Lower Visibility Platforms Serving as Stepping Stones to National Stock Exchanges: The Case of Shell Reverse Mergers

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Abstract and Keywords

Using a proprietary, recent shell reverse mergers (SRMs) sample, we analyze the financial profiling, financing event specifics, disclosure levels, and governance schemes of the private companies that are quoted on lower visibility platforms. We examine SRMs forward in time and identify a unique sample of SRMs that is successful getting upgraded to main U.S. stock exchanges. We report their financial characteristics and how they differ from the SRMs that do not manage to get upgraded. Further, we delve into the pricing, source of financing, and contractual terms of PIPE transactions that constitute their main capital raising events. We also note any differences in the financing and governance characteristics surrounding SRM firm listing changes. Our study contributes to the empirical going public literature by identifying the determinants of successful companies within lower visibility platforms and by justifying the necessity of the private secondary market's existence.

Keywords: shell reverse mergers, going public, private investments in public equity, PIPEs, private equity placement, investor identity, contract terms, private secondary markets

9.1. Introduction

EXISTING research discusses and analyzes the factors that weigh upon a company's decision to switch from controlled, closely held ownership to diffused, public ownership. The majority of this research has focused on the traditional mechanism for going public—the initial public offering (IPO) of common stock. Although IPOs are a popular method in the United States to become publicly traded, more recently a substantial number of companies have been using another mechanism—the shell reverse merger (SRM).

An SRM is the event in which a private company acquires a public company—an empty shell company—and, in this way, inherits its public status. SRMs have become a popular way for a firm to go public in recent years while avoiding the delays and expenses of the traditional IPO process. In fact, since 2005, SRMs have become more numerous than IPOs, although they have remained smaller in terms of economic significance than traditional IPOs. Floros and Shastri (2010) compare SRMs only to penny stock IPOs (PSIPOs). This comparison is justified by Sjostrom (2008), who argues that SRMs are not comparable to traditional IPOs, as IPOs are larger than SRMs and are not really an option for the SRM manager at the time they consummate the SRM transaction on the lower visibility over the counter (OTC) market. One of the (p. 234) main purposes of our study is to discern the "type" of SRMs and gauge whether any of these smaller firms initially quoted on the OTC market could prove to be "success stories" and depart for the higher tiers of the OTC market or any of the main US stock exchanges.

Firms that conduct SRMs tend to be small, high-growth businesses that need the publicly traded stock in a "quasi-public" trading platform. Public tradability is needed in order to smooth their financing through repeated private placements of equity at an early stage of their life span as private businesses. They become publicly traded, regularly reporting companies on the OTC market, and we find that approximately 30% of them from 2005–2015 are successful in getting upgraded to higher-tier OTC market or main US stock exchanges. To our knowledge, our study is the first to focus on the characteristics associated with these success stories; SRMs have been repeatedly characterized as a rather shady alternative mechanism to go

public (see Feldman and Dresner, 2009, Chapter 8).

The purpose of the current study is to provide analytic descriptive statistics on the pricing, type, and source of financing, the accompanying contractual terms, and the governance and disclosure characteristics for SRMs that get upgraded to upper OTC market tiers and main US stock exchanges (Upgraded Firms). We will also show how these characteristics compare to those of SRMs that are traded on the OTC market for a longer time period than the average time it took for the Upgraded firms (Ever OTC Market Traded Firms), as well as the SRMs that got downgraded from the OTC market during the same time period (Downgraded Firms).

Our study comes in a timely manner and describes the path that many of the small-cap businesses follow in order to secure their financing and stage any information released to the public. First, they acquire a publicly traded stock on a quasi-public, relatively less diffused ownership status while being quoted on the OTC market, and then they upgrade to the main, high visibility and costlier US stock exchanges. The process we describe counts on a recent time period spanning the years 2005–2014. Many of the years we analyze have been reported to be the years with low average number of US IPOs (99 for the years 2001–2012). Specifically, Gao, Ritter, and Zhu (2013) argue that the advantages of selling out small, private firms to larger organizations have surfaced, and the need to quickly launch products to the markets as well as realize economies of scope can be better fulfilled through an acquisition, rather than a going-public move. They posit that greater value is created in a sale to a strategic buyer in the same or a related industry, rather than in a switch to public ownership. Similar to Doidge, Karolyi, and Stulz (2017) Gao, Ritter, and Zhu (2013) argue that the decrease in US IPOs cannot be solely attributed to regulatory changes. This path, to pursue growth options and survive competition, could be considered complementary to the one we analyze in our study. The firms we are focusing on, particularly the ones that are successful in getting upgraded to main US stock exchanges, self-select themselves into the independent existence, avoiding any corporate control action until the point of the upgrade.

To our knowledge, the only recent academic studies that seem to have remote relevance to our work are Cole, Floros, and Ivanov (2018) and Bruggemann, Kaul, Leuz, (p. 235) and Werner (2018). However, although they incorporate SRMs as part of their samples, neither of these studies focuses upon SRMs as a technique. Specifically, Cole, Floros, and Ivanov (2018) examine the effects on IPO uncertainty of an alternative going-public mechanism—the "two-stage IPO." They investigate firms that get quoted on the OTC market first, and then upgrade to a national exchange, where the IPO takes place. Of considerable importance to our study is that they report lower underpricing and lower stock return volatility for firms that get upgraded when compared to those that conduct traditional IPOs. They show suggestive evidence of greater disclosure while traded on the OTC market, which implicitly plays a role, and is known to be negatively associated with investor uncertainty levels. They conjecture that, similar to earlier literature (see Ritter, 2003, for a complete review of the theories developed around IPO underpricing), adverse selection matters for underpricing levels, and prior trading reveals information about the company's type. This results in lower observed underpricing when offering equity after the upgrade to the main US stock exchanges. Further, Bruggemann, Kaul, Leuz, and Werner (2018) is the only study that documents the existence of "rising stars," namely the firms that are traded on the OTC market and later get upgraded to main US stock exchanges. They point out that, counting on their sample, the upgrade propensity remains low (about 9%), and they report main liquidity, price efficiency, and survivability statistics while being quoted on the OTC market of the firms that ultimately get upgraded to main US stock exchanges.

Our study makes various contributions to the academic literature investigating dimly lit markets. First, our study contributes to the existing reverse merger (RM) literature, with several academic papers having surfaced during the past 10 years, for the most part analyzing empirical issues on this alternative mechanism to switch to public ownership. Gleason, Rosenthal, and Wiggins (2005) examine 121 RMs from the Security Data Corporation (SDC) Mergers and Acquisitions database. They find that the public firms involved in the RMs are generally poor performers prior to the merger. The study does not distinguish between regularly operating and shell firm reverse mergers. The authors conclude that RMs may provide shareholders of distressed firms a way to recover some of their investment. The study reports analysis on the survivability of the RM firms that amounts to only 46% surviving the following two years after the RM consummation, which in the authors' minds constitutes a risky mechanism for going public. Floros and Shastri (2010) compare and contrast the decision to go public using RMs versus PSIPOs. It is the first study to solely focus on SRMs. The authors hypothesize that SRM companies are highly information asymmetric, since they do not conduct a public offering at the consummation of the deal. They argue that investors' evaluation cost for the private firm at the time of going public is irrelevant. They find that SRM companies tend to be opaque, as they release only a limited portion of their ownership structure to the public, which is not feasible in a traditional IPO. Their main contribution is that SRMs take place because they are speedy, low cost, and accommodate private firms that need a publicly traded stock without convincing a wide investors' base in order to finance an upcoming, already planned corporate control action, using their stock as a medium of payment.

(p. 236) Floros and Sapp (2011) focus on the characteristics and performance of shell companies that are used as vehicles to take private companies public. They study 585 trading shell companies over the period 2006–2008. These companies have no systematic risk, operations, or assets, and their share price tends to decline over time. Yet, these firms have investors. The authors show that when an SRM agreement is consummated, shell company three-month abnormal returns are 48.1%. They rationalize this exceptional return and they call it compensation to investors for shell stock illiquidity

and the uncertainty of finding an RM suitor. Floros and Sapp (2011) is the first published manuscript to discuss special purpose acquisition companies (SPACs), which are shell companies that issue shares in an IPO and then hold the cash collected in an escrow account until a potential suitor for an RM can be found. The authors analyze short- and long-term stock performance for these vehicles as well.[1]

In 2011, the US Securities and Exchange Commission (SEC) publicized a warning with regard to investments on Chinese RMs, and both 2012 and 2013 were years that stirred bad publicity about these types of transactions. The SEC and public investors felt uneasy with the auditing processes and the accuracy of the disclosure provided by Chinese RMs, and as a result the stock performance of these investments deteriorated. The most recent stream of academic papers zeroes in on the characteristics of domestic and foreign (mainly Chinese) RMs and compares their financials, reporting quality, and stock performance. Specifically, Lee, Li, and Zhang (2015) find Chinese RMs to be healthier and faring better than either their US RM counterparts or a group of industry-size-date-matched publicly traded firms from the same exchange. In contrast to what would have been expected, they find little evidence that Chinese RMs are systematically riskier, or more problematic. This is a study that solely focuses on SRMs and claims that when SRMs are carefully matched with similar (in terms of their market valuation) IPOs, they do not really underperform.

In a similar vein, Darrough, Huang, and Zhao (2015) analyze fraud announcements on Chinese RMs and explore an unfortunate spillover effect of bad hype spreading out from offering to non-offending Chinese RMs. They investigate short-selling interest in these two groups of Chinese RMs and find that short-selling activity spills over to seemingly non-fraudulent Chinese RMs. In contrast, Chen, Cheng, Lin, Lin, and Xiao (2016) compare financial reporting quality of (a) US RM firms to US IPO firms and (b) Chinese RM firms to Chinese American depositary receipt (ADR) firms. They find that US firms look very much alike, regardless of the going-public mechanism pursued, but Chinese RM firms reveal lower financial reporting quality, evident in the weaker bonding incentives and the poorer governance. All of these papers analyzing Chinese RMs' characteristics claim to have important policy and institutional implications. None of them deals with the regularity of the stock exchange upgrades of the SRM firms that, in our sample, reveal a surprisingly persistent approximate 30% success rate in getting listed either on OTC market upper tiers or the main US stock exchanges. Evidently, the type and incentives of Chinese private firms tapping US capital markets utilizing the SRM path are still debated.

(p. 237) Second, our study contributes to the recently growing literature on pre-IPO markets by focusing on the SRM going-public mechanism. We explore the characteristics of the firms that manage to exploit their growth options and meet the criteria to get upgraded to main US stock exchanges. Papers such as Cornelli, Goldreich, and Ljungqvist (2006), Derrien and Kecskés (2007), Loffler, Panther, and Theissen, (2005), and Chang et al. (2017) explore foreign, when-issued markets (preceding European IPOs) or the Taiwanese market with mandatory pre-IPO trading, to test any association between small investor sentiment in the pre-IPO market and post-IPO prices. They measure levels of adverse selection and compute underpricing to gauge whether underpricing changes when there is pre-IPO trading. Judging by these papers on pre-IPO markets, we conclude that the role of these markets in the information dissemination processes and uncertainty revelation prior to accessing regular IPO markets is still debated.

Third, we claim that our study sheds light on another stream of papers that analyze secondary marketplaces and could be considered a spin-off research area of pre-IPO markets. The studies by Mendoza and Vermeulen (2011) and Pollman (2012) analyze the function of secondary platforms like SecondMarket and SharesPost that, in fact, do not currently function in the form these papers describe. We consider this stream of literature to be particularly important in view of creating a viable alternative option to private funding as introduced by the JOBS Act. These two studies describe the purpose of these platforms in providing liquidity to insiders and venture capital financiers, and they allege the venues through which these platforms may provide a viable solution to maintaining the financing of promising projects for private firms at the time they need it the most.

Another alternative path for small-cap firms to raise financing is crowdfunding, which is outlined in Title III of the Jumpstart Our Business Startups (JOBS) Act. Through crowdfunding platforms, small-cap businesses are able to raise up to $1 million on a rolling 12-month basis from both accredited and non-accredited investors. As stated in Houge (2016), crowdfunding is associated with a set of challenges, as is any direct public offering technique. The costs of finding the potential investors on your own and abiding by the reporting requirements could end up being substantial for small-cap firms. Also, the shares offered through the crowdfunding platforms are not expected to be particularly liquid. Crowdfunding could serve the purpose of raising financing at an earlier stage of the small-cap firm's life span, with the need of conducting an SRM and accessing more liquid markets still being present at a later stage. Crowdfunding and SRMs are not necessarily mutually exclusive; as a matter of fact, crowdfunding financing could potentially assist small-cap firms to pursue their initial projects, grow and build the capital structure needed to access more frequent financing through OTC markets, while being prepared for stricter reporting requirements (especially so, when traded on the upper tiers of the OTC market or the OTC bulletin board). The way crowdfunding will function and its coexistence with the OTC market and the financing techniques hosted there (for instance, the SRMs), could be a promising research topic in the coming years.

(p. 238) Our empirical findings point out the need to allow small-cap businesses to increase private secondary trading of securities prior to listing on main US stock exchanges that will allow them under certain circumstances (e.g., disclosure, use of proceeds, governance, financing schemes) to raise capital with sophisticated investors, and to get a fair pricing and relative greater tolerance to develop their projects. We claim that our empirical

findings could potentially have institutional implications, especially now that the SEC and the Congress are considering ways to create "venture exchanges" for trading equity securities that, according to Commissioner Daniel M. Gallagher, will encourage and facilitate public offerings of small and emerging growth companies.[2] The Main Street Growth Act, H.R. 5877 passed by the U.S. House of Representatives on July 10, 2018, which confirms certain political support for the willingness to explore use of an exchange trading platform as a primary market for the lower visibility, illiquid private stocks, especially for the purpose of increasing the number of smaller IPOs.

Our study adds another view to the menu of alternative capital-raising paths that small-cap businesses explore, during a time period that US listings are declining. Doidge, Karolyi, and Stulz (2017) report a dramatic decline in US listings after reaching their peak number back in 1996. The study reports a listing gap compared to non-US countries, as well as compared to its own past. The typical listed firm on the US exchanges is worth more, partly because it is larger. So, the demise of US IPOs is particularly noticeable among small-cap firms (for more information, see Doidge, Karolyi, and Stulz, 2013). During the time period of 1975 to 2012, the number of non-US listings increases by 219%, whereas the number of US listings decreases by 14%. Also, during that same time period, in the United States there is a high reported delist rate that accounts for 46% of the listing gap, which is explained by a high rate of public firms' acquisitions. Increased regulatory hurdles provide only a partial explanation for the US listing gap. The alternative capital-raising venues that firms can exploit in order to get financing without going public could provide another explanation. Overall, there is an increase in the cost of being listed and a decrease in the benefit of being listed that makes (a) capital-raising paths as a private firm and (b) listing on alternative platforms (e.g., pre-IPO markets, second-market type exchanges, or low visibility markets, like the OTC market) appealing.

Fourth, another main contribution of our study is that it provides more information on the function of the OTC market. These low-visibility markets have attracted more attention from academic society as major corporate events are being fueled by companies that have been traded on the OTC market and then managed to get upgraded to main US stock exchanges. Despite the fact that the percentage of Upgraded Firms remain low on the entire population of OTC market traded firms (as reported by Bruggemann, Kaul, Leuz, and Werner, 2018), there exists a communication channel between the OTC market and the US main stock exchanges. It's a natural question to ask under which circumstances would companies traded on these markets manage to grow and expand to the degree needed in order to fulfill the criteria of the main US stock exchanges. This is a question that has not been rigorously analyzed before. Bruggemann, Kaul, Leuz, and Werner (2018) provide main statistics on the success and failure cases of the OTC market traded firms, provide information on their industry and state distribution, (p. 239) market-based characteristics, trading platform traffic, trading activity, liquidity, and price efficiency. Recent studies by Ang, Shtauber, and Tetlock (2013) and Eraker and Ready (2015) report that retail investors' biases, information diffusion processes, and short-sale constraints explain the OTC market's underperformance.

Biases in investors' trading strategies in OTC market stocks may be the reason that accredited investors may abstain from the OTC market trading and could be one of the main reasons why OTC markets have not attracted much attention. The OTC market in 2007 assigned each traded company to disclosure tiers and notified accordingly all public investors through respective announcements on their main website (assigning a specific sign to each tier). Jiang, Petroni, and Wang (2015) report that OTC market firms with higher voluntary disclosure are associated with significantly higher liquidity. Public investors anticipate this increase and further boost the demand of the shares with higher voluntary disclosure around the announcement of the tier change and specifically the listing on a tier with higher disclosure.

We conjecture that public investors demand shares with the highest possible disclosure, which may be the answer on how to achieve high liquidity in low-visibility markets like the OTC market. Our study potentially adds another interesting angle to the aforementioned studies, namely the characteristics of traded firms that bridge the differences between the OTC market and the main US stock exchanges. Finally, our analysis potentially stirs institutional implications with the consideration of creating platforms for private firms that are able to protect their proprietary material, contractual information, or intellectual property and trade secrets, while at the same time repeatedly raising financing without enduring onerous financing terms or unfair underpricing that may impede the realization of financial incentives to entrepreneurs, company management, and early investors' high-growth options.

9.2. Data Selection

For our analysis, we use two main data sources—the PrivateRaise SRM database and our extended hand collection of shell companies. We collect the SRM's former private companies' specifics, as well as the associated governance and disclosure measures, together with the financing techniques. The SRM database contains all consummated SRM transactions within the time period of November 7, 2005, to December 31, 2014.[3],[4] To our knowledge, our sample is the most recent sample utilized in the empirical literature that allows us access to data on an extended time period, going beyond the shutdown in the public equity markets (during which it could be argued that SRMs functioned as a promising alternative mechanism to drive private companies public).

The initial sample of SRMs obtained from the PrivateRaise database is also filtered based on the following criteria: (a) form 8-K that clearly states that the transaction is indeed an SRM; (b) the deal is between a private company based in the United States or abroad and a public firm that is registered pursuant to the 1933 Act and whether the (p. 240) public firm listed on a national market system licensed exchange; (c) the deal involves only two companies;[5] (d) the deal has a reported effective date; (e) neither party in the deal has prior ownership in the other party; and (f) financial information is available from Compustat 8-Ks, 8-K/As, 10Ks, and SC-14F1s. The imposition of these criteria leaves us with a total number of 1,411 observations.

Within the master file of 1,411 SRMs, we identify the ones that have been able to get upgraded to main US stock exchanges, the ones that are still quoted on the OTC market, and the ones that are delisted (either voluntarily or forced by the OTC market). For each of the SRM firms in our sample, we single out the SRM company name and trading symbol and trace data forward in time (we allow for three calendar years following the SRM consummation date; a lower time window is set for the later part of the sample with post-2012 SRM closing dates). The companies that are spotted on www.finance.google.com or Center for Research in Securities Pricing (CRSP) trading on main US stock exchanges (NYSE, AMEX up to 2008, or NASDAQ) or on the OTC market upper tiers (OTCQX and OTCQB) are identified as Upgraded Firms.[6] We consider Upgrades as trading either on the OTC market upper tiers (OTCQX and OTCQB) or the main US stock exchanges, as all these platforms require listing and maintenance criteria and obligatory disclosure and are characterized by higher liquidity. The departure from the OTC Pink to either the OTC market upper tiers or the main US stock exchanges can safely be considered a propensity for higher transparency. Following Cole, Floros, and Ivanov (2018), we confirm the upgrade date to main US stock exchanges by processing related SEC certification documents. Specifically, we make sure that each Upgraded Firm exhibits a respective SEC EDGAR filing (forms CERTAMX, CERTNASD, or CERTNYS) certifying that the firm's security is approved for listing on AMEX, NASDAQ, or NYSE. For each of our Upgraded Firms, we validate the precision of our upgrade date counting on the filing date of the EDGAR certification filing. If a firm has more than one listing form (e.g., its stock is first upgraded to NASDAQ and then moves to NYSE), we use only the first listing in our analysis. Out of all 1,411 SRMs, we identify a total of 435 SRM firms as Upgraded Firms.[7]

Within our SRM master file we also identify all Downgraded Firms, namely the companies that consummate the SRM transaction, get traded on the OTC market, acquire a trading symbol, but are not quoted and do not have any disclosed filings to the SEC when we trace them three years after the consummation of the SRM transaction. We find that Downgraded Firms could be either voluntarily initiated (the company ceases operations) by the firm itself or imposed by the OTC market (usual causes: fraudulent action, inability to disclose filings when traded on the upper tiers). We hand gather the exact downgrade date, counting on the filing date of the 15-12G document (securities registration termination) submitted to the SEC. Collecting the 15-12G document filing date is also our validation of the downgrade event. After following this collection process, we are able to identify in total 167 SRM firms out of all 1,411 SRMs. Out of all 1,411 SRMs, we analyze the former private firm's country of origin in order to classify each SRM deal into domestic and foreign. Our sample contains 416 foreign SRMs, which amounts to apr. 28.7% on the entire sample size. We report that 2006 is the year (p. 241) with the lowest relative presence of foreign SRMs, namely 5.9% on the entire sample for that year, and 2011 is the highest one, with the presence of foreign SRMs amounting to 40.1%. The foreign country with dominant representation is China (320 out of all 416 foreign SRMs), the second highest representation is Canada (39 out of all 416 foreign SRMs), and all other foreign countries have less than 2% representation on the entire SRM sample. Overall, our foreign SRM sample includes 28 countries.

We would like to point out that, first, we make sure that none of the SRM firms ever appears in both the Upgraded Firms sample and the Downgraded Firms sample. Second, the rest of the 809 firms (1,411 less 435 Upgraded Firms less 167 Downgraded Firms) have never been found to be trading on main US stock exchanges or upper tiers of the OTC market and have never been delisted (Ever OTC Market Traded Firms). These are the companies that remain being thinly traded on the OTC market for the entire time period following their SRM consummation date.

After forming our three SRM samples, we hand collect annual financial statement information for the former private firms that are engaged in the SRM transactions, counting on the form 8-K annual financial statements as of the year before the consummation year of the SRM transaction. Our hand collection contains certain data obtained from the balance sheet, income statement, and statement of cash flows information (current assets, current liabilities, total assets, total liabilities, long-term liabilities, book value of equity, total revenues, operating income, research and development expenditures, net income available to common shareholders, net capital expenditures, total cash flows from operating, investing and financing activities. Further, we hand gathered information on activity of insider owners that liquidated holdings of the targeted company during the year surrounding the SRM consummation date, and data revealing (a) whether the SRM transaction was domestic/foreign based on the location of incorporation for the former private company and (b) whether there was private investment in public equity (PIPE) financing closed concurrently with the SRM closing date. After reading the biographies of the board of directors, we decipher the year of inception (if biographical data were missing, we count on the year of incorporation) for the former private company, and then we compute the operating life of the targeted company as a private firm on the date of the closing the SRM transaction.

Our hand-collection process extends to the detailed data concerning the characteristics of shell companies. With regard to the former shell companies, we collect their state and date of incorporation, the number of beneficial owners when consummating the SRM transaction, their trading platform, and

the total number of authorized and outstanding shares. Our hand-collection process with regard to the former shell companies' specifics is partly motivated by Floros and Sapp (2011), who estimate the statistically significant determinants for being successful in consummating an SRM transaction.[8]

Together with the information collection on the SRM sample, we count on the PrivateRaise database for the construction of our completed PIPE transactions conducted on the US stock exchanges spanning the time period of January 1, 2005, to December 31, 2014. The total number of observations contained in our dataset reaches 13,469 PIPEs. We collect the security type, discount, lead investor type, and associated (p. 242) contractual terms information. For the leading investor types and the associated contractual terms information, we borrow the classification offered by Billett, Elkamhi, and Floros (2015).[9],[10]

Aside from reporting summary statistics on the entire "anatomy" of SRM transactions, including (a) the financials of former private company; (b) the main characteristics (date and state of incorporation, trading platform) of the former shell companies; (c) the accompanying financing (PIPEs) specifications; and (d) the years in operation, we also conduct an extensive hand gathering of governance and disclosure metrics that will hopefully shed light in isolating the main characteristics of SRM firms that are associated with Upgraded Firms and compare them with Downgraded Firms or the ones that remain being traded on the OTC market (Ever OTC Market Traded Firms).

Specifically, to our knowledge, we are the first study to analyze the several governance metrics: board size, board independence, duality role of the CEO/chairman of the board, and family firm identification. We hand gather governance metrics, counting on the respective disclosure on the 8-K document accompanying the SRM consummation, as well as the last 10-K statement submitted to the SEC prior to the upgrade/downgrade date. With regard to the Upgraded Firms SRM sample, we collect the same governance metrics after tracing them the year after their upgrade date for comparison with the year prior to the SRM consummation. This hand collection allows us to depict the governance universe of each of our SRM samples, process their evolution across time, and gauge whether there are any noticeable differences in the governance schemes when identifying the success cases (Upgraded Firms) out of all SRM firms.[11] We find this analysis fascinating, as it is difficult to form *ex ante* hypotheses on which and in which direction conventional governance schemes will matter in getting SRM firms upgraded.

Further, we count the number of 8-K, 10-K and 10-Q SEC filings (together with their amendments and the respective alterations allowed for the small business filers) for each of the three SRM samples. To our knowledge, the only academic, empirical study that reports related summary stats on disclosure intensity of firms quoted in the OTC market space is the recent one by Cole, Floros, and Ivanov (2018). We note that SEC filings are voluntary in all OTC market tiers, apart from OTCQB and OTCQX. Our hand collection on total, voluntary disclosure of SRM companies is limited to the time period preceding the upgrade/downgrade date, as in either of these cases disclosure is leveled afterward. We compute summary statistics for each of the SRM samples and also compare voluntary disclosure levels across the three difference samples. We are careful to adjust the computed voluntary disclosure intensity by the number of operating years (number of years between the firm's inception and the first encountering of disclosure measures while being quoted on the OTC market).

For comparison and matching purposes, we construct a masterfile of small-cap IPOs, drawing our data from the Securities Data Corporation database (SDC). Similar to our SRM sample, our small-cap IPOs sample spans the time period November 7, 2005, to December 31, 2014. We filter our data based on the following criteria: (a) the offering is by a US-based private company on a US-based exchange; the offering is not (b) a reverse leveraged buyout (RLBO), a real estate investment trust (REIT), a closed-end fund limited partnership, a unit investment trust, a tracking stock issue, a rights issue, an (p. 243) American depositary receipt or an American depositary share (ADR or ADS); (c) the trading platform is one of the following: NASDAQ, NYSE, AMEX, or the OTC markets; and (d) the total proceeds dollar amount does not exceed $75 million. Applying these filtering criteria result in total in 529 observations.[12]

Table 9.1 Shell Reverse Mergers (SRMs) and Small-Cap IPOs Annual Deal Distribution

Year	Number of Small-Cap IPO Transactions (1)	Number of SRM Transactions (2)
2005	10	19
2006	59	135
2007	56	181
2008	9	163
2009	11	159
2010	55	227
2011	66	172
2012	72	119
2013	81	108
2014	110	128
Total	529	1,411

Notes: This table reports the distribution of SRMs and Small Cap IPOs spanning from November 7, 2005, to December 31, 2014. All 1,411 completed SRMs and 529 completed small-cap IPOs in the United States are included.

9.3. Empirical Findings

In Table 9.1, we show the frequency of completed SRMs and small-cap IPOs in the United States by year for the entire period of 2005 (post-November 7) to December 31, 2014.[13] We notice that the number of completed SRMs remains consistently high across all calendar years, outnumbers small-cap IPOs for each calendar year, and reaches its highest number of 227 in 2010 when the public equity markets were virtually shut down, revealing that the SRM route functioned in a substitutionary manner to the traditional IPO route for small-cap businesses to keep financing going. We find that the number of SRM observations decreases slightly in the years 2011–2013, though still retaining a volume of a total number of transactions exceeding 100 on an annual basis, reaching 169 (p. 244) closed SRM transactions in 2014. In stark contrast, we find that small-cap IPOs consistently decrease and reach their lowest frequency in 2008, remain low in 2009, and then almost linearly increase for the remaining years up to 2013, with a slightly larger proportional increase in 2014. Their volume is still consistently dwarfed by the number of SRMs for our sample period.

If compared to other foreign, active markets for reverse mergers, the Toronto Stock Exchange (TSX) and the Toronto Stock Venture Exchange (TSXV), similar high numbers of consummated traditional RMs and resulting issuers of capital pool companies (CPCs) have been reported in Carpentier, Cumming, and Suret (2012). Similar to our Table 9.1 findings, in Canada RMs have been more popular than IPOs, though raising noticeably lower total, average, and median gross proceeds amounts during the time period of 1993–2003. We note that the reverse merger trend presented in Table 9.1 of Carpentier, Cumming, and Suret (2012), especially in the years 1995–2003, is similar to the SRM trend depicted in our Table 9.1 during the years 2006–2014. However, we note that Carpentier, Cumming, and Suret (2012) delve into an earlier time window and slightly different RM structures (traditional RMs/resulting issuers of CPCs versus SRMs).

In response to growing concerns and the consistently below expectations small-cap IPO activity, the US Treasury Department in March 2011 convened

the Access to Capital Conference to gather insights from capital markets participants and to solicit recommendations for how to restore access to capital for emerging companies—especially small-cap public capital through the IPO market. As a result, the IPO Task Force was formed and constituted a cross-functional group that arose independently out of the Treasury Department's Access to Capital Conference in March 2011. The IPO Task Force's purpose was to examine the conditions leading to the IPO crisis and to provide recommendations for restoring effective access to the public markets for emerging, high-growth companies.

Table 9.2 provides evidence on the PIPE transaction specifics information drawn from a total of 361 PIPE-financed SRMs ordered by calendar year. Our goal is to offer details on the specifics of the main financing event that takes place in the period of 2005–2014 in the SRM industry. SRM companies offer public shares registered under the 1933 Act that can be acquired by any public investor immediately after filing. However, the transaction that constitutes the SRM does not, in general, contain a sale of stock to the public, but most often to a PIPE registered under the 1933 Act by the public shell. Counting on the values appearing in column (1) and comparing them with the values appearing in Panel A, we show that the percentage of PIPE-financed companies reaches its highest point in 2007 (the first complete year of data with the percentage reaching 51.9%; 94/181), then decreases to 34.4% in 2008 and dwindles to 13.1% in 2009, remaining at approximately the same levels for all following years.

These findings, combined with the figures shown in column (2), could be interpreted as if slightly larger firms go public following the SRM route in the later years of the sample, counting on alternative paths of financing (i.e., short-term debt financing by opening credit lines), avoiding the cost of raising PIPE financing. Due to the skewness that is evident in our PIPEs sample, henceforth, we count on median values (bottom row (p. 245) (p. 246) for each year, presented in parenthesis) for the description of our empirical findings. Judging by the median PIPE gross proceeds amounts, we find that capital amounts remain consistently in the range of $ 2.16 million to $ 5.62 million across all calendar years. Also, in column (4), we see that the median market capitalization at the SRM closing, when the PIPE financing concurrently takes places, never exceeds $46.66 million. This finding reinforces the argument posited by Sjostrom (2008) and Floros and Shastri (2009), namely that SRMs cannot be compared to regular IPOs, as this alternative going-public path has never been an option for these small-cap businesses. Further, we find that the discounts offered by SRM issuers to PIPE investors range at noticeably high levels (6%–49%), which are considerably higher than the PIPE discounts reported in the related, empirical academic literature (Huson, Malatesta, and Parrino, 2010, and Brophy, Ouimet, and Sialm, 2009). No median discount value is lower than 25%, with the only exception observed in the year 2013, whereby the median discount levels decrease to 6%. This finding could be associated to financial investor types—hedge fund companies—that are the predominant investor type active in financing SRM transactions. We defer the discussion on the level of discounts and their association to investor types to Tables 9.5 and 9.6. Finally, median agent cash fees lie consistently at the levels of 8% to 10%, which, in conjunction with the indirect cost of discounts offered, leads us to conclude that PIPE costs in the SRM financing space are noticeably high. Finally, the deal size as a percentage of the closing SRM market capitalization never exceeds 27%.

Table 9.2 SRM PIPE Deal Specifics by Year

Year	Numbers of Transactions (1)	Total PIPE Proceeds ($M) (2)	PIPE Amount ($M) (3)	Market Cap ($M) (4)	Stock Price (5)	Discount (6)	Agent Cash Fees Percent (7)	Deal Size Mark Cap (8)
2005	12	127.03	10.59 (8.16)	15.19 (8.74)	1.85 (1.70)	0.75 (0.75)		210% (77%)
2006	64	789.27	1.23 (5.62)	41.75 (15.28)	2.45 (1.50)	1.37 (0.51)		229% (27%)
2007	94	887.49	9.44 (6.03)	50.56 (29.55)	2.61 (1.70)	0.86 (0.67)		243% (20%)
2008	56	318.51	5.69 (3.49)	69.12 (36.77)	2.03 (1.68)	0.70 (0.60)		81% (10%)
2009	21	135.23	6.44 (3.69)	32.05 (22.54)	2.90 (0.55)	0.68 (0.57)	9% (8%)	52% (16%)
2010	40	294.45	7.36 (4.20)	73.61 (44.80)	3.33 (2.10)	0.87 (0.70)	8% (7%)	27% (12%)
2011	33	428.27	12.98 (2.20)	68.02 (46.66)	2.10 (1.55)	0.63 (0.71)	8% (8%)	351% (6%)
2012	19	4829.16	254.17 (2.16)	1,338.67 (33.57)	4.40 (1.13)	0.61 (0.52)	10% (10%)	55% (8%)
2013	22	237.38	10.79 (3.65)	40.13 (35.73)	1.47 (0.93)	1.04 (0.94)	9% (10%)	26% (22%)
2014	38	241.02	6.34 (2.03)	71.19 (2.64)	3.00 (1.47)	0.92 (0.60)	10% (10%)	23% (15%)

Notes: This table presents SRM PIPE deal specifics ordered by year of SRM PIPE closing. It counts on 361 private investments in public equity (PIPEs) that close concurrently with the closing of the SRM transaction. For every PIPE deal specific measure—apart from *Total PIPE Proceeds* variable—the mean (median) measure is presented on the top (bottom) row. The following variables are included: The number of transactions, the total gross proceeds amount denominated in million US dollars *Total PIPE Proceeds*, the mean (median) gross proceeds amount denominated in million US dollars *PIPE Amount*, the mean (median) market equity capitalization at PIPE closing denominated in million US dollars *Market Cap*, the stock price offered in the PIPE transaction for all newly issued equity or convertible debt *Stock Price*, the percentage difference between the offered price through the submitted definitive agreement and the price the date of the PIPE closing (the value of 1.00 indicates par value; all values below 1.00 indicate discounts and the ones higher than 1.00 indicate premia) *Discount*, the cash fees charged by PIPE placement agents always computed as a percentage of the PIPE gross proceeds amount *Agent Cash Fees Percent* and the percentage of the PIPE gross proceeds amount on the closing market capitalization *Deal Size Mark Cap*. For the *Stock Price*, the *Discount*, the *Agent Cash Fees Percent* and the *Deal Size Market Cap*, we do not have complete information. Specifically, for the *Stock Price* we draw our statistics from 338 observations, for the Discount from 327 observations, for the *Agent Cash Fees Percent* from only 50 available observations and for the *Deal Size Market Cap* from 333 observations, respectively.

We contrast the median values presented in Table 9.2 with the respective median values of PIPE specifics for the entire universe of PIPE transactions within the same time period. In untabulated results, we find that the median discount offered reaches 6.1%, being considerably lower than SRM PIPE discounts in most of the years, with the median gross proceeds amounting to higher levels and reaching $6 million, the agent cash fees being at 6%, which is lower than the intermediary's fees, and the market capitalization at closing reaching $52.1 million. On the other hand, the gross proceeds amount adjusted by the closing market capitalization reaches 12.8% and the stock price reaches $1.40. These latter values are along the lines of the statistics presented in our SRM PIPEs sample. Overall, we conjecture that the specifics of PIPE financing events within the context of SRMs are considerably different from the universe of PIPE transactions. These differences motivate the further exploration of the source of financing, as well as the contractual terms that are utilized in SRM PIPE financing events.

Table 9.3, Panel A, presents the mean and median SRM firm characteristics, whereas Panels B and C present a comparison of the financial characteristics of foreign and domestic SRMs and PIPE-financed and non-PIPE-financed SRMs, respectively. The summary stats are based on annual accounting data for the fiscal year prior to the year the firms go public. The specific variables examined include firm size (total assets), leverage (total leverage ratio), expenditures (capital expenditures to total assets and total expenditures to total assets), liquidity (working capital to total assets, current assets to current liabilities), profitability (ROA, EBITDA over total assets) and growth/production maturity (sales over total assets). As stated earlier, we scale variables by assets. Mean (median) values for each of these variables are always presented in the upper (lower) (p. 247) (p. 248) (p. 249) (p. 250) row, with mean t-test statistics and associated p-values as well as Wilcoxon two-sample median z-test statistics and associated p-values shown in panels B and C, column (3).

Table 9.3 SRM Firm Characteristics by Country of Origin and by Financing

Panel A: All SRMs—Firm Characteristics

Variable Name	**All SRMs (1)**
Total Assets ($M)	8.85 (0.97)
Sales Ratio	1.476 (0.49)
Working Capital Pct ($M)	–0.824 (–0.047)
ROA	–175.45 (–0.27)
Leverage Ratio	233 (0.91)
Current Ratio	9.2 (0.65)
EBITDA Ratio	–146.71 (–0.92)
CAPEX Ratio	0.085 (0.06)

Panel B: Foreign SRMs versus Non-Foreign SRMs—Firm Characteristics

Variable Name	**Foreign SRMs**	**Domestic**	**Difference test statistic (p-value)**

	(1)	**SRMs (2)**	**(3)**
Total Assets ($M)	20.70 (8.55)	3.80 (0.53)	0.71 (0.4758) 14.64 (<.0001)
Sales Ratio	1.52 (0.63)	1.46 (0.44)	–0.28 (0.7774) 4.81 (<0.001)
Working Capital Pct	–250 (–0.01)	–99.00 (–0.38)	–0.86 (0.3879) 9.17 (<.0001)
ROA	–246.00 (0.11)	–145.00 (–0.75)	–0.50 (0.6183) 15.97(<.0001)
Leverage Ratio	251.00 (0.58)	102.00 (0.90)	1.11 (0.2686) –10.12 (<.0001)
Current Ratio	4.60 (1.60)	10.80 (0.48)	–1.43 (0.1534) 9.54 (<.0001)
EBITDA Ratio	–8.15 (–0.12)	–137.00 (–0.59)	–0.93 (0.3502) 15.68(<.0001)
CAPEX Ratio	0.07 (0.01)	0.09 (0.004)	1.38 (0.1676) –3.69 (0.0001)

Panel C: PIPE-financed SRMs versus Non-PIPE-Financed SRMs—Firm Characteristics

Variable	**PIPE-Financed SRMs (1)**	**Non-PIPE Financed SRMs (2)**	**Difference test statistic (p-value) (3)**
Total Assets ($M)	9.79 (1.46)	8.44 (0.82)	–0.77 (0.443) 3.86(<0.0001)
Sales Ratio	1.63 (0.55)	1.40 (0.50)	1.30 (0.1950) 1.42 (0.0775)
Working Capital	–107.06 (–0.12)	–161.71 (–0.14)	1.45 (0.1477) –0.3280 (0.3714)
ROA	–107.34 (–0.19)	–206.00 (–0.32)	–0.83 (0.4057) 2.1057 (0.0176)
Leverage Ratio	110.97 (0.85)	163.00 (0.94)	–0.70 (0.4846) –0.9327(0.1755)
Current Ratio	28.00 (0.92)	2.08 (0.55)	0.80 (0.4232) 2.08 (0.0187)
EBITDA Ratio	–104.00 (–0.16)	–95.80 (–0.26)	– 0.53 (0.59) 1.8483 (0.0323)
CAPEX Ratio	0.09 (0.01)	0.09 (0.005)	–0.10 (0.9193)

			1.62 (0.0526)

Notes: This table presents annual financial characteristics for SRM firms (Panel A) and also compares them for various subsamples (Panel B and Panel C). Across all three panels we benefit from the same set of financial characteristics. Our sample spans from November 7, 2005, to December 31, 2014, and includes all completed 1,411 SRMs in the United States. All financial characteristics (apart from the firm age) are drawn as of the fiscal year prior to the completion of each PIPE transaction. *Total Assets* is the sum of current and fixed assets; *Sales Ratio* is sales divided by total assets; *Working Capital Pct* is current assets minus current liabilities divided by total assets; *ROA* is net income divided by total assets; *Leverage Ratio* is total debt (current leverage and long-term leverage net of any current debt portion) divided by total assets; *Current Ratio* is current assets divided by current liabilities; *EBITDA Ratio* is the operating income divided by total assets; *CAPEX Ratio* is capital expenditures divided by total assets. Every mean (median) measure is presented on the top (bottom) row and all ratios are presented in decimals. Panel B reports the comparison of firm characteristics between the foreign SRMs and domestic SRMs. Panel C provides the firm characteristics between PIPE-financed transactions and non-PIPE-financed SRMs. In Panels B and C, the last column presents the Satterthwaite t-statistics (top row) and Wilcoxon z-statistics (with p-values in parentheses, bottom row) for difference in mean and median tests. All firm characteristics are winsorized at the 1% and 99% level.

Overall, in Panel A, we find that SRM firms are young, small companies, at the early stage of their life span,[14] loss-generating, illiquid, and levered-up. Specifically, counting on median values, we note that SRMs exhibit total assets lower than $1 million the year prior to consummating the SRM transaction, with their sales ratio revealing that they are still growing (49%) and their profitability (ROA –27%, EBITDA ratio –92%), making it clear that they are still far from being able to enlist on a main US stock exchange (e.g., NYSE).

In Panel B, we compare foreign SRMs with domestic SRMs (we classify SRMs based on the country of origin of the PIPE issuer) and counting on the reported median values, we find that foreign SRMs are significantly larger (total assets: $1.46 million vs. $0.8 million), more developed (sales ratio: 0.55 vs. 0.50), generate lower losses (ROA: –0.19 vs. –0.32 and EBITDA ratio: –0.16 vs. –0.26), less levered (leverage ratio: 0.85 vs. 0.94), with higher liquidity (current ratio: 1.60 vs. 0.48) and higher capital expenditures (0.01 vs. 0.004). The foreign SRMs' financial condition, depicted in Panel B, corroborates the findings in the related literature (Lee, Li, and Zhang, 2015), positing that Chinese SRMs that have created bad hype back in 2012—with the alleged auditing scandals—are not necessarily the "lemons" of the entire SRMs universe. We note that our foreign SRMs do not solely consist of Chinese SRMs, but still constitute the most frequently encountered origin country in our foreign SRM sample. Specifically, we find that 77.2% of our foreign SRM sample consists of Chinese SRMs. Further, in Panel C, we compare the financial characteristics of PIPE-financed and non-PIPE financed SRMs. Our median values reveal that PIPE-financed SRMs are significantly larger (total assets: $1.46 million vs. $0.82 million), generate lower losses (ROA: –0.19 vs. –0.32, and EBITDA ratio: –0.16 vs. –0.26), exhibit higher capital expenditures (0.01 vs. 0.005) and lower liquidity (current ratio: 0.92 vs. 0.55) when compared to non-PIPE-financed SRMs. We disclose, as a disclaimer, that in this median test we lose power of the test, because of the reduced number of observations (less than 26% of the overall sample is associated with PIPE-financing).

From Table 9.4 onward, we present our analysis ordered by the SRMs' later listing status. Table 9.4, Panel A, presents the financial characteristics comparison between Upgraded Firms versus Ever OTC Market or Downgraded Firms. Similar to Table 9.3, mean (median) values for each of these variables are always presented in the upper (lower) row, with mean t-test statistics and associated p-values, as well as Wilcoxon two-sample median z-test statistics and associated p-values shown in column (3). All mean and median values are still drawn as of the fiscal year preceding the SRM transaction. Our sample sizes in this table refer to 435 Upgraded Firms, 809 Ever OTC Market Traded Firms, and 167 Downgraded Firms. Counting on median values, we find that later upgraded SRMs are less profitable (ROA: –0.51 vs. –0.23, and EBIDTA ratio: –0.43 vs. –0.17), and more liquid (current ratio: 0.62 vs. 0.33).

In Panel B, counting on median values, we turn the comparison between Upgraded Firms and Downgraded Firms. We show that in the year prior to the SRM (p. 251) consummation, later upgraded issuers are smaller (total assets: $1.02 million vs. $3.15 million), less liquid (current ratio: 0.62 vs. 0.69) and exhibit higher loss generation (ROA: –0.51 vs –0.07 and EBITDA ratio: –0.43 vs –0.04). We posit that public information (financials) does not provide a clean signal to public investors in the year preceding the SRM closing year as to the propensity of getting upgraded to main US stock exchanges.

In Panels C and D, we present the shell companies' characteristics for Upgraded Firms versus Ever OTC Market Traded Firms. We find that the shell companies that are engaged in later upgraded SRMs are more frequently incorporated in the most corporate-friendly states of Delaware and Nevada (when compared to later downgraded SRMs or still OTC market quoted SRMs), which may indicate that private companies with the intention of later getting upgraded have planned corporate control actions in order to quickly acquire a greater market share and build the size needed in order to meet the listing criteria for major US stock exchanges within a short time frame after consummating the SRM transaction. In addition, we show that the

majority of the shell companies of the later upgraded SRMs are incorporated during the time period of 1994–2008, but 22.7% are incorporated in the last five years of our sample, 2008–2014. This percentage is the highest across all SRM samples.

In Table 9.5, we present the mean and median values (top and bottom rows, respectively) of the gross proceeds amounts adjusted by closing market capitalization and the discounts offered in PIPE transactions. We also present the percentage of PIPE transactions that offer plain common stock and do not have any convertible feature embedded in the security type offered. On Panel A, we present PIPE specifics ordered by whether SRMs became Upgraded Firms, Downgraded Firms, or Ever OTC Market Traded Firms. On Panel B, we build our analysis on Panel A and present the respective statistics ordered both by listing status as well as the PIPE transaction number. We cut off the analysis for each of the SRM groups at the fourth transaction, as the number of observations dwindles to fewer than 20 transactions in each of the SRM groups when we navigate through later PIPE transactions.

In Table 9.5, Panel C, we focus on Upgraded Firms and compare PIPE specifics mean (median) values for the first PIPE transaction that was conducted while the SRM was still traded on the OTC market and the last PIPE transaction that—we confirm—was conducted on one of the main US stock exchanges. We find this analysis revealing of how PIPE specifics may alter according to whether the issuer is still traded on the OTC market, is characterized by information asymmetry and exhibits lower disclosure, or whether the issuer was successful getting upgraded and revealed more information about its projects and use of proceeds to public and private investors.

In Tables 9.5, 9.6 and 9.7, we present the pricing, source of financing, and associated contractual terms in SRM PIPE deals. Specifically, on Table 9.5, Panel A, we find that discounts offered in Upgraded Firms are lower when compared to the other two SRM groups. In untabulated results, we compare the statistical significance in the difference of the discounts of SRMs that got later upgraded and find that both mean (median) values are statistically significantly different at the 1% level. In contrast, we do not (p. 252) (p. 253) (p. 254) (p. 255) (p. 256) (p. 257) (p. 258) (p. 259) (p. 260) find any difference in the mean (median) values of (a) total gross proceeds amounts offered, (b) gross proceeds amounts adjusted by market capitalization, and (c) the percentage of common stock offered PIPE transactions. When we turn to Panel B statistics and also order the PIPE specifics by the PIPE transaction number, again we find statistical significance in the differences only of discount levels, whereas gross proceeds amounts and gross proceeds amounts adjusted by the closing market capitalization are indifferent across PIPE transaction numbers. In contrast, discount levels significantly decrease across PIPE transaction numbers and in an untabulated comparison of median discount values, we find that the discounts are significantly lower for Upgraded Firms when compared to the other two groups of SRMs. We posit that private investors learn more about the PIPE issuer type, especially in Upgraded Firms, as these firms gradually converge to the disclosure standards of main US stock exchanges' traded firms and hence request lower price discounts when purchasing new PIPE offered stock. We further analyze PIPE pricing on Upgraded Firms and compare their first and last PIPE transactions' discounts. We first confirm that the last PIPE transaction was conducted when the company was already upgraded to higher visibility, greater transparency markets, and we report the significant decrease in the median discount levels requested. This is a manifestation of the negative correlation between disclosure levels and the cost of raising equity. We claim that our findings shed light on the way pricing levels adjust to listing status changes.

Table 9.4 SRM Financial Characteristics and Shell Firms' Specifics by SRMs Later Listing Status

Panel A: Former Private Firms' Characteristics for Later Upgraded Firms and Non-Upgraded (Still OTC Market Quoted) Firms

Variable Name	Upgraded Firms (1)	Ever OTC Market Traded Firms (2)	Difference Test Statistic (p-value) (3)
Total Assets ($M)	8.58 (1.02)	8.32 (0.77)	0.15 (0.8800) 0.97 (0.3306)
Sales Ratio	1.43 (0.32)	39.27 (0.54)	1.05 (0.2900) 0.81 (0.2090)
Working Capital Pct	–57.41 (–0.17)	–362.40 (–0.13)	–0.43 (0.6690)–3.91(<.0001)
ROA	–173.80 (–0.51)	–386.10 (–0.23)	0.52 (0.6036) 3.92 (<.0001)
Leverage Ratio	58.50 (0.99)	365.50 (0.93)	0.43 (0.6648) 3.29 (0.9995)
Current Ratio	21.87 (0.62)	2.85 (0.33)	–1.01 (0.3157)–3.13 (0.0009)
EBITDA Ratio	–173.80 (–0.43)	–233.40 (–0.17)	0.71 (0.4813) 3.57 (0.0002)

CAPEX Ratio	0.08 (0.00)	0.08 (0.01)	0.21 (0.8361) 2.94 (0.0016)

Panel B: Former Private Firms' Characteristics for Upgraded Firms and Downgraded Firms

Variable Name	**Upgraded Firms (1)**	**Downgraded Firms (2)**	**Difference Test Statistic (p−value) (3)**
Total Assets ($M)	8.58 (1.02)	12.24 (3.15)	–1.49 (0.1373)–3.47 (0.0005)
Sales Ratio	1.43 (0.32)	1.45 (0.75)	1.05 (0.2900) 0.81 (0.2090)
Working Capital Pct	–57.41 (–0.17)	–77.50 (–0.02)	–0.43 (0.6690)–3.91(<.0001)
ROA	–173.80 (–0.51)	–26.00 (–0.07)	0.52 (0.6036) 3.92 (<.0001)
Leverage Ratio	58.50 (0.99)	78.80 (0.70)	0.43 (0.6648) 3.29 (0.9995)
Current Ratio	21.87 (0.62)	1.34 (0.66)	–1.01 (0.3157)–3.13 (0.0009)
EBITDA Ratio	–173.80 (–0.43)	–25.67 (–0.04)	0.71 (0.4813) 3.57 (0.0002)
CAPEX Ratio	0.08 (0.00)	0.10 (0.00)	0.21 (0.8361) 2.94 (0.0016)

Panel C: Shell Firms' State of Incorporation

Shell State	**Upgraded Firms (1)**		**Ever OTC Market Traded Firms (2)**		**Downgraded Firms (3)**	
Delaware	109	25%	231	27%	42	24.9%
Nevada	256	59%	462	54.5%	83	49.1%
Florida	21	5%	43	5%	9	5.3%
Colorado	12	2.7%	29	3.4%	11	6.5%
Others	33	7.5%	53	6.25%	16	9.5%
Unknown	5	1.2%	29	3.4%	8	4.7%
Total	436	100%	847	100%	169	100%

Panel D: Shell Firms' Year of Incorporation (Inception)

Incorporation Date of Shell	**Upgraded Firms (1)**		**Ever OTC Market Traded Firms (2)**		**Downgraded Firms (3)**	
Before 1989	34	7.8%	65	7.7%	21	12.4%
1989–1993	15	3.4%	17	2%	6	3.5%
1994–1998	40	9.1%	60	7%	21	12.4%
1999–2003	62	14.2%	112	13.2%	28	16.5%

2004–2008	173	40%	414	49%	81	48.0%
2009–2014	99	22.7%	141	16.4%	2	1.2%
Unknown	13	3%	38	4%	10	6.0%
Total	436	100%	847	100%	169	100%

Notes: This table compares information on financial characteristics and shell features between the SRMs that get upgraded to main US stock exchanges and the ones that either remain being quoted on the OTC market or even get downgraded. Panels A (B) compare mean and median financials values for the Upgraded versus Non-Upgraded (still OTC Market quoted) and versus (Downgraded) firms. *Total Assets* is the sum of current and fixed assets; *Sales Ratio* is sales divided by total assets; *Working Capital Pct* is current assets minus current liabilities divided by total assets; *ROA* is net income divided by total assets; *Leverage Ratio* is total debt (current leverage and long-term leverage net of any current debt portion) divided by total assets; *Current Ratio* is current assets divided by current liabilities; *EBITDA Ratio* is the operating income divided by total assets; *CAPEX Ratio* is capital expenditures divided by total assets; *Expenditures Ratio* is the sum of capital expenditures and research and development expenditures divided by total assets. Every mean (median) measure is presented on the top (bottom) row, and all ratios are presented in decimals. In Panels A and B, the last column presents the Satterthwaite t-statistics (top row) and Wilcoxon z-statistics (with p-values in parentheses, bottom row) for difference in mean and median tests. Panel C provides the states' distribution for the shell companies participating in SRM transactions. Both absolute frequencies and associated percentages are reported. Panel D reports the frequency of shell firms that are incorporated in any of the tabulated five-year windows. Across all panels, statistics are separated by whether the SRM firm got upgraded from pink/OTC markets to one of the main US stock exchanges or remained being quoted on the OTC market or got downgraded.

Table 9.5 SRM PIPE Financing Specifics by the PIPE Transaction Number

Panel A: SRM PIPE Financing Characteristics Ignoring the PIPE Transaction Number

SRM Group	**Frequency (1)**	**Security Type (Common stock %) (2)**	**Gross Proceeds ($ M) (2)**	**Gross Proceeds Adjusted by Market Cap (3)**	**Discount (%) (4)**
Upgraded Firms	605	58.35	11.91 (5.00)	0.31 (0.11)	–9.00 (12.00)
Downgraded Firms	66	53.03	16.75 (3.26)	0.29 (0.09)	24.00 (19.00)
Ever OTC Market Traded Firms	393	45.04	7.46 (3.12)	2.27 (0.12)	0.00 (19.00)

Panel B: SRM PIPE Financing Characteristics by PIPE Transaction Number

Time of PIPE Financing	**Number of PIPE Transaction (1)**	**Frequency (2)**	**Gross Proceeds ($ M) (4)**	**Gross Proceeds Adjusted by Market Cap (5)**	**Discount (%) (6)**
Upgraded Firms	1	213	9.89 (5.00)	0.37 (0.13)	10.73 (18.60)
	2	130	9.26 (4.00)	0.19 (0.11)	10.78

					(12.50)
	3	92	10.98 (5.67)	0.25 (0.10)	5.04 (9.75)
	4	64	16.51 (5.80)	0.37 (0.14)	–5.9 (4.95)
Downgraded Firms	1	36	23.46 (3.00)	0.37 (0.10)	27.63 (22.50)
	2	17	10.13 (3.42)	0.25 (0.06)	22.47 (28.40)
	3	8	8.72 (9.04)	0.12 (0.10)	22.47 (28.95)
	4	5	3.83 (2.50)	0.19 (0.09)	5.04 (7.00)
Ever OTC Market Traded Firms	1	214	7.48 (3.16)	1.58 (0.11)	18.04 (21.60)
	2	88	7.02 (3.00)	5.52 (0.12)	10.83 (14.80)
	3	40	10.36 (3.22)	1.03 (0.15)	–15.09 (12.95)
	4	24	4.83 (2.76)	0.44 (0.16)	–5.41 (10.15)

Panel C: Comparison of SRM PIPE Financing Characteristics (Within Upgraded Firms)

Time of PIPE Financing	**Frequency (1)**	**Gross Proceeds ($ M) (2)**	**Gross Proceeds Adjusted by Market Cap (3)**	**Discount (%) (4)**
First PIPE transaction	131	10.00** (5.10)	0.25 (0.12**)	19.00 (19.00***)
Last PIPE transaction	131	16.16 (5.00)	0.46 (0.14)	–23.00 (5.00)

Notes: This table compares the characteristics of PIPE financings after the closing of PIPE transactions. Statistics are presented according to whether the PIPE financing was conducted by (a) PIPE issuer that was later upgraded to a national stock exchange, (b) PIPE issuer that was later downgraded to a national stock exchange, or (c) PIPE issuer that is still quoted on the OTC markets. Panel A reports all mean and median values ignoring the PIPE transaction number, whereas Panel B orders mean and median values by the PIPE transaction number; the mean (median) measure is presented on the top (bottom) row. The following variables are included in both Panels A and B: The number of transactions, the mean (median) *gross proceeds* amount (in $ M), *gross proceeds amount adjusted by market capitalization at closing*, market equity capitalization at PIPE closing denominated in million US dollars, *Market Cap, discount* the percentage difference between the offered price through the submitted definitive agreement and the price the date of the PIPE closing (the value of 1.00 indicates par value; all positive values indicate discounts and negative ones premia). We also report security type as the percentage of plain common stock occurrence across all security types offered. Panel C compares mean (median) values of each PIPE characteristic (gross proceeds, gross proceeds adjusted by market capitalization at closing and

discounts), counting only on SRMs that later on get upgraded. We compare the first with the last PIPE transaction across all SRMs that later get upgraded and make sure that the last PIPE transaction takes place after the upgrade date. *, **, *** indicate that mean or median values, respectively, are significantly different at the 1%, 5%, or 10% confidence level, respectively.

Table 9.6 SRM PIPE Financing Characteristics by Investor Type

Panel A: SRM PIPE Financing Characteristics by Investor type

SRM Group	Investor Type (1)	Market Share (%) (2)	Purchased Amount Adjusted by Gross Proceeds Amount (3)	Discount (4)	Sum Purchased Amount ($M) (5)
Upgraded Firms	Hedge funds	51.78	0.18 (0.05)	16.80 (21.90)	1,290.69
	Individual investors	7.60	0.32 (0.21)	20.39 (24.85)	189.34
	Private equity firms	7.46	0.37 (0.11)	19.66 (22.20)	185.86
	Corporations	6.60	0.37 (0.05)	18.15 (19.40)	164.29
	Venture capital firms	4.37	0.26 (0.03)	14.00 (12.15)	108.90
Downgraded Firms	Hedge funds	72.07	0.22 (0.08)	38.15 (21.30)	214.04
	Banks	8.33	0.35 (0.14)	16.90 (16.90)	24.75
	Pension funds	4.59	0.16 (0.06)	19.01 (20.00)	13.65
	Foreign Investment houses	2.12	0.12 (0.12)	16.85 (16.85)	6.30
	Miscellaneous	1.66	0.08 (0.02)	30.72 (21.20)	4.94
Ever OTC Market Traded Firms	Hedge funds	53.62	0.38 (0.10)	2.10 (22.10)	795.71
	Venture capital firms	10.81	0.52 (0.51)	21.80 (16.20)	160.40
	Private equity	8.77	0.34 (0.08)	5.55	130.22

	firms			(30.00)	
	Individual investors	4.53	0.41 (0.32)	29.27 (40.15)	67.26
	Mutual funds	3.46	0.25 (0.10)	16.16 (3.60)	51.34

Panel B: SRM PIPE Financing Characteristics by Leading Investor type

SRM Group	**Leading Investor Type (1)**	**Market Share (%) (2)**	**Purchased Amount Adjusted by Gross Proceeds Amount (3)**	**Discount (4)**	**Sum Purchased Amount ($M) (5)**
Upgraded Firms	Hedge funds	50.10	0.74 (1.00)	5.94 (6.00)	444.50
	Private equity firms	11.03	0.84 (1.00)	20.39 (23.95)	97.85
	Individual investors	10.88	0.55 (0.50)	32.83 (33.30)	96.57
	Banks	9.69	0.86 (1.00)	–13.32 (1.30)	86.00
	Venture capital firms	4.60	0.98 (1.00)	20.00 (26.45)	40.84
Downgraded Firms	Hedge funds	73.81	0.73 (1.00)	26.44 (15.40)	118.41
	Banks	14.96	0.80 (1.00)	12.50 (12.50)	24.00
	Individual investors	5.95	0.49 (0.53)	15.50 (20.00)	9.55
	Broker/dealers	1.56	1.00 (1.00)	58.30 (58.30)	2.50
	Corporations	1.09	1.00 (1.00)	13.00 (13.00)	1.40
Ever OTC Market Traded Firms	Hedge funds	62.58	0.86 (1.00)	14.02 (11.80)	471.42
	Venture capital firms	12.29	0.91 (1.00)	9.16 (7.00)	92.60
	Individual investors	5.02	0.86 (1.00)	16.18 (11.80)	37.84

	Corporations	3.23	0.54 (0.53)	20.52 (8.05)	24.33
	Mutual funds	3.19	0.48 (0.48)	3.60 (3.60)	24

Notes: This table reports the characteristics of PIPE financing by investor type (Panel A) or leading investor type (Panel B). Leading investor types are identified as the types with the highest purchased amount across all participating investor types. Statistics are presented according to whether the PIPE financing was conducted by (a) PIPE issuer that was later upgraded to a national stock exchange, (b) PIPE issuer that was later downgraded to a national stock exchange, or (c) PIPE issuer that is still quoted on the OTC markets. The following variables are included in both Panels A and B: For the *purchased amount adjusted by gross proceeds* and *discount*, that is the percentage difference between the offered price through the submitted definitive agreement and the price on the date of the PIPE closing (the value of 1.00 indicates par value; all positive values indicate discounts and negative ones premia); we include mean values (top row) and median values (bottom row). We also report the total purchased amount by each investor type (or leading investor type). All entries are entered in descending market share order, which is reported as a fraction of the specific investor types purchased amount on the total purchased amount across all investor types.

Table 9.7 SRM PIPE Financing Contractual Terms

Panel A: SRM PIPE Contracting Terms Ignoring the PIPE Transaction Number and Leading Investor Type

SRM Group	Frequency (1)	Board Dummy (2)	Voting Rights Dummy (3)	Pre-registered Stock Dummy (4)	Soft and Hard Floor Dummy (5)	Investor Redemption Dummy (6)	Investor Purchase Dummy (7)	Price Reset Dummy (8)	Liquidation Dummy (9)
Upgraded Firms	594	7.24	6.90	14.65	8.58	17.51	17.85	3.20	2.02
Downgraded Firms	64	9.38	14.06	9.38	6.25	34.38	36.01	7.81	1.56
Ever OTC Market Traded Firms	383	9.66	10.97	4.96	11.49	32.98	20.63	7.57	0.78

Panel B: SRM PIPE Contracting Terms by PIPE Transaction Number

SRM Group	Frequency (Number of PIPE transaction) (1)	Board Dummy (2)	Voting Rights Dummy (3)	Pre-registered Stock Dummy (4)	Soft and Hard Floor Dummy (5)	Investor Redemption Dummy (6)	Investor Purchase Dummy (7)	Price Reset Dummy (8)	Liquidation Dummy (9)
Upgraded Firms	228 (1)	15.8	13.6	3.9	8.3	26.8	24.1	3.9	2.2

	130 (2)	9.2	6.9	3.1	9.2	17.7	22.3	3.1	0.7
Downgraded Firms	36 (1)	13.9	13.9	5.6	8.3	38.9	38.9	5.6	2.8
	20 (2)	0.0	15.0	10.0	5.0	50.0	40.0	2.2	0.0
Ever OTC Market Traded Firms	245 (1)	20.0	8.2	4.5	24.1	39.6	27.4	8.2	0.8
	138 (2)	44.2	9.4	2.9	9.4	61.6	52.9	9.4	0.7

Panel C: SRM PIPE Contracting Terms by Leading Investor Type (only hedge funds presented)

SRM Group	**Frequency (1)**	**Board Dummy (2)**	**Voting Rights Dummy (3)**	**Pre-registered Stock Dummy (4)**	**Soft and Hard Floor Dummy (5)**	**Investor Redemption Dummy (6)**	**Investor Purchase Dummy (7)**	**Price Reset Dummy (8)**	**Liquidation Dummy (9)**
Upgraded Firms	57	12.3	7.0	10.5	24.6	38.6	36.8	7.0	1.8
Downgraded Firms	15	6.7	6.7	0.0	13.3	46.7	80.0	6.7	0.0
Ever OTC Market Traded Firms	77	6.5	15.6	1.3	20.8	42.9	28.6	7.8	2.6

Notes: This table reports the frequency of certain contractual terms of PIPE financing. Across all panels the statistics are ordered according to whether the PIPE transaction was conducted by (a) PIPE issuer that was later upgraded to a national stock exchange, (b) PIPE issuer that was later downgraded to a national stock exchange, or (c) PIPE issuer that is still quoted on the OTC markets. Panel A reports the overall PIPE contractual term statistics for each of the three samples. Panel B reports the statistics on PIPE contractual terms ordered by the PIPE transaction number. Panel C shows the statistics of PIPE contractual terms ordered by the PIPE leading investor type (due to low numbers, the statistics only for the hedge funds are reported). From the universe of available contractual terms, the following ones are presented across all panels: *Board Seats* requests (the PIPE investor retains its Board representation rights and will have the right to designate at least one representative to attend meetings of PIPE issuer's Board of Directors, usually in a non-voting observer capacity); *Voting Rights* requests (the PIPE investor asks for additional voting rights for each of the new stock granted through the PIPE transaction); *Pre-registered Stock* (Private Investments in Public Equity that involve the issuance of pre-registered equity and equity-linked securities (e.g., shelf sale) by a PIPE issuer to a limited number of accredited investors); *Soft and Hard Floors* (Minimum purchase/conversion price, which may remain in force throughout the life of the investment and may not be subject to certain conditions or adjustments [upward/downward] and may not provide PIPE investors with a remedy to be "made whole" in the event the market price of the Issuer's Common Stock falls below the hard floor price. It is only available for variable-priced placements); *Investor Redemption* rights (PIPE investors' right, under certain specified conditions, to force the PIPE issuer to redeem all or a portion of the securities originally purchased by PIPE investors); *Investor Purchase* rights (PIPE investors' right to participate in any future issuances of securities by the PIPE issuer after the closing of an equity private placement. Investor purchase rights may apply to future issuances of various types of securities or may be limited to securities, which are similar to the securities originally purchased by PIPE investors. Investor purchase rights are typically applicable for defined time periods); *Price Resets* (Purchase price of the common stock or the conversion price of a convertible security set either (i) at closing or (ii) on a specified date after closing and is subject to adjustment downward (or upward), based on various criteria including fundamental performance, a specified event, or the stock price of the issuer at a given point in time after closing); and *Liquidation* requests (PIPE investors' ask for certain rights and preferential treatment in the event the PIPE issuer files for a liquidation).

investors' ask for certain rights and preferential treatment in the event the PIPE issuer files for a liquidation).

In Table 9.6, we delve further into the SRM PIPE deals and analyze the investor types that are active and provide financing to SRM PIPE issuers. On Panel A, we lump all purchased amounts together by each of the investor types and, consistently with Table 9.5, we order our statistics by whether the SRM belongs to Upgraded Firms, Downgraded Firms, or Ever OTC Market Traded Firms. The difference between Panels A and B lies in the fact that in Panel A we incorporate all purchased amounts by any of the investor types active in the SRM PIPE deals, whereas in Panel B we provide statistics solely for the leading investor types. We define the leading investor types as the ones that invest the highest amount for a particular PIPE transaction. If one PIPE transaction contains more than one company name classified as the same investor types, we sum up their purchased amounts to get the total amount contributed by each investor type. We report the market share acquired by each investor type, the mean and median values (top and bottom rows, respectively) of the purchased amount on the total gross proceeds amount offered by each investor type, and the level of discount. Finally, we also sum up the US dollar contribution by each investor type in each of the three SRM groups. We report the top five investor types, as the number of observations dwindles for the later ones and therefore provides insufficient observations for us to draw any safe conclusions.

In Panel A, we find that across all SRM groups, hedge funds are clearly the dominant investors. In untabulated results, we compare the statistical significance in the difference of the market share percentages and find that Downgraded Firms are clearly the group with the highest participation of hedge funds. Further, following Billett, Elkamhi, and Floros (2015), as well as Anderson and Dai (2010), in classifying investor types into strategic and arms' length ones, we argue that Upgraded Firms utilize primarily strategic investors as their source of financing—aside from the individual investors, all others (p. 261) are considered to be long-term (strategic) investors. The composition of investor types that are active in financing Downgraded Firms is clearly different. All top five investor types should be classified as arms' length investors. We posit that investors are exposed to significant information with regard to forthcoming SRM projects, and the participation of strategic investors could be a signal of success and longevity in the projects and investments undertaken by SRM firms. We also note that, on Panel A, when controlling for the investor type, discount levels are not significantly different across SRM groups, with the exception of private equity firms that request higher discounts when financing SRM firms that get upgraded.

When we turn to Panel B and PIPE specifics associated with leading investor types, we notice that pricing requested by the same leading investor type does not remain consistent across SRM groups. Specifically, when we focus on the hedge funds acting as leading investors, we report the lowest discounts when they finance Upgraded Firms. In untabulated results, we verify the significance in the discount differences across the three SRM groups. Significant differences in the pricing levels requested are also encountered for other investor types (e.g., venture capital firms, corporations). Counting on our Table 9.6 findings, we infer that private investors are exposed to important information prior to consummating a PIPE transaction, and they are able to distinguish PIPE issuers of Upgraded Firms from the ones of Downgraded Firms or Ever OTC Market Traded Firms.

In order to complete the picture of financing agreements pertaining to SRMs, we provide information on the contractual terms that are embedded in PIPE agreements. Following, Billett, Elkamhi, and Floros (2015), we recognize the presence of 19 distinct contractual terms, with 10 of them classified as clearly control or cash flow (or liquidity enhancing) terms. On Table 9.7, we present the participation intensity of each of these contractual terms. When presenting our findings, we follow the same structure as in Tables 9.5 and 9.6; namely, we order our findings by SRM later listing status, the PIPE transaction number, and the leading investor type (due to lack of sufficient number of observations, we only count on hedge fund leading investors), respectively. We note that the percentages of occurrence presented cannot really be added up as overlapping observations among control terms and cash flow terms, respectively, are quite frequent.

In Panel A, we find that investor redemption and investor purchase rights are uniformly the contractual terms that most frequently appear on PIPE contracts. In untabulated results, we find that both of them are significantly less frequently encountered in Upgraded Firms. On the contrary, pre-registered stock is requested most frequently in Upgraded Firms. Probably, the assumed higher liquidity of these stocks motivates leading investor types—hedge fund investors—to ask for pre-registered stock, so that they are able to immediately resell their PIPE-granted stock to public investors. The differences reported in any of the other contractual terms are not significant across the three SRM groups.

In Panel B, we separate the frequency of appearances of each contractual term by PIPE transaction number, and due to lack of sufficient data we present statistics up to the second PIPE transaction. Overall, we find that SRMs that are quoted for longer time windows on the OTC market exhibit a higher occurrence of control terms in later PIPE (p. 262) transactions, probably because strategic investors foresee a sequence of more PIPE transactions still remaining (PIPEs constitute the predominant means of financing on the OTC market). Also, we report a significant increase in investor purchase and redemption rights only for the SRMs that get downgraded, or the ones that prolong their quoting on the OTC market. These private investors may be able to accurately compute heightened risk and attempt to protect themselves by requesting certain cash flow terms that distinguish them from the rest of the investors.

In Panel C, we find that leading hedge fund investors do not negotiate terms uniformly across all PIPE transactions. We show that hedge funds become activists in SRMs that get upgraded by requesting control terms and negotiate less frequently preferential purchase rights. The only other contractual term that exhibits significant difference in its occurrence is the request for pre-registered stock that is significantly higher for Upgraded Firms. We infer that as the liquidity of Upgraded Firms increases when the PIPE issuer nears its upgrade date, PIPE investors would like to secure capital gains, benefiting from their requested discounts, and as a result they request the newly granted stock to be pre-registered. We find this result interesting, as it reveals that hedge funds request more frequently certain control and cash flow terms.[15] Summarizing the SRM financing-related results, we conclude that Upgraded Firms most exhibit a higher likelihood of a liquidity event (upgrade to a more visible trading platform) taking place, and this results in attracting more frequent financing from strategic investors at—on average—lower cost of equity. The information Upgraded Firms privately share at the outset convinces private investors of a smoother, faster, and more lucrative exit.

In Table 9.8, we switch to the analysis of disclosure levels for our SRM groups. On both Panels A and B, we focus on Upgraded Firms and Downgraded Firms, respectively, and compare their disclosure behavior. On Panel A, we do not adjust for the years in operation of the SRM firm, which we control for on Panel B. For our discussion on the disclosure comparison, we mainly count on median values, as once more distributions reveal noticeable skewness (we still report both). As disclosure is voluntary while quoted on the OTC market, and then either becomes uniform and obligatory on the main US stock exchanges or entirely seizes when getting downgraded, we draw our disclosure data prior to any change in the SRM's listing status. Our disclosure analysis is separated into the annual (10-Ks and 10-KSBs), the quarterly (10-Qs and 10-QSBs), and the main corporate event-related (8-Ks) documents that are voluntarily submitted to the SEC. We sum up each of these disclosure metrics by whether they are exhibited by Upgraded Firms or Downgraded Firms.

We find that both annual and corporate event-related documents (median values) are more frequent for Upgraded Firms (3.00 vs. 2.00 and 19.00 vs. 10.00, respectively), and these results remain qualitatively the same even after adjusting for the operating life of the SRM firm (0.62 vs. 0.20 and 3.98 vs. 1.05, respectively). A word of caution is in order, as these findings do not necessarily infer causality. They could be well expected, as the SRMs that get upgraded may more frequently undertake new investment activities and may feel the need to inform their investor base more frequently. This means that the greater transparency initiated by Upgraded Firms is not necessarily the reason (p. 263) that leads to the upgrade, as transparency could be the result of the SRMs' success when undertaking new positive Net Present Value (NPV) projects that extend the valuation boundaries of the SRM firms.

Table 9.8 SRM Disclosure Metrics by Listing Status

Panel A: Disclosure Metrics Without Adjusting for the Operating Life of the Filer

Variable Name	Upgraded Firms (1)	Downgraded Firms (2)	Difference Test Statistic (p-value) (3)
10-Ks (& 10-KSBs)	3.74 (3.00)	2.48 (2.00)	7.00 (<.0001) 4.43 (<.0001)
10-Qs (& 10-QSBs)	15.56 (13.00)	39.27 (9.00)	–2.75 (0.0074) 1.55 (0.1205)
8-Ks	24.37 (19.00)	17.54 (10.00)	8.54 (<.0001) 12.43(<.0001)

Panel B: Disclosure Metrics after Adjusting for the Operating Life of the Filer

Variable Name	Upgraded Firms (1)	Downgraded Firms (2)	Difference Test Statistic (p-value) (3)
10-Ks (& 10-KSBs)	0.92 (0.62)	0.52 (0.20)	3.78 (0.0002) 2.67 (0.0076)
10-Qs (& 10-QSBs)	3.31 (1.97)	2.41 (0.90)	3.17 (0.0016) 2.12 (0.0338)
8-Ks	5.83 (3.98)	4.40 (1.05)	4.14 (<.0001) 5.36 (<.0001)

After having identified any listing changes of SRM firms and having analyzed and compared the univariate statistics of financials of the former private company and the characteristics of the shell firms engaged in the consummation of the SRM deal, the PIPE specifics (security type, pricing, source of financing, contractual terms)—the main financing event taking place on the OTC market—as well as the disclosure levels of each of the SRM group, as a last piece of analysis, we process certain governance metrics associated with Upgraded Firms and Downgraded Firms. We gauge whether common governance metrics (e.g., board size, board independence, the CEO and chairman duality role, and the family firms' identity) matter for the OTC market universe, and we will trace the evolution of their values from before to after an identified listing status change. We focus on Upgraded Firms and compare them to Downgraded Firms, and test whether there are any significant differences in their governance efficiency while traded on the OTC market (Panel A), as well as after they depart from the OTC market (Panel B). We also compare governance metrics levels within Upgraded Firms (see Panel C), in order to isolate the association of the listing status change with the change in the governance metrics' values. As described on the respective table headings, on Panel A (B) governance metrics are drawn as of the year before (after) the listing change.

In more detail, on Table 9.9, Panel A, counting on the reported median values, we show that Upgraded Firms exhibit greater board independence (13.00 vs. 9.00), have less frequently a CEO who also acts as a chairman of the Board of Directors (p. 264) (p. 265) (0.05 vs. 0.10) and still have a member of the founders' family participating in the Board of Directors when compared to the SRMs that get downgraded (1.00 vs. 0.00). These three factors hinge upon the fact that Upgraded Firms are already better governed while being quoted on the OTC market, and this could be one of the factors that contributed to their market value increasing and their decision-making process being more efficient. We consider the analysis on the extent to which governance matters on lower visibility markets and the path through which governance is associated with firm valuation on these markets as an interesting topic for future research.

Table 9.9 SRM Governance Metrics by Listing Status

Panel A: Governance Metrics prior to Changing Listing Status

Variable Name	Upgraded Firms (1)	Downgraded Firms (2)	Difference Test Statistic (p-value) (3)
Board size	3.42 (3.00)	3.26 (2.00)	0.88 (0.3781) 0.83 (0.4082)
Board independence	23.94 (13.00)	11.90 (9.00)	1.87 (0.0615) 2.51 (0.0123)
CEO/Chairman duality	0.33 (0.05)	0.42 (0.10)	–1.85 (0.0657)–1.88 (0.0596)
Family firm	0.54 (1.00)	0.36 (0.00)	3.87 (0.0001) 3.76 (0.0002)

Panel B: Governance Metrics after Changing Listing Status

Variable Name	Upgraded Firms (1)	Downgraded Firms (2)	Difference Test Statistic (p-value) (3)
Board size	4.29 (3.00)	3.43 (2.00)	3.23 (0.0016) 3.11 (0.0015)
Board independence	17.27 (13.00)	8.31 (9.00)	4.29 (<.0001) 4.10 (<.0001)
CEO/Chairman duality	0.38 (0.00)	0.42 (0.00)	–0.48 (0.6274)–0.49 (0.6231)
Family firm	0.44 (0.09)	0.38 (0.2)	2.57 (0.0116) 2.51 (0.0120)

Panel C: Governance Metrics prior to versus after Changing Listing Status for Upgraded Firms

Variable Name	Upgraded Firms Before (1)	Upgraded Firms After (2)	Difference Test Statistic (p-value) (3)
Board size	3.42 (3.00)	4.29 (3.60)	5.52 (<.0001) 5.59 (<.0001)
Board independence	23.94 (13.00)	17.27 (11.00)	–14.04 (<.0001)–5.43 (<.0001)
CEO/Chairman duality	0.33 (0.00)	0.38 (0.00)	1.28 (0.2015) 0.54 (0.5471)
Family firm	0.54 (1.00)	0.44 (0.00)	–0.31 (0.7547)–4.26 (<.0001)

Notes: This table reports the mean and median statistics of various governance metrics. These governance metrics include the number of all Board of Directors members (*Board size*); the percentage of independent members in the Board of Directors (*Board independence*); the binomial variable reflecting the duality role of the CEO and the chairman of the Board of Directors (*CEO/Chairman duality*); and the binomial variable revealing whether the SRM firm is a family firm or not (*Family firm*). The mean (median) values are presented in the top (bottom) row for each variable. In Panel A, we compare the values of each governance metric for upgraded and downgraded firms as of the year prior to changing listing status and departing from the OTC market quotation. In Panel B, we compare the values of each governance metric for upgraded and downgraded firms as of the year after changing listing status and departing from the OTC market quotation. In Panel C, we compare mean (mean) governance metrics' values between the year before and the year after the listing change for upgrades. Across all panels, the last column presents the Satterthwaite t-statistics (top row) and Wilcoxon z-statistics (with p-values in parentheses, bottom row) for difference in mean and median tests.

In Panel B, we repeat the same comparison utilizing the same governance metrics drawn right after the departure from the OTC market. Counting on the reported median values, we still find that Upgraded Firms are characterized by more independent boards (13.00 vs. 9.00) that more frequently have founders' family members on the Board of Directors (0.09 vs. 0.02), and that the board size is significantly greater when compared to Downgraded Firms (3.00 vs. 2.00). We assert that our findings on the board size could also be caused by the governance rules pertaining to main US stock exchanges whereby during our sample period auditors need to also participate in the Board of Directors. We also point out that after SRMs grow further in size, get upgraded, and are more heavily monitored by financiers as well as the SEC, they more frequently assign the CEO position to the chairman of the board for possibly more aligned handling of media and disclosure matters. Overall, we conjecture that better governance matters for the OTC market firms could be viewed as the precursor of a future listing upgrade as the publicly traded firms attempt to raise capital and convince a large investor base. Last, on Panel C, we focus on the median values of the governance changes within the Upgraded Firms sample. We confirm that board size increases (3.20 vs. 3.60), board independence decreases (13.00 vs. 11.00) and a family member is less frequently on the Board of Directors when a listing upgrade intervenes (1.00 vs. 0.0.).

9.4. Conclusion

To our knowledge, our study is the first one that analyzes SRMs by their listing status and reveals that there is a noticeable approximately 30% of all SRMs that manage to upgrade to US national stock exchanges. Earlier literature focuses on the way SRMs compare to either traditional or PSIPOs and find that they exhibit a shorter survivability, lower operating and stock performance, and higher information asymmetry. Also, there has been extensive academic literature revealing how US SRMs compare to Chinese ones, especially after the 2012 bad publicity that Chinese SRMs have attracted due to alleged auditing scandals. Empirical evidence has been inconclusive on this front and is considered to be a topic of ongoing research.

Our study focuses on the subsample of SRMs that could be considered the "success stories" of the SRM universe. These are the firms that are initially quoted on the OTC (p. 266) market and then are successful at getting upgraded either to OTC market upper tiers or to US national stock exchanges. As already reported in the related literature, there is a small percentage of all firms quoted on the OTC market that ever make it to get upgraded to higher visibility markets (Bruggemann, Kaul, Leuz, and Werner, 2018, report that about 9% of the OTC market–quoted firms get upgraded to higher visibility markets).

We compare the financial profiling, the financing specifics, their governance schemes, and disclosure levels for all SRMs when separated out by their listing status. We find that at the outset Upgraded Firms exhibit higher liquidity and improved performance (still loss generating, though) when compared to Downgraded Firms or Ever OTC Market Traded Firms with their size, growth options, and leverage levels being statistically similar to each other. As expected, the characteristics of the associated shell firms (date and year of incorporation) are also similar.

By comparing their PIPE financing specifics, we show that Upgraded Firms are characterized by lower discounts, which decrease significantly in later transactions as the SRM issuer approaches the date of the upgrade. In contrast, we report higher discounts for the other two SRM groups, which exhibit greater persistence in later financing events. Further, we find that Upgraded Firms receive cash infusions from strategic investors (e.g., private equity companies, venture capital firms, individual investors) along with hedge funds, something that is not the case in the other two SRM groups. Even when controlling for the same PIPE investor type, lower discounts are requested from Upgraded Firms. PIPE investors possibly view the financing of Upgraded Firms as an opportunity to capitalize their discounts on firms that have considerable trading liquidity, which also explains the more frequent requests for pre-registered stock in the case of SRMs that get upgraded. Overall, we posit that Upgraded Firms reveal more information about their forthcoming projects as they continue being quoted on the OTC market and may confidentially share this information with private investors, who are convinced that a higher liquidity environment will surround these firms, smoothing their exit strategy.

Counting on the frequency of submitted SEC filings, we measure SRMs' disclosure levels and find that Upgraded Firms submit more frequently with the SEC, even when this is voluntary, as quoted on the OTC market, which shows their intention to conform to US national stock exchanges' disclosure standards. Last, Upgraded Firms exhibit higher board independence statistics, can be more frequently characterized as family firms, and less frequently have a CEO who is an acting chairman of the Board of Directors as well. These latter statistics hinge upon improved governance schemes for Upgraded Firms, revealing that governance is associated with the valuation of firms that are traded on lower visibility markets.

In this study, we identify the listing status of SRM firms and analyze their financial, financing, governance, and disclosure characteristics. SRMs provide a unique analysis platform for us, as they are opaque on the outset when first quoted on the OTC market, when the quality of their projects is still unknown. We follow the evolution of the cost of their financing, their disclosure, and governance schemes, and conjecture that as (p. 267) time passes they are able to distinguish themselves from the other two SRM groups. We conclude that the ability to have a quoted price, information

disseminated through trading, and disclosure that is shared with both private and public investors is vital for these small-cap, high-growth firms. It may be the case that many of these firms, in the absence of enlisting on a platform, would face greater cost of capital and difficulties consummating any financing events that would further impede their efforts to pursue their growth options.

Appendix 9.1 All Main Actions and Rules Promulgated by the US Securities and Exchanges Commission from 2005 to 2012 with Regard to RM Transactions in Order to Make These Transactions More Transparent and to Protect Public Investors Rights from Fraudulent Activities (p. 268)

Institution	Date	Type of Institutional Changes	Description of Implemented Institutional Changes
US Securities and Exchange Commission	August 22, 2005	Rules and rule amendments with regard to shell firms	Defining shell firms as registrants with no or nominal operations and either no or nominal assets, assets consisting solely of cash and cash equivalents, or assets consisting of any amount of cash and cash equivalents and nominal other assets. The rules and rule amendments prohibit the use of Form S-8 under the Securities Act of 1933 by shell companies. In addition, they require a shell company that is reporting an event that causes it to cease being a shell company to disclose the same type of information that it would be required to provide in registering a class of securities under the Securities Exchange Act of 1934.
US Securities and Exchange Commission	June 9, 2011	Investor bulletin	The investor bulletin explains the RM process, describes the potential risks of investing in RM companies, and details the enforcement actions that the agency has implemented against RM firms up to that point.
US Securities and Exchange Commission	November 9, 2011	Listing standards for RM firms	Approval of new rules of the three major US listing markets that toughen the standards companies going public through an RM must meet in order to list on these exchanges. The new rules prohibit an RM firm from applying for a listing until: (1) The company has completed a one-year “seasoning period” by trading in the US over-the-counter market or on another regulated US or foreign exchange following the RM, and filed all required reports with the Commission, including audited financial statements. (2) The company maintains the requisite minimum share price for a sustained period, and for at least 30 of the 60 trading days, immediately prior to its listing application and the exchange’s decision to list.
US Securities and Exchange Commission	May 14, 2012	Suspending trading of 379 dormant shell firms	Temporary suspension of trading in securities because of suspicions about the accuracy and the adequacy of publicly disseminated information concerning the companies’ operating status. These were suspicions of these securities being hijacked by fraudsters used to harm investors through RMs or pump-and-dump schemes. (p. 269)

(p. 270) # Appendix 9.2 Main, Recent Empirical Academic Literature (Both Published

and Unpublished Manuscripts) on RM Transactions

Authors	Data Sources	Country and (Sample Size)	Time Period	Dependent Variables	Main Explanatory Variables	Main Findings
Gleason et al. (2005)	SDC and Lexis Nexis newswire	United States (121 RMs)	1987–2001	Three-day [−1,+1] cumulative abnormal returns	Total assets, cash to total assets, ROE, complementarity growth, strength of private firm	(1) The public firms, many of which went public during the IPO bubble, are generally poor performers. (2) Upon announcement, the public firm shareholders receive significant wealth gains. (3) Shareholders of public firms receive significant little post-event operational and profitability improvement. (4) Only 46% of the sample survives two years' wealth gains upon announcement.
Adjei et al.(2008)	SDC	United States (286 RMs and 2, 860 IPOs)	1990–2002	Dichotomous variable indicating whether a company followed the RM or the IPO path	Log of total assets, firm age, ROA	(1) Only 1.4% of the RM sample is not able to meet the initial listing requirements for any of the exchange standards. (2) Smaller, poor performing, and younger private firms prefer RMs to IPOs. (3) For the three-year study period after initially going public, 42.7% of the RMs and only 27% of the IPOs are delisted. The lack of underwriter support may explain the higher delisting rates for RMs.
Floros	DealFlow	United	1990	Dichotomous variable taking	Total assets, ROA	(1) The SPM path is

Floros and Shastri (2010)	DealFlow Media, SDC	United States (408 SRMs and 213 penny stock IPOs)	1990–2006	Dichotomous variable taking the value of one if the firm goes public through an SRM and the value of zero if the firm goes public through a penny stock IPO	Total assets, ROA, development stage, R&D ratio, stock acquisitions, VC-backing, change in insider ownership percentage	(1) The SRM path is chosen by highly information asymmetric firms, smaller, lower profitability, lower liquidity in development stage with high R&D expenditures when compared to penny stock IPOs. (2) The SRM path is appealing to the private firms that have already planned a strategic acquisitions using the publicly traded stock as a medium of payment. (3) In SRMs the insiders do not cash out right after the SRM consummation date.
Floros and Sapp (2011)	DealFlow Media, SDC	United States (585 trading shell firms)	2006–2008	Dichotomous variable equal to one when firms go public through SRMs and zero through penny stock IPOs	Total assets, equity deal size, ROA, current ratio, change in insider ownership, CAPEX ratio, R&D ratio, total liabilities ratio	(1) SRM firms earn an average three-month return of 48.1%. (2) A shell firm investor still loses money on average when investing a dollar. (3) RM insiders are less likely to cash out when going public through the RM path; most RM firms experience a sharp decline in stock price over the year following the RM. (4) The drawbacks of a shell firm investment center around illiquidity and the risk of a long wait until a suitor for a potential RM is found.
Carpentier	Hand-	Canada	1993–	Relative valuation multiples	Dichotomous variable	(1) Low listing

et al. (2012)	collected data, FPInformart.ca	(1,024 IPOs and 1,384 RMs)	2003		indicating whether the company lists after an IPO, dichotomous variable indicating whether the company operates in the oil and gas industry, log of total pre-listing assets	requirements negatively affect investor wealth. Long-run returns following Canadian IPOs and RM listings are extremely poor. (2) There is a strong effect of the choice of disclosure/listing mode on the value of newly issued shares after listing; valuation multiple of IPO issued shares is twice the respective multiple of comparable RMs. (3) Investing in IPOs with full disclosure is better than investing in RMs, bypassing the prospectus and the registration process.
Siegel and Wang (2013)	Capital IQ, Thomson One Banker, PrivateRaise	United States, Canada and China (295 Chinese, 347 Canadian and 684 US RMs)	1996–2010			(1) High-quality firms adopt the US law first via cross-border RMs and create legitimacy by sending costly signals. (2) An interesting feature of the cross-border RMs is that they typically go dark, delist, and stop filing after a few years. (3) Cross-border RMs that are associated with non-Big Four auditors, exhibit negative corporate governance, and perhaps should receive additional regulation and monitoring by regulators and shareholders.
Cumming et al.	SEC EDGAR, SPAC	United States	2003–2010	Dichotomous variable if the acquisition is approved and	Number of underwriters, average	(1) Younger SPAC management teams

(2015)	Analytics, and The SPAC Report	(139 SPAC IPOs)		zero if the SPAC is liquidated.	reputation of underwriter, days between announcement and proxy voting, market return threemonths before proxy voting, number of sponsors and average team age	tend to have a higher deal approval probability. (2) Higher level of funds in the trust, compared to IPO proceeds, may signal operational efficiency on the one hand and may create incentives for investors to vote against deals on the other. (3) Underwriter team composition can also affect the deal approval probability, with the underwriter reputation playing a positive role and the number of underwriters a negative one. (4)Block-holder structure has a strong influence on deal probability and SPAC management has an incentive to reduce the duration of the entire process. (5) Deal approval probability tends to be substantially higher in an upward-trending market environment.
Givoly et al.(2014)	Dealflow Media, S.E.C. EDGAR and Capital IQ	U.S. (338 RMs)	1992-2010	Unexpected earnings: abnormal volume, abnormal return variability		(1) Companies coming into existence via a RM point unmistakenly to an inferior accounting quality. (2) The market appears to consider accounting quality, valuing RM firms at a discount relative to their reported financials.
Darrough	DealFlow	United	2000–	Cumulative market-adjusted	Change of earnings per	(1) Chinese IPOs are

Burough et al. (2015)	DealFlow Media, SDC	United States (1,767 RMs and 1,710 Chinese IPOs)	2006–2011	Cumulative market-adjusted stock returns for one year beginning with the fiscal-year end with a RM or an IPO	Change of earnings per share before interest and taxes, book-to-market ratio, indicator variable for Chinese RM and its interaction with the change of earnings per share before interest and taxes	(1) Chinese IPOs are firms of higher quality than Chinese RMs. (2) Stock market reaction to fraud news appears to be China bashing rather than RM bashing. (3) Chinese RMs are more affected by fraud news than US-listed Chinese IPOs. (4) Negative spillover effect differs across firms according to the operations location and the auditor profile.
Lee et al. (2015)	DealFlow Media	United States (251 US, 146 Chinese, and 27 other countries RMs)	2001–2010	Upward/downward mobility	Stages based on the patterns of cash flows from operating, investing, and financing activities: introduction, growth, mature, and shake-out and decline	(1) RMs tend to be small, illiquid stocks that are highly prone to default and/or bankruptcy. (2) RMs are no worse than other publicly listed firms on the same exchange; RMs fare marginally better than their control group firms (dimensions: leverage, liquidity, profitability, cash flows, qualified opinion, z-score, stock returns) (3) RMs' better performance is mainly due to Chinese RMs that are better than US RMs and their matched control firms.
Chen et al. (2016)	DealFlow Media	United States (287 Chinese, 273 US RMs and 142 Chinese ADRs)	2001–2011	Accruals-based financial reporting quality measures (absolute value of discretionary accruals, absolute value of discretionary working capital accruals, absolute value of discretionary revenues, financial reporting quality index, natural	Sales growth, inventory ratio, operating cycle, size, ROE, cumulative percentage of sample years that the firm reported a loss during the sample period, interaction of the RM	(1) Chinese RMs have lower reporting quality than matched US IPOs or Chinese ADRs. (2) There are no differences in the reporting quality between US RMs and

				logarithm of the ratio of the absolute value of total accruals to operating cash flows)	path dichotomous variable and the Chinese origin dichotomous variable	US IPOs. (3) Chinese RMs' lower financial reporting quality is the result of joint effects of following the RM path and the weak legal enforcement over Chinese firms. (4) Compared to Chinese ADRs, Chinese RMs exhibit lower CEO turnover-performance sensitivity and poorer corporate governance.
Greene (2016)	8-K filings, data from Comment (2010), newspaper articles, SDC	United States (110 RMs 455 IPOs and 805 sellouts)	2005–2010	Dichotomous variable equal to one if the firm used an RM and zero if it used an IPO	Big Four auditor, foreign firm dichotomous variable, log of sales, high-tech industry dichotomous variable, VC-backing dichotomous variable, sales growth, operating income margin	(1) The typical RM firm owner has less post-exit wealth than the IPO one. (2) When matched in pre-exit characteristics, the wealth of RM firm owners is not different from IPO ones and is the same or greater than sellout ones. (3) When examining changes in private firm owners' wealth surrounding RMs, findings vary according to the method employed to compute valuations.
Jindra et al. (2012)	SDC	United States (100 Chinese RMs and 111 Chinese IPOs)	2000–2010	Dichotomous variable equal to one when a Chinese firm lists via an RM and zero when it lists via an IPO	Number of analysts, number of institutional owners, log of total assets, cash and cash equivalents ratio, operating cash flow ratio, total debt ratio	(1) For Chinese firms listed in the United States through an RM there is an increase in warnings by the PCAOB, enforcement actions by the SEC, and investigations by the US Justice Department, leading to an increased number of lawsuits. (2) The different

						(2) The different levels of pre-issuance monitoring by regulators, analysts, investment bankers, institutional investors, and other stakeholders explain the litigation risk differential.
Pollard (2016)	DealFlow Media and SDC	United States (440 RMs and 1,739 IPOs)	2001–2012	Dichotomous variable equal to one if the firm used an RM and zero if it used an IPO	Size, cash, and cash equivalents divided by total assets, dichotomous variable equal to one if the firm is an oil and gas, biotech, or technology firm R&D	RM firms exhibit on average lower earnings quality when compared to matched IPOs as a result of increased scrutiny of regulators and underwriters prior to going public.
Manuscripts with no rigorous analysis						
Sjostrom (2008)	RMs frequently facilitate alternative financing options (e.g., PIPE financing). RMs—with the exception of SPAC RMs—cannot be compared to traditional IPOs; hence, it is difficult to compare cost and speed of completion between RMs and traditional IPOs.					

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Notes:

(1.) In Appendix 9.2, we provide the reader with a table containing the main empirical, academic studies (both published and unpublished manuscripts) analyzing the anatomy and the characteristics of RMs as an alternative going public mechanism.

(2.) On November 6, 2013, Commissioner Daniel M. Gallagher delivered the following remarks on the formation of new “venture exchanges”: “In order for venture exchanges to work, the public and the Commission must recognize that these companies are not riskless investments. There will be companies that will not succeed. However, many will, and it is important to provide these companies with the ability to grow and prosper and to allow investors the opportunity to share in such growth and prosperity alongside these companies. While the U.S. Securities and Exchange Commission is rightly focused on protecting investors from fraud, the Commission must also actively take steps to promote capital formation. There is a price to be paid for an overly protective approach to securities regulation.”

(3.) Our sample contains all SRM transactions consummated after November 7, 2005, as this is the effective date of the new rules introduced by the SEC with regard to shell companies. In summary, the new rules: (a) define certain terms, including the “shell company”; (b) introduce prohibitions on shell companies from utilizing form S-8 and prohibit companies that cease being shell companies from utilizing form S-8 until 60 days after the surviving entity files information equivalent to that which would be required in a form 10 or form 10-SB; (c) require companies that cease being shell companies to file a form 8-K within four business days after the closing of the transaction that results in the termination of the shell company status; and (d) require that the check box to forms 10-Q, 10-QSB, 10-K, 10-KSB and 20-F is added in order to allow public investors and regulators to easily identify shell companies.

(4.) In Appendix 9.1, we include a table with all main actions and rules promulgated by the SEC in order to (a) protect public investors rights, (b) caution public investors with regard to the risks embedded in RM transactions, and (c) make RM transactions more transparent.

(5.) Triangular SRMs are included in the sample as they constitute the most common form of SRMs. In triangular deals, the public shell “parent” creates a wholly owned subsidiary. The private company merges with the new, wholly owned subsidiary by exchanging its private shares for shares in the “parent” public company. The private company becomes a subsidiary of the parent and its shareholders become the majority shareholders of the public “parent.” The benefit of this transaction structure is that the Board of Directors of the public company, as the sole shareholder of the newly formed subsidiary, can expeditiously approve the merger without the need for public company shareholder consents, meetings, and proxy votes.

(6.) For more information on the disclosure, liquidity, and pricing differential between OTCQB/OTCQX and OTC Pink, please refer to Jian, Petroni, and Wang (2015). OTCQB and OTCQX are two of the tiers organized by the OTC Markets Group. For any US or foreign firm to be eligible for listing on the OTCQB, it will have to be current in its reporting, meet a minimum bid test of $ 0.01, and undergo a new annual verification and management certification process. Eligibility for listing on the OTCQX platform requires high financial standards, demonstration of compliance with US securities laws, current in disclosure status, and sponsorship by a professional third-party advisor. OTCQB and OTCQX are considered to be the two tiers with the stricter listing requirements.

(7.) Specifically, we find that out of all 435 Upgraded Firms, 70 get upgraded to NASDAQ, 35 to NYSE, 318 to OTCQB or OTCBB, and 12 to OTCQX. After computing our respective percentages of Upgraded Firms on the entire sample, we see that our results closely corroborate the ones reported by Bruggemann, Kaul, Leuz, and Werner (2018). In our masterfile, approximately 7.2% get upgraded solely to main US stock exchanges, whereas Bruggemann, Kaul, Leuz, and Werner (2018) report approximately 9% in theirs.

(8.) As expected, financial data of shell companies have little or no significance for attracting demand from the former private companies. Hence, we do not include financial information in our hand-collection process. The new SEC rules that became effective November 7, 2005, define a "shell company" as the registrant, other than an asset-backed issuer, that has (i) no or nominal operations; and (ii) either (a) no or nominal assets; (b) assets consisting solely of cash and cash equivalents; or (c) assets consisting of any amount of cash and cash equivalents and nominal other assets.

(9.) PrivateRaise classifies all participating PIPE investors into the following types: Banks, Broker/Dealers, Insiders, Corporations, Foreign Investment Houses, Hedge Funds, Individual Investors, Insurance Companies, Miscellaneous, Mutual Funds, Private Equity Firms/Venture Capital Firms, Sovereign Wealth Funds, and Pension funds. Anderson and Dai (2010) and Billett, Elkamhi, and Floros (2015) classify leading corporations, private equity/venture capital firms as the strategic types and hedge funds as the financial types.

(10.) Following Billett, Elkamhi, and Floros (2015) and Floros, Nagarajan, and Sivaramakrishnan (2018), we count on 10 contract terms out of the universe of 19 contract terms that appear in PIPE contracts, as they are the only ones that we can safely classify into control terms (board seats, voting rights) and liquidity enhancing terms (price resets, soft floor, hard floor, pre-registered stock, call options, rights of first refusal, investor redemption, investor call option, and liquidation). For the sake of brevity, in Table 9.7, we do not present our statistics for the following subset of less popular contractual terms: voting rights, call options, investor call option, and liquidation. PrivateRaise database contains in total 19 distinct contractual terms. We did not utilize all of them, as it is not clear to us whether they can be clearly classified as control or cash flow rights. The contractual terms we did not use are the following: anti-dilution rights, shareholder approval, issuers' put options, hedging restrictions, selling restrictions, warrants, greenshoe options, lockup provisions, forced conversion provisions.

(11.) For a thorough description on governance indices, their inherited econometric issues, their relation to publicly traded firms' valuation multiples and operating performance, we refer the reader to Holmstrom and Kaplan (2003); Lehn, Patro and Zhao (2007); Bhagat and Bolton (2008); as well as Bebchuk, Cohen, and Wang (2013).

(12.) Our filters for constructing our small-cap IPOs are arbitrary. Our main concern when building our small-cap IPOs sample is to make it comparable to our SRM sample. We analyze the distribution of financing raised by SRM firms concurrently with the consummation of the SRM transaction and find that for the sample of completed SRMs in the United States during the time period of January 1, 2008, to December 31, 2014, the highest PIPE gross proceeds amount raised reached $70 million. This is why we impose $75 million as the highest possible amount raised in small-cap IPOs to make the two samples comparable to each other. Chaplinsky, Hanley, and Moon (2017) note that prior to the JOBS Act becoming effective, issuers could only raise a maximum of $75 million in proceeds to be considered small reporting companies and still qualify for reduced disclosure under Regulation S-K. This definition would offer further support to our imposition of the $75 million filtering criterion in order to construct the small-cap IPO sample. In contrast, Rose and Solomon (2012) refer to all IPOs with an initial market capitalization up to $75 million as small-cap IPOs. An imposition of this alternative criterion could lead to a different count of small-cap IPOs in our Table 9.1. However, we note that such a criterion would most likely lead to a sample that is not comparable to SRMs and would be stricter to what was defined as a small reporting company up to 2008.

(13.) As outlined in the Data section, for small-cap IPOs we consider all IPOs with no more than $75 million gross proceeds offered in any of the US capital markets (e.g., NYSE, NASDAQ, AMEX, and the OTC market).

(14.) Loughran and Ritter (2004) report a median value of seven-year operating history for IPO issuers. Recent IPO empirical literature (Bouwman and Lowry, 2013) still reports the same firm age at the IPO stage. One possible explanation could be that venture capital firms that finance private companies have to report a certain portfolio performance to their limited partners for their participation in private companies within seven years. This could be the reason why many private companies that do not meet venture capital firms' milestones may never show up in our IPOs sample as they get acquired or liquidate.

(15.) In untabulated results, we find that 56% of the leading hedge funds in Upgraded Firms participate in all three SRM groups with the investor names being the same. As a result, we posit that PIPE investors build certain investment strategies counting on their PIPE holdings.

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