and 1% levels, respectively for the t-test (sign test) that the sample mean (median) is not equal to zero.

| | CPCs (IPO to QT) [a] | CPCs (QT to Exit) | CPCs (IPO to Exit) | NonCPCs (IPO to Exit) | t-stat for means and Mann Whitney test for Medians | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) – (2) | (2) – (4) | (3) – (4) |
| Number of IPOs | 1022 | 899 | 1022 | 168 | | | |
| Mean | 39%** | -42%** | -39%** | -31%** | 10.37** | -3.78** | -3.03** |
| Minimum | -225% | -207% | -153% | -151% | | | |
| 25% Percentile | -40% | -66% | -87% | -41% | | | |
| Median | -7%* | -35%** | -27%** | -24%** | 16.44** | -3.3** | -2.64** |
| 75% Percentile | 34% | -17% | -10% | -10% | | | |
| 80% Percentile | 50% | -11% | -7% | -5% | | | |
| 85% Percentile | 77% | -6% | -2% | -2% | | | |
| 90% Percentile | 133% | -1% | 5% | 7% | | | |
| 95% Percentile | 269% | 12% | 17% | 16% | | | |
| 99% Percentile | 2015% | 63% | 41% | 34% | | | |
| Maximum | 2015% | 199% | 155% | 64% | | | |

[a] These IRRs for CPCs (IPO to QT) were winsorized at the 1% level.

**Table 8. Cross-Sectional Regression of Industry Adjusted IRRs IPO to Exit – CPC Only**

The second and third columns of the table reports results of a cross-sectional OLS regression of IRRs for CPC IPOs and small (<$2 million) non-CPCs IPOs net of IRR of the Cumulative Return Index for the industry of that company. The period of estimation is from the IPO date to the earliest of the date of acquisition, financial distress and June 30, 2016. For the Probit regression shown in the fourth and fifth columns, the dependent variable has a value of 1 if the industry-adjusted IRRs of CPC IPOs is positive and 0 otherwise. Explanatory variables are as follows: *Commission percentage* is the underwriter's fee as a percentage of gross proceeds of the new issue. *Top 20% underwriter* is a dummy variable with a value of 1 where the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO. *Energy, materials, information technology* and *industrials* are dummy variables corresponding to the industry in which the company operates. *Ln of Gross Proceeds* is the natural logarithm of the total proceeds of the IPO. *Percentage of Shares Issued* is the number of shares issued in the IPO divided by the maximum number of shares to be issued as set by the underwriter in the preliminary prospectus. *QT* is a dummy variable with a value 1 where the Qualifying Transaction occurs and 0 otherwise. *Number of Previous QTs* is the number of qualifying transactions involving at least one member of the founder group that occurred prior to the IPO. *Time to QT ≤ 2 Years* is a dummy variable with value 1 where the time from IPO to QT is less than or equal to 24 months. *Percentage of founders that are institutions* is the percentage of founders who are investment vehicles such as limited partnerships and holding companies. *Post Financial Crisis* is a dummy variable with value 1 where the IPO occurs after 2007 and 0 otherwise. For the t-statistics, one, two, and three asterisks indicate significance at the 10%, 5%, and 1% levels, respectively.

| | OLS | | Probit | |
|---|---|---|---|---|
| | Coefficient | t-Statistics | Coefficient | Marginal Effect |
| Intercept | 0.01 | 0.02 | 2.01 | |
| Commission Percentage | -0.05 | -3.66*** | -0.11* | -0.02 |
| Top 20% Underwriter | 0.00 | 0.12 | -0.11 | -0.02 |
| Energy | -0.08 | -1.68* | -0.35* | -0.07 |
| Materials | 0.08 | 2.16** | -0.15 | -0.03 |
| Information Technology | -0.03 | -0.57 | 0.08 | 0.02 |
| Industrials | -0.13 | -2.71*** | -0.4* | -0.08 |
| Ln of Gross Proceeds | -0.03 | -1.29 | -0.29** | -0.06 |
| Percentage of Shares Issued | 0.13 | 1.71* | 0.45 | 0.09 |
| QT | 0.39 | 7.96*** | 1.11*** | 0.22 |
| Number of Previous QTs | 0.01 | 1.79* | -0.03 | -0.01 |
| Time to QT ≤ 2 years | 0.05 | 1.9* | 0.31*** | 0.06 |
| % of Founders that are Institutions | 0.10 | 2.35** | -0.09 | -0.02 |
| Number of >10% Founders | -0.01 | -1.15 | -0.03 | -0.01 |
| Adjusted Herfindahl Index | 0.00 | -1.02 | 0.00 | 0.00 |
| One Founder>50% Votes | -0.05 | -1.11 | -0.16 | -0.03 |
| Founder's Capital to Total Capital | 0.27 | 2.4** | 0.92** | 0.19 |
| Post Financial Crisis | 0.05 | 2.11** | 0.37*** | 0.07 |
| N | 1022 | | | |
| Adjusted $R^2$ | 0.18 | | | |
| Pseudo $R^2$ | | | 0.10 | |

**Table 9. Probit Regression of Qualifying Transactions**

The table reports results of a cross-sectional Probit regression that estimates the likelihood of a qualifying transaction for CPC IPOs. The dependent variable has a value of 1 if a qualifying transaction occurs. Explanatory variables are as follows: *Commission percentage* is the percentage of gross proceeds of the new issue paid to the underwriter. *Top 20% underwriter* is a dummy variable with a value of 1 where the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO. *Ln of Gross Proceeds* is the natural logarithm of the total proceeds of the IPO. *Post Financial Crisis* is a dummy variable with a value of 1 where the IPO occurs after 2007 and 0 otherwise. *Percentage of Shares Issued* is the number of shares issued in the IPO divided by the maximum number of shares to be issued as set by the underwriter in the preliminary prospectus. *Number of Previous QTs* is the number of qualifying transactions involving at least one member of the founder group that occurred prior to the IPO. *Time to QT ≤ 2 Years* is a dummy variable with value 1 where the time from IPO to QT is less than or equal to 24 months. *Percentage of founders that are institutions* is the percentage of founders who are investment vehicles such as limited partnerships and holding companies. For the z-statistics, one, two, and three asterisks indicate significance at the 10%, 5%, and 1% levels, respectively. The last column provides the average marginal effect from the Probit regression.

| | Coefficient | z-Statistics | Marginal Effect |
|---|---|---|---|
| Intercept | -1.40 | -0.78 | |
| Commission Percentage | -0.07 | -0.98 | -0.01 |
| Top 20% Underwriter | 0.09 | 0.68 | 0.02 |
| Ln Total Proceeds | 0.27 | 2.24** | 0.05 |
| Percentage of Shares Issued | 0.20 | 0.63 | 0.04 |
| Number of Previous QT | -0.03 | -1.05 | -0.01 |
| % of Funders that are Institutions | -0.29 | -1.53 | -0.05 |
| Number of >10% Founders | -0.07 | -1.65* | -0.01 |
| Adjusted Herfindahl Index | -0.01 | -1.36 | 0.00 |
| One Founder > 50% Votes | 0.28 | 1.36 | 0.05 |
| Founders' Capital to Total Capital | 1.28 | 2.45** | 0.24 |
| Post Financial Crisis | -0.71 | -6.2*** | -0.13 |
| N | 1022 | | |
| Pseudo $R^2$ | 0.09 | | |

**Table 10. Cross-Sectional Regression of Industry Adjusted IRRs CPC vs non-CPC – First Stage Regression**

The table reports Probit estimation results for small companies that became public through a CPC or a non-CPC program. The dependent variable is a binary variable taking a value of 1 if the company was brought to the market by a CPC, and 0 otherwise. The second and third columns of the table reports coefficient and z-statistics for each of the explanatory variables under consideration. The period of estimation is from the IPO date to the earliest of the date of acquisition, financial distress and June 30, 2016. Explanatory variables are as follows: *Commission percentage* is the underwriter's fee as a percentage of gross proceeds of the new issue. *Top 20% underwriter* is a dummy variable with a value of 1 where the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO. *Energy*, *materials*, *information technology* and *industrials* are dummy variables corresponding to the industry in which the company operates. *Ln of Gross Proceeds* is the natural logarithm of the total proceeds of the IPO. *Percentage of Shares Issued* is the number of shares issued in the IPO divided by the maximum number of shares to be issued as set by the underwriter in the preliminary prospectus. *Post Financial Crisis* is a dummy variable with value 1 where the IPO occurs after 2007 and 0 otherwise. *Corporate Spread (AAA/BBB)* is the yield spread between BBB Canadian corporate bonds and AAA Canadian corporate bonds, where yields are computed from the ICE BofAML Canada corporate index. Market return corresponds to the monthly return computed from the S&P/TSX index. Yields and index values are measured in percentages and computed six-months before the IPO date of each issue. For z-statistics, one, two, and three asterisks indicate significance at the 10%, 5%, and 1% levels, respectively.

| | Coefficient | z-Statistics | Marginal Effect |
|---|---|---|---|
| Intercept | 15.48 | 9.46*** | |
| Commission Percentage | 0.42 | 8.77*** | 0.05 |
| Top 20% Underwriter | 0.09 | 0.59 | 0.01 |
| Energy | -0.44 | -1.39 | -0.06 |
| Materials | -1.82 | -8.13*** | -0.23 |
| Information Technology | 0.03 | 0.08 | 0.00 |
| Industrials | -0.05 | -0.14 | -0.01 |
| Ln of Gross Proceeds | -1.28 | -11.38*** | -0.16 |
| Percentage of Shares Issued | 0.34 | 0.87 | 0.04 |
| Post Financial Crisis | -0.16 | -1.07 | -0.02 |
| Corporate Spread (AAA/BBB) | -0.41 | -3.07*** | -0.05 |
| Market Return | 0.01 | 1.87* | 0.00 |
| N | 1190 | | |
| Pseudo $R^2$ | 0.46 | | |

**Table 11. Cross-Sectional Regression of Industry Adjusted IRRs CPC vs non-CPC – Second Stage Regressions**

The table reports estimation results for the two second-stage IRR equations, one for IRR of CPC companies and the other for non-CPC ones. The second and third columns of the table reports results of a cross-sectional OLS regression of IRRs for CPC IPOs and small (<$2 million), while the third and fourth columns do so for non-CPCs IPOs net of IRR of the Cumulative Return Index for the industry of that company. The period of estimation is from the IPO date to the earliest of the date of acquisition, financial distress and June 30, 2016. Explanatory variables are as follows: *Commission percentage* is the underwriter's fee as a percentage of gross proceeds of the new issue. *Top 20% underwriter* is a dummy variable with a value of 1 where the IPO is underwritten by one of the top fifth of underwriters in Canada in the year of the IPO. *Energy, materials, information technology* and *industrials* are dummy variables corresponding to the industry in which the company operates. *Ln of Gross Proceeds* is the natural logarithm of the total proceeds of the IPO. *Percentage of Shares Issued* is the number of shares issued in the IPO divided by the maximum number of shares to be issued as set by the underwriter in the preliminary prospectus. *Post Financial Crisis* is a dummy variable with value 1 where the IPO occurs after 2007 and 0 otherwise. *Mills* is the inverse Mills-ratio variable used to adjust self-selection between CPC and non-CPC. For the t-statistics, one, two, and three asterisks indicate significance at the 10%, 5%, and 1% levels, respectively.

| | CPC | | non-CPC | |
|---|---|---|---|---|
| | Coefficient | t-Statistics | Coefficient | t-Statistics |
| Intercept | 0.30 | 0.79 | 2.57 | 1.87* |
| Commission Percentage | -0.08 | -4.74*** | -0.01 | -0.35 |
| Top 20% Underwriter | 0.02 | 0.58 | -0.02 | -0.41 |
| Energy | 0.13 | 3.1*** | -0.20 | -1.10 |
| Materials | 0.32 | 7.95*** | -0.04 | -0.24 |
| Information Technology | 0.15 | 3.59*** | -0.20 | -1.06 |
| Industrials | 0.06 | 1.27 | 0.32 | 1.51 |
| Ln of Gross Proceeds | -0.01 | -0.47 | -0.22 | -2.12** |
| Percentage of Shares Issued | 0.14 | 1.85* | 0.41 | 2.39** |
| Post Financial Crisis | 0.04 | 1.56 | 0.03 | 0.55 |
| Mills | -0.14 | -1.50 | 0.17 | 1.35 |
| N | 1022 | | 168 | |
| Adjusted $R^2$ | 0.11 | | 0.15 | |

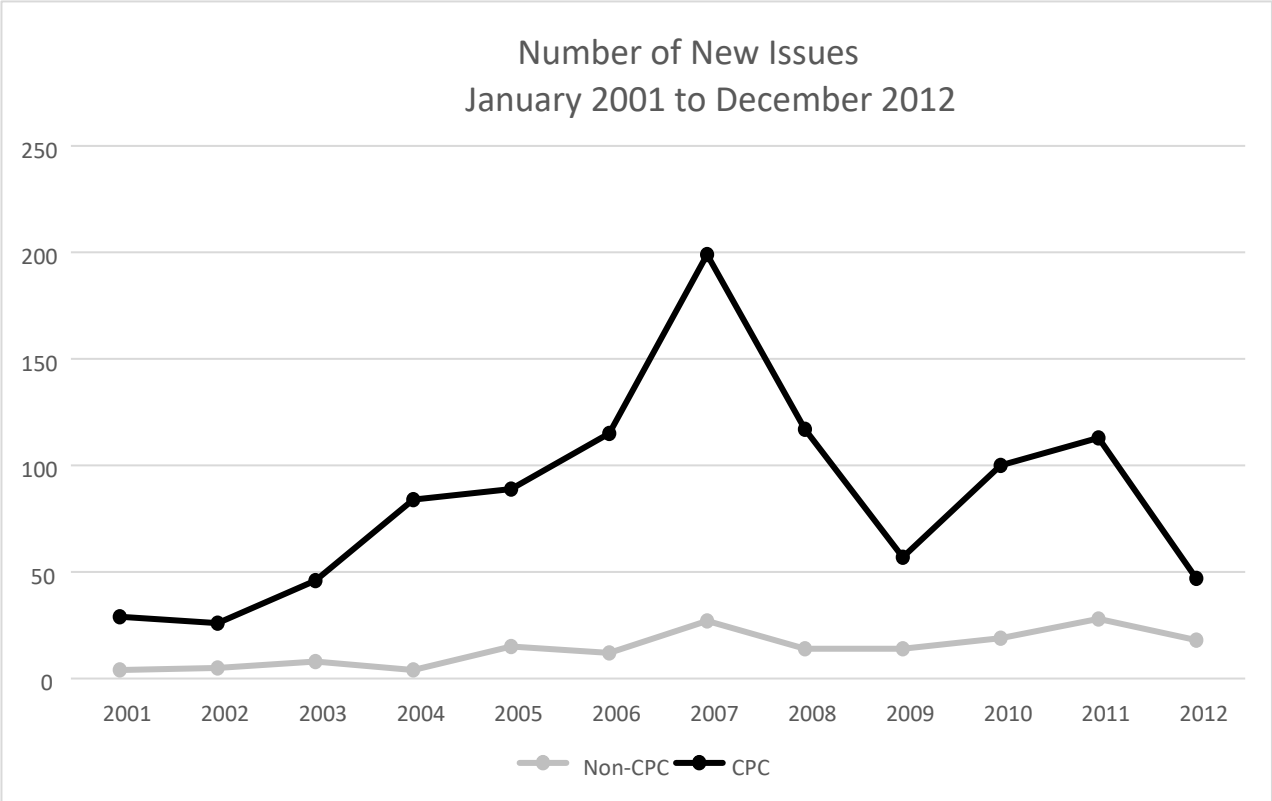


**Figure 1. Time Series of Small New Issues: Capital Pool Companies (CPCs) and Non-CPCs**
The figure reports the number of Capital Pool Company (CPC) IPOs and other (non-CPC) tiny (<$2 million) IPOs in each calendar year from January 2001 to December 2012. The data is extracted from the Financial Post New Issues database.

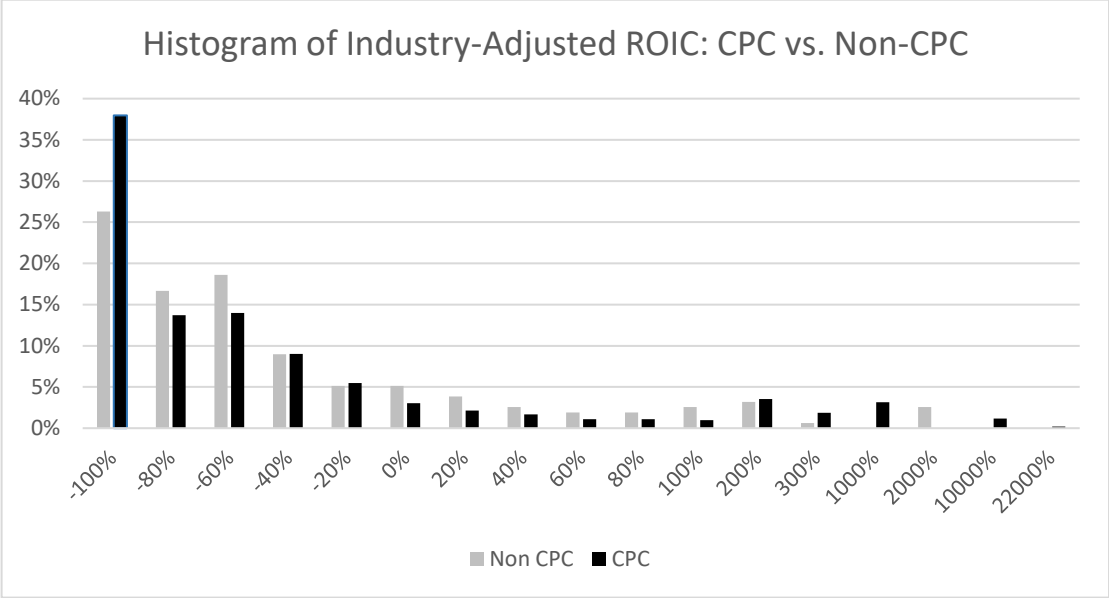


**Figure 2. Histogram of Industry-Adjusted Return on Invested Capital for Small New Issues: Capital Pool Companies (CPCs) vs. Other Tiny IPOs**

The figure reports the distributions of Industry-Adjusted Return on Invested Capital of Capital Pool Companies (CPC) and other (non-CPC) tiny (<$2 million) IPOs.. The horizontal axis shows the lower boundary of each bin of industry-adjusted return on invested capital and the vertical axis shows the percentage of total type of new issue in each of the bins.

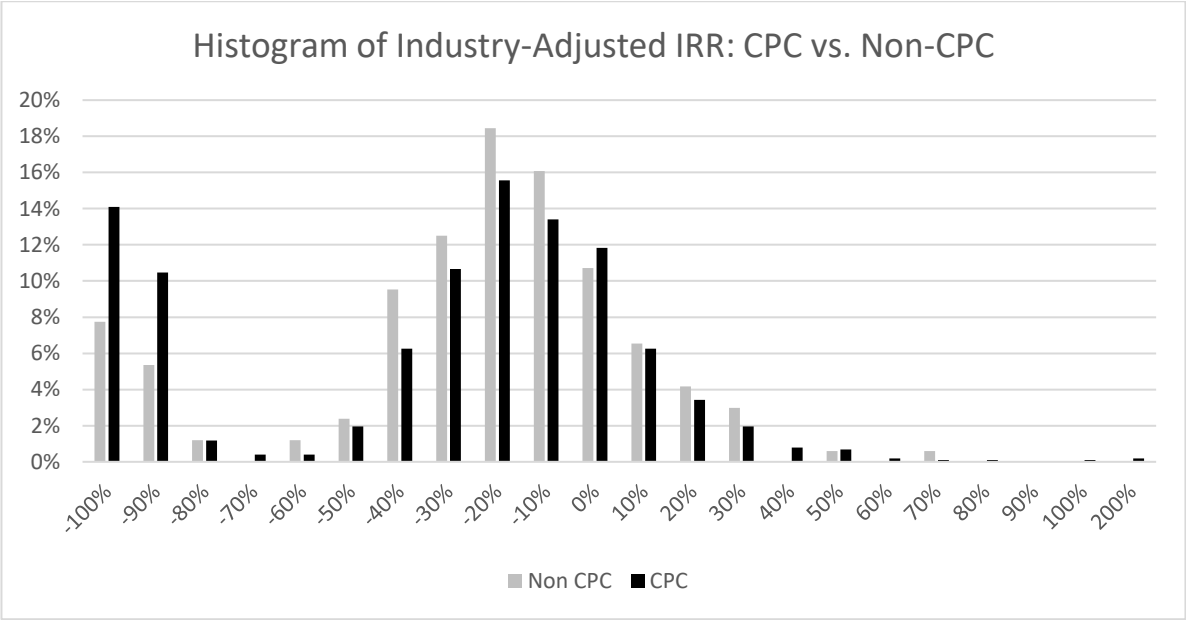


**Figure 3. Histogram of Industry Adjusted IRR for Small New Issues: Capital Pool Companies (CPCs)**
The figure reports the percentage histogram of Industry-Adjusted IRR of Capital Pool Companies (CPCs) and other (non-CPC) tiny (<$2 million) IPOs. The horizontal axis shows the lower boundary of each bin of industry-adjusted return IRR and the vertical axis shows the percentage of total type of new issue in each of the bins.