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SPACs, PIPEs, AND COMMON INVESTORS

Frank Fagan & Saul Levmore*

Abstract

Special Purpose Acquisition Companies, or SPACs, have come to play a large role in bringing together small and large investors in the acquisition and expansion of private companies. A pessimistic version of this relatively recent alternative to conventional initial public offerings (IPOs), and other methods of investing in companies ready to expand, is that clever sharks take advantage of overly optimistic and ill-informed small investors. This Article offers a very different view. It shows that common investors need someone to locate good investment opportunities, and then often also benefit if another well-informed party can credibly vouch for the entity that claims to have found a good target. It also suggests the development of other means of vouching for parties that claim to have found worthy targets for investment.

The analysis focuses first on SPACs that have recently arisen to play the important role of finding targets and then on PIPEs (Private Investor(s) in Public Equity) that serve the role of evaluating and certifying those SPACs. Each of these is rewarded for what it does along the “financing chain.” SPACs and PIPEs are to be welcomed rather than feared, and they are not unlike parties that discover and vouch for good products and ideas in other sectors. Small investors would benefit from knowing when and at what prices potential PIPEs turned down deals, and they might benefit if SPAC founders earned lower rewards as the period during which they have use of investors’ funds comes towards an end. The discussion shows how these problems are related to those found in other markets, such as the information consumers can (and cannot) derive from knowledge about a large purchase that preceded them. Hertz’s purchase of a Toyota, and Warren Buffett’s purchase of stock, is not terribly different from a PIPE’s purchase of a SPAC.

Recent literature has strongly criticized SPAC founders, and the absence of much legal oversight, for aggressively seeking compensation at

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the expense of common investors. For most SPACs, founders must close a deal within two years in order to receive compensation. It is plausible that founders will rush to find a target as the deadline approaches. While investors have the right to exit the SPAC at the price that they paid (known as a redemption right), they may believe that the SPAC has finally found a good investment—even in the final hour. To assess investor redemptions and deadlines, we construct a sample of 87 SPACs that completed an IPO between June 2015 and December 2018, and then merged with a target before June 2022. The data suggest that investors do not regularly exit as the two-year deadline approaches but instead often give the founder a single extension before growing impatient. We find that each additional day toward a three-year deadline increases redemption rates. Given the founders' urge to close, we might expect the contractual rules governing investor exit, as well as stock exchange listing rules governing deadlines, to change so that SPACs are no longer rushed. This might be done in several ways, including a sliding scale reduction in the ownership retained by the SPAC as the search period proceeds. In the interim, a partial solution to this end-period problem seems to have emerged, though SPAC critics do not seem to have noticed the end-period problem or the evolving solution to it. In sum, investors rely on SPACs to discover targets; they will grant extensions, but grow impatient and eventually exit as should be expected. Moreover, they rely on—and pay—sophisticated investors, in the form of PIPEs, to evaluate SPACs.

Finally, this Article suggests alternatives to SPACs that might arise with a little help from changes in law. Prediction markets could aggregate information possessed by many small parties. SPACs themselves, or yet other providers, might offer insurance against the possibility of a target whose bad quality can be detected only with factfinding that is difficult for dispersed, small investors to obtain. Finally, the analysis suggests that SPACs represent a new way of dealing with strategic investors who hold-out for more than their fair share of a discovery.

INTRODUCTION

A special purpose acquisition company (SPAC) is a shell corporation formed with the purpose of bringing together small and large investors in the acquisition of a private company.¹ A SPAC can be understood as an

¹ SPACs follow a general pattern of development consisting of legal formation, SEC registration of redeemable securities for cash, roadshow, initial public offering, identification and shareholder approval of target, and finally, business combination of the target and SPAC. See Yochanan Shachmurove & Milos Vulanovic, *Specified Purpose*

alternative to an IPO (initial public offering),² a sale to a large entity or private set of investors, or even to large-scale financing by a bank or other lender.³ Each of these is a means of growing an idea and small organization into a larger and better financed one; each is an attempt to scale up an entity that is already in progress. A pessimistic version of all these methods is that their real purpose is to allow an intermediary to profit from some investors' overconfidence. An optimistic view is that market forces will eliminate any excess profits, and that SPACs, in particular, offer small investors a chance to engage in what private equity companies have been doing for some time.⁴

While the finance literature has focused on empirically identifying the drivers of long-term performance of the acquisition, lawyers have raised concerns about the compensation of SPAC promoters and the favorable terms offered to institutional investors in SPACs.⁵ They point to steep post-

Acquisition Company IPOs, in THE OXFORD HANDBOOK OF IPOs 301, 314 (Douglas Cumming & Sofia Johan eds., 2019) (describing the SPAC lifecycle); *see also* Douglas Cumming, Lars Helge Haß & Dennis Schweizer, *The Fast Track IPO: Success Factors for Taking Firms Public with SPACs* 47 J. BANKING & FIN. 47 192, 201 (2014) (providing graphical representation).

² An initial public offering (IPO) is a process that a private company uses to sell shares to the public, before the stock trades on an exchange. *See* Christine Hurt, *Moral Hazard and the Initial Public Offering*, 26 CARDOZO L. REV. 711, 715 (2005). The shares are offered at a price determined by an underwriter, and are often sold to the underwriter's preferred institutional client-investors, such as pension and mutual funds. *Id.* The private company selling its stock receives the proceeds from the sale after accounting for underwriting and other banking fees. Institutional investors who purchase the initial offering of shares either hold them for a time or sell them immediately to their preferred clients. For example, Fidelity, a mutual fund, provides access to IPOs led by underwriter Kohlberg Kravis and Roberts for its customers who hold at least \$100,000 in assets. *See Initial Public Offerings (IPOs)*, FIDELITY, <https://www.fidelity.com/stock-trading/ipos> (last visited Feb. 14, 2022). Fidelity customers who hold at least \$500,000 are able to access IPOs underwritten by Credit Suisse. *Id.* If the initial investors decide to sell their shares later, they may do so on a stock exchange. Smaller, public investors, sometimes called retail investors, can then purchase shares of the company, though often at substantially higher prices. *See* Hurt, *supra* note 2 at 715-16.

³ *See, e.g.,* Johannes Kolb & Tereza Tykvova, *Going Public Via Special Purpose Acquisition Companies: Frogs Do Not Turn into Princes* 40 J. CORP. FIN. 80, 80 (2016) (noting that SPACs can be understood as alternatives to IPOs and that SPAC activity generally increases when traditional IPO activity decreases).

⁴ The origins of organized private equity are often traced to two firms established in 1946, the American Research and Development Corporation and J.H. Whitney & Company. *See* SEBASTIAN MALLABY, *THE POWER LAW: VENTURE CAPITAL AND THE MAKING OF THE NEW FUTURE* 24-26 (2022). Sequoia Capital, which Mallaby considers the leading venture partnership in Silicon Valley, has generated returns of about twelve times investor's money since the early 2000s. *Id.* at 58.

⁵ On longer-term financial performance, *see* Minmo Gahng, Jay R. Ritter & Donghang Zhang, *SPACs* (Dec. 14, 2021) (unpublished manuscript)

merger declines in value as evidence that insiders profit handsomely at the expense of earlier, non-professional investors who are diluted along the SPAC financing chain.⁶ There is an additional concern that SPACs attract innocent investors by making wild claims in unregulated prospectuses; inexperienced investors might be drawn to SPACs because they are unable to obtain information that venture capitalists can access, and in their enthusiasm might not notice the returns taken away by the SPAC intermediaries they deploy.⁷ For these reasons, it has been suggested that

(<https://ssrn.com/abstract=3775847>). On concerns with promoter compensation and preferential treatment for large investors, see Michael Klausner, Michael Ohlrogge & Emily Ruan, *A Sober Look at SPACs*, 39 YALE J. REG. 228, 246 (2022). Not all lawyers think SPACs are always to be despised. See Emily Strauss, *Suing SPACs*, (Feb 9, 2022) (unpublished manuscript), for evidence that many of the lawsuits against SPACs are opportunistic.

⁶ For example, Klausner, Ohlrogge & Ruan examine the mean performance of 47 SPACs that merged between 2019 and 2020 and find positive unadjusted returns of 19.1% twelve months following the merger. See Klausner, Ohlrogge & Ruan, *supra* note 5 at 256. However, when compared to returns of an IPO index, the NASDAQ, and the Russell 2000, SPACs underperformed to the tune of -50.9%, -17.9%, and -4.4%. *Id.* SPAC investors would have done better to purchase securities indexed to those markets.

Interestingly, the authors divide the 47 SPACs into two groups: 24 with high-quality sponsor teams and 23 with low-quality teams. *Id.* SPACs with high-quality sponsor teams perform very well: mean excess returns of the merged firm over the IPO index, NASDAQ, and Russell 2000 are -2.8%, 29.9%, and 43.9%. *Id.* Thus, a small non-redeeming investor who is able to exclude low-quality sponsors will do very well investing in SPACs and retaining ownership in the merged firm. High quality sponsor teams may be fairly easy to identify. Klausner, Ohlrogge & Ruan designate such teams as private equity funds listed in PitchBook that manage at least \$1 billion of assets or have as a member of the sponsor team a former senior officer of a Fortune 500 company. *Id.* at 252. All other sponsor teams are considered low-quality.

Suppose small investors can easily identify the high-quality teams, but have trouble pinpointing the low-quality ones, and deploy some rough, aggregate measure like average quality. This measure partially excludes some low-quality sponsors, but allows for others, and can be understood as a back-of-the-napkin estimate of small investor learning. Suppose further that average quality sponsors generate approximately average returns as reported by Klausner, Ohlrogge & Ruan. That is, average quality sponsors generate excess returns of -2.8%, 29.9%, and 43.9%. If small investors flip a coin to determine whether the sponsor team is of average or high quality, they can generate an expected positive return in excess to a basic investment in the NASDAQ or Russell 2000 across the 47 SPACs. For the NASDAQ, this expected excess return can be calculated as: $(50\% \times -17.9\%) + (50\% \times 29.9\%) = -8.7\% + 14.95\% = 6.25\%$. For the Russell 2000, the expected excess return is $(50\% \times -4.4\%) + (50\% \times 43.9\%) = -2.2\% + 21.95\% = 19.75\%$. (Of course, small public investors do not have access to IPO markets but, if they did, they should invest there: expected excess returns of mergers with average and high quality SPAC sponsors is a dismal -26.85%.)

⁷ See Amanda Rose, *SPAC Mergers, IPOS, and the PSLRA's Safe Harbor: Unpacking Claims of Regulatory Arbitrage* *19-20 (Oct. 19, 2021) (unpublished manuscript) (<https://ssrn.com/abstract=3945975>) (noting that “[u]nsophisticated retail investors might

the SEC require SPACs to disclose estimates of the net cash per share delivered to the target, price per share paid by large (PIPE)⁸ investors, and the sponsor and target management's financial interest in the transaction.⁹ These additional disclosures are meant to clarify SPAC costs (and sponsor incentives) and help close the gap between pre- and post-merger value.

While many sophisticated observers believe that SPAC shareholders receive, on average, a bad bargain because their shares are subject to dilutions, as explained presently, there is less of an argument to be made for protecting target management from aggressive sponsors.¹⁰ The relevant gap for assessing the target's bargain is the difference between the value of all of the securities delivered by the target and the amount of cash delivered by the SPAC.¹¹ Computed in this manner, targets generally do well post-merger. Recent estimates of the costs of accessing public equity markets with a SPAC are actually less than an IPO in terms of the accessing firm's market capitalization, valued one year from the date of the merger or offering (and adjusted for growth in the market).¹² This is consistent with our suggestion, discussed below, that sponsors provide significant expertise and often become part of targets' management teams, as they materialize over time.¹³ In short, as we will show or at least theorize, SPACs are a

also place undue faith in even honestly prepared, well-diligenced financial forecasts—allowing themselves to get whipped up into a speculative frenzy.”). In contrast to forward-looking statements contained within the prospectus of an initial public offering, forward-looking statements contained within SPAC prospectuses are thought to generate minimal private litigation risk because of the safe harbor provision of the Private Litigation Securities Reform Act. *See* John C. Coates, SPAC Law and Myths *6 (Feb. 11, 2022) (unpublished manuscript) (<https://ssrn.com/abstract=4022809>) (noting application of the safe harbor as well as its various exceptions).

⁸ PIPE is an acronym for Private Investment in Public Equity. Normally, an issuer of a PIPE sells shares of common stock at a discount from its market price. The discounted shares are purchased by institutional investors. These purchases are known as PIPE investments. *See* John D. Hogboom, *Private Investment in Public Equity: An Overview*, 177 N.J.L.J. 620, 620 (2004). PIPE investments in discounted common stock are often “sweetened” with warrants that allow the holder to purchase shares at a higher price later. *Id.* Throughout the text, we occasionally refer to the institutional investor as the “PIPE”, or the Private Investor in Public Equity.

⁹ *See* Klausner, Ohlrogge & Ruan, *supra* note 5 at 283.

¹⁰ The tendency toward dilution is discussed *infra* § I.

¹¹ *See* Gahng, Ritter & Zhang, *supra* note 5.

¹² From January 2019 to June 2020, the costs of the median IPO amounted to 4.8% compared to 3.5% for SPACs. *See* Klausner, Ohlrogge & Ruan, *supra* note 5 at 300-01. Klausner, Ohlrogge, & Ruan calculate target costs as 3.5% of post-merger market capitalization, valued one year from the date of the merger and adjusting for growth in the NASDAQ. *Id.* at 301. When adjusted for growth of a standard IPO index, target costs amount to a negative 2.7%, a comparative savings of 7.5% for targets. *Id.*

¹³ *See infra* § II.A.

response to a need in the market, and they are getting a bad reputation for the wrong reasons. SPACs have evolved as a sensible way to link several steps in a process of business formation that can appeal to public investors.¹⁴

I. THE PROBLEM OF SHAREHOLDER DILUTION

A typical SPAC attracts providers of capital, or outside investors, whose interests are then diluted over time.¹⁵ This dilution, and the original arrangement that begins the SPAC chain, is at first puzzling because these investors ought to anticipate future reductions. Their equity is subject to several dilutions because of the preferential treatment given to insiders (as well as an important later investor, a PIPE, as introduced presently). The easiest way to catalog these dilutions is to chart the chronology of a typical deal. SPACs are created by “sponsors,” or “promoters,” who initially purchase 20% to 25% of the SPAC’s shares at a nominal price.¹⁶ Sponsors then take the SPAC on a roadshow and court early investors, much as occurs in the case of most IPOs, but here these investors are asked to buy in to the ability of the sponsors to find worthy targets, inasmuch as the potential investors do not yet know what business, or target, the sponsor will eventually bring to the table for approval.¹⁷ These “IPO-stage” investors are enticed with warrants and other contractual claims on the future business combination. Underwriter fees accrue at this time.¹⁸

Upon completion of the IPO, the SPAC begins to trade on an exchange. Retail and other investors have a period in which they can purchase units that will soon divide into conventional shares and warrants; the latter can be thought of as relatively low-cost options. Once the units separate, investors are able to purchase shares and warrants separately. During this “pre-deal” period, while sponsors are searching for a target, the market value of SPAC shares reflects that of a short-term fixed income investment,¹⁹ as well as the

¹⁴ To be sure, some SPACs play a different role as discussed below at § II.B.

¹⁵ See Klausner, Ohlrogge & Ruan, *supra* note 5 at 246-52 (cataloging and explaining the sources of SPAC share dilution).

¹⁶ *Id.* at 246-47.

¹⁷ See *supra* note 1.

¹⁸ These typically amount to 5.5% of IPO proceeds. A sum of 2% is paid at the time of the IPO. An additional 3.5% is deferred until the time of merger. See Robert Armstrong, *SPAC’s Fee Problem*, FINANCIAL TIMES, Sept. 30, 2021, <https://www.ft.com/content/6b1d70db-edae-474c-bd6f-bb60dfa99c51>. Sometimes underwriters agree to give up their deferred fees. See Gahng, Ritter & Zhang, *supra* note 5 at *16.

¹⁹ See SPAC Research *Pre-Deal*, <http://www.spacresearch.com/symbol>, (last visited

expected value of a merger. Investors who believe that the SPAC will fail to find a suitable target, for example, can sell or sell short. Other investors may believe that an excellent sponsor will succeed, while others might simply find themselves in the right circumstances.²⁰

Once a SPAC identifies a target company and reaches a merger agreement with it—involving a promise of a substantial cash infusion that will allow the target to expand—public shareholders of the SPAC vote whether to approve the proposed business combination.²¹ Separately, each public shareholder decides whether to redeem shares.²² If many public shareholders exit through redemption, as is often the case, then there is less cash to deliver to the target. Importantly, redeeming investors are permitted to keep their warrants and other claims, which must be purchased and satisfied by the business combination—presumably if it is successful enough that the warrants are exercised in the future.²³ The target company has negotiated for a sum that must be delivered to it regardless of the amount of cash left in the SPAC after these redemptions. As a result, sponsors expect cash shortfalls and they routinely search for PIPEs to fill the gaps because they must satisfy the deals made with their targets.

The timing of PIPE commitments can vary. Some SPACs engage in a “pre-PIPE” process with a handful of accredited investors in order to gauge

Feb. 19, 2022). As of the time of this writing, there are 603 pre-deal SPACs currently searching for a target. The amount of cash paid from the trust for each SPAC share is greater than or equal to its initial purchase price of \$10.00. *Id.*

²⁰ For an example, see Markets Insider, *IPOF Stock Alert: What Are the SPAC Merger Rumors Lifting IPOF Shares Today?*, (Feb. 18, 2022), <https://markets.businessinsider.com/news/stocks/ipof-stock-alert-what-are-the-spac-merger-rumors-lifting-ipof-shares-today-1031209671>, which notes:

IPOF stock isn't just any blank-check firm. It's the sixth in a series of SPACs launched by famed venture capitalist Chamath Palihapitiya. Mr. Palihapitiya saw incredible success in bringing companies public in 2020 and 2021... IPOF does not yet have a merger partner.

²¹ See Kristi Marvin, *Why is Marketing a SPAC's Acquisition So Important?*, SPAC INSIDER, Jun. 5, 2019, <https://spacinsider.com/2019/06/05/spacs-business-combination-marketing/>

²² The redemption option means that there is a money-back guaranty for SPAC investors. Unit holders are allowed to keep (or sell) their warrants even when they redeem their shares. For a time, redemption required voting against the proposed merger, so that a kind of consistency was required as is normally the case for one who seeks the appraisal remedy in the case of a merger. See Usha Rodrigues & Mike Stegemoller, *Exit, Voice, and Reputation: The Evolution of SPACs* 37 DEL. J. CORP. L. 849, 910 (2013) (noting that early SPACs required at least 80% approval of common shares). For the most part, SPACs no longer require this consistency.

²³ See Gahng, Ritter & Zhang, *supra* note 5 at *2.

the level of PIPE interest prior to launching a formal process.²⁴ Others may engage in a “PIPE upsize” process whereby existing PIPE investors contribute additional cash after the merger is announced and the level of redemptions is assessed.²⁵ It should be obvious that the more desperate are the sponsors to close a deal, the more attractive the terms a PIPE can secure. Sponsors have contracted for, and announced, their own compensation, and they will not be paid if the SPAC cannot reach its cash commitment to the target, and the deadline to complete a merger expires. If a sponsor expects high redemptions and a shortfall in the cash required to deliver to a target, PIPEs (and for that matter, any other strategic investor) can therefore secure more favorable terms. This phenomenon is amplified inasmuch as demand for SPAC financing is high and the supply of PIPEs is low, perhaps because PIPEs must invest in discovering facts about each potential investment. Put differently, there are many optimistic businesses that want to be targets, but fewer investors who will put in the time and effort to study a given potential target. In turn, sponsors incentivize PIPEs to transact with them by offering an interest in the SPAC at prices below that available in the market that normal investors can access. Deals can be sweetened with convertible debt, convertible preferred equity, and additional warrants.²⁶ The sponsor can also replace the standard SPAC units with various combinations of these securities. Several strategies to complete a deal can be imagined. By and large, every sweetener to a PIPE dilutes what remains of the stake originally obtained by the SPAC’s retail investors.²⁷

In sum, the retail investor in a SPAC faces four sources, or means, of dilution: (1) shares and warrants that go to compensate founders when a deal is struck; (2) that extracted by IPO-stage and pre-merger investors, who are enticed to invest with warrants and other claims that must eventually be paid by a successful business combination; (3) fees paid to underwriters and other service providers, for carrying out the transaction; and finally, (4) the warrants, preferred shares, and especially below-market

²⁴ See Christopher Barlow et al., *Choppy Market for SPACs and PIPEs, Competition for Targets Spurs Deal Innovations*, SKADDEN INSIGHTS, (Jan. 19, 2022), <https://www.skadden.com/insights/publications/2022/01/2022-insights/corporate/choppy-market-for-spacs-and-pipes>.

²⁵ *Id.*

²⁶ *Id.*

²⁷ PIPE investments need not lead to dilutions. PIPEs may simply purchase the common stock at market rates. Alternatively, if a PIPE investment increases the number of shares, as well as the proportional valuation of the business combination, then the value of the outstanding shares remains constant. Without warrants, the investment actually decreases dilution since the value of the outstanding warrants will be reduced by the issuance of new shares.

priced shares that entice, and go to, PIPEs.

Commentators have suggested that the relevant gap for assessing the magnitude of dilutions to the normal SPAC shareholder is the difference between the purchase price of a SPAC share (standardized at \$10.00) and the amount of cash per share left in the SPAC upon delivery to the target. An estimate of this difference from January 2019 to June 2020, for the median SPAC, is \$5.70.²⁸ If so, the target must indeed be well chosen for the original investment by the public investor to be worthwhile.

In the absence of an experiment that randomly dilutes completed SPAC deals, it is difficult to identify any causal effect of shareholder dilution on the longer term performance of the business combination. For example, an investment made in SPACs over 2019 to mid-2020 earned, on average, 17.9% less than an investment indexed to the NASDAQ.²⁹ This might seem to indicate that highly diluted SPACs attract poor targets because weak targets accept bad deals. However, the relationship could be reversed (or simultaneous) so that good targets may (partly) generate poor returns because the business combination begins with diluted shares. Because of this possibility, it is difficult, if not impossible, to identify a causal relationship between shareholder dilution and the performance of a business combination. As already noted, the same study demonstrates that SPACs that are created by “high-quality” sponsors can yield excess returns even as shares are diluted.³⁰ But accounting for sponsor quality does not eliminate the difficulty of identifying a causal effect of dilution. It is simply another variable that is correlated with both share dilution and the performance of the merged firm. At this point we are unable to say much about the success or failure of the SPAC strategy; ours is a theory and not one that has game-changing empirical support.

Standard econometrics might deploy an “instrumental variables” approach; it might search for variables that tightly correlate with share dilution, but are otherwise unrelated to merger performance. The relationship between the instrument and share dilution could then be isolated, and subsequently used to analyze whether the sequestered effect of share dilution has any causal impact on the performance of the business combination. Finding a credible instrument is likely impossible, however, because any variable correlated with share dilution is, in all likelihood, correlated with merger performance just as well.

²⁸ Klausner, Ohlrogge & Ruan, *supra* note 5 at 246.

²⁹ *See supra* note 6.

³⁰ *Id.*

II. THE SPAC FINANCING CHAIN

As noted earlier, a SPAC sponsor, or founder, often in the form of a team, aims to find a target company that is privately held. The sponsor attracts funds and helps the target go public and grow.³¹ Technically, the target will be merged with the SPAC. At the time of their investment in the publicly traded but empty SPAC, investors do not know the identity of the target that the sponsor will discover. The sponsor names a period, typically two years, for it to discover a target;³² if no target is found in this period, the SPAC is dissolved and investors receive their money back with a modest interest rate.³³ If there is a discovery, and a merger deal with the target, the sponsor is rewarded; this is because the sponsor has “purchased” 20 or 25% of the SPAC’s shares at a nominal price, perhaps \$25,000.³⁴ Sponsors gain yet more from a successful identification and merger process because they are normally able to buy warrants in the SPAC prior to its IPO, though these come at a cost.³⁵ Often, sponsors must purchase warrants that total 2.5 to 3 percent of SPAC proceeds in order to be able to purchase shares at a nominal price.³⁶ For a SPAC that raises \$100 million, for instance, sponsors would need to purchase \$2.5 to \$3.0 million worth of warrants. The

³¹ See *supra* notes 16-17 and accompanying text.

³² When a SPAC is listed on a securities exchange, it must find a target within three years. See NYSE Listing Manual 102.6; NASDAQ Listing Rule 5510. However, SPACs may and do often opt for shorter periods of 18 to 24 months. See *What You Need to Know About SPACs—Updated Investor Bulletin*, U.S. SECURITIES AND EXCHANGE COMMISSION, May 25, 2021, <https://www.sec.gov/oiea/investor-alerts-and-bulletins/what-you-need-know-about-spacs-investor-bulletin>.

³³ Cash held in the trust is typically invested in U.S. Treasuries. Redeeming investors receive a pro rata share of the cash on deposit in the trust account. In order to satisfy exchange rules, at least 90% of gross IPO proceeds must be deposited in the trust, so investors stand to lose very little if they do not gain a modest return. See NYSE Listing Manual 102.6; NASDAQ Listing Rule 5510. As of the time of this writing, all live SPACs are trading at or above \$10.00 per share, which means that redeeming investors would earn a modest gain or have their money returned. SPAC Research, *Pre-Deal* (last visited Feb. 14, 2022), <https://www.spacresearch.com/symbol?s=pre-deal§or=&geography=>.

³⁴ For most transactions, investors purchase Class A shares that come with voting and redemption rights. Sponsors purchase Class B shares, which come with neither right, but convert to Class A shares if a merger is completed. The converted shares must be held for a time before they can be sold. For instance, a sponsor may pay \$25,000 for 5,000,000 Class B shares, or ½ cent per share. See Gahng, Ritter & Zhang, *supra* note 5 at *1.

³⁵ *Id.* at 2.

³⁶ See Steve Hills & Justin Burchett, *SPAC Warrants, Founders’ Shares, PIPEs: What Practitioners Should Know*, FINANCIAL EXECUTIVES INTERNATIONAL, May 25, 2021, <https://www.financialexecutives.org/FEI-Daily/May-2021/SPAC-Warrants,-Founders%E2%80%99-Shares,-PIPEs-What-Pract.aspx>.

sponsor's stock and warrants are subject to a required holding period and, unlike warrants available to investors who buy SPAC shares, the warrants bought by the sponsor often cannot be redeemed unless transferred to a third party.³⁷

Initial investors, who might be large investors, must then vote to approve the acquisition of the target and join in the surviving business; alternatively, they can exit and take away the amounts they invested plus interest—but they can hold on to some warrants in the ongoing SPAC.³⁸ Insolvency aside, it looks like an investment that cannot go wrong, unless these are investors who prefer to invest in risky businesses. In this one, at least, they either get their money back with interest or the opportunity to stay on board after they see the target.

A. *The Role of the Sponsor*

The growing literature on SPACs does not sufficiently appreciate the role, or roles, that SPACs play in the market. A successful sponsor should be understood as doing several things. (1) Discovery: The sponsor must identify a private company with good prospects, and it must do so within a specified time period. (2) Deal-Making: The sponsor must negotiate with this privately-owned target about the terms of the merger between the target and the SPAC. (3) Management: The sponsor often takes part in the management of the enlarged, merged company, so that the sponsor provides guidance or management—in much the same way that a venture capitalist, not to mention one of the investors on *Shark Tank*, remains involved with its targets. Here, small investors are offered the opportunity to invest in the shark; SPACs offer small investors a “poor” person’s alternative to the venture capital world.³⁹ (4) PIPE-Dealing: Given that many of the initial investors in the SPAC will depart and take out their investments while holding on to warrants (even if these warrants are soon sold), the company will often need more capital, so that the sponsor (as part of its deal with the target) needs to attract and negotiate with a PIPE (private investment in public equity) that may receive a preferential price per share.⁴⁰ The PIPE’s willingness to invest in the ongoing SPAC, with the target now identified by the founder, is an important signal to original investors in the SPAC who had remained, as well as to new investors in the ongoing SPAC. Indeed, a

³⁷ See *id.* (providing an example of typical terms of sponsor warrants).

³⁸ See U.S. SECURITIES AND EXCHANGE COMMISSION, *supra* note 32.

³⁹ See *supra* notes 21-22 and accompanying text.

⁴⁰ For the 47 SPACs examined by Klausner, Ohlrogge & Kuan, the median discount given to PIPEs is 5.5%. Klausner, Ohlrogge & Kuan, *supra* note 5 at 239.

PIPE's role is so important that it might seem surprising that the small, public investors' redemption, or money-back guarantee, right has remained in place in the world of SPACs. In any event, the SPAC at this point is much more than a shell company.

From a small investor's point of view, an investment in a SPAC is a bet on the ability of the sponsor to identify, and then manage, a target company.⁴¹ The two functions are often inseparable (a combination that is familiar to those who follow the popular program, *Shark Tank*). The sponsor may have real skill in discovering prospects, but the evaluation of this skill over time does depend on the management of the target as well as the true price paid for the target. For example, a given sponsor may be right that electric bikes are the thing of the future in a given location, but if an investment in such an enterprise fails, it may be because the idea was excellent, but the execution of the idea was faulty. Future investors will not know if this sponsor is good at discovery or good at managing—or good at neither. If only the sponsor had selected and worked with many businesses in the past, an investor might easily evaluate the sponsor's ability to discover and to manage. In fact, each discovered business might take a few years to succeed or fail, and a sponsor who is spread very thin introduces the variable of sub-managers. It will be rare for a sponsor to build up a sufficient history for investors to know whether it is good at discovery or managing.⁴² A given sponsor may be skilled when it comes to execution, or

⁴¹ Recent litigation over application of the Investment Company Act of 1940 (ICA) considers whether SPACs should be considered operating companies or "inadvertent investment companies." The question can be traced back to *In the matter of The Tonopah Mining Company of Nevada*, 26 S.E.C. 426, 1947 SEC LEXIS 321, distinguishing operating companies from securities, or holding, firms. See, e.g., *Assad v. E.Merge Technology Acquisition Corp.*, Case 1:21-cv-07072-JPO, (Aug. 20, 2021) (S.D.N.Y.). If considered an operating company, then a SPAC remains free from ICA compliance rules. If considered an investment company, then a SPAC may be required to comply after a twelve-month grace period. Any analysis of SPAC categorization, whether guided by *Tonopah*, or otherwise, should consider the sponsor's role. The SPAC's managers search for targets, negotiate merger terms, and then eventually manage the business combination. Its role is that of an active operator.

⁴² Successful experience as a corporate executive can suggest good management skills. Private equity firm experience can serve as a proxy for discovering good targets. Indeed, a current trend in SPACs is private equity firm sponsorship. See *supra* note 6. However, both are proxies and are not perfect substitutes for SPACs, which present different variables. Some SPACs include celebrities within their sponsorship teams. See Bailey Lipschultz, *Celebrity SPACs Leave Famous Winners Looking More Like Losers*, BLOOMBERG MARKETS, (Dec. 16, 2021), <https://www.bloomberg.com/news/articles/2021-12-16/celebrity-spacs-leave-famous-winners-looking-more-like-losers>. Because their role can be understood as advertorial and unrelated to target identification and management, instances of celebrity SPACs should be expected to decline.

management, but these skills are wasted on a target that simply had a poor idea in the first place. A successful startup is a combination of an idea and of management, and it is normally hard to see which of the two was more important in bringing about success or failure.⁴³

When the SPAC founder solicits investors, the founder offers to find a suitable target within a period of time; two years is common as noted earlier, though the period can be as long as three years.⁴⁴ In turn, the SPAC's discovery is less promising as the stated period comes close to expiration, because investors know that the SPAC will become desperate in the face of the requirement that it must return the capital entrusted to it; after all, the founder is enriched only if it finds a target that it can pass off as appealing. This two-year period therefore seems unstable. We might expect the contractual rules governing redemptions or warranties to change so that SPACs are no longer rushed to find a target at the end of the two year period. This might be done in several ways, including a sliding scale reduction in the ownership retained by the SPAC as the search period proceeds. In the interim, a partial solution to this end-period problem seems to have emerged, though SPAC critics do not seem to have noticed the end-period problem or the evolving solution to it.

1. Data

To assess the relationship between redemption rates and SPAC closing deadlines, we construct a sample of 87 SPACs that completed an initial public offering between July 2015 and December 2018 and then successfully completed a business combination on or before June 2022.⁴⁵ To our knowledge, they represent all SPACs that satisfy these two criteria. Summary statistics of redemption rates are presented below.

⁴³ Any reader who is devoted to the television program, *Shark Tank*, is familiar with this pattern. Still, there are exceptions to the problem of discovering a sponsor's talents. If there are many new businesses pursuing the same idea, and only one fails, it can be inferred that it was poorly managed. But most target companies (and sponsors) will not present such easy opportunities for evaluation.

⁴⁴ See *supra* note 32.

⁴⁵ Gritstone Asset Management provided data on redemption rates and total public shares. For market variables, we consulted the Federal Reserve Bank of Saint Louis database. Data on sponsor characteristics was collected from EDGAR (the Electronic Data Gathering, Analysis, and Retrieval system), in particular, S-1 Registration Statements (or their 4F Form equivalents for private foreign issuers) and 263 Rule 424(b) Prospectuses.

SPAC Redemption Rates	
Mean	0.58311
Median	0.74120
Minimum	0.00000
Maximum	0.99770
Standard Deviation	0.36884

Table 1: SPAC Redemption Rates Summary Statistics, n = 87

The distribution of redemption rates is convex. Twenty-one SPACs possess redemption rates of less than 20 percent. Thirty-seven SPACs have redemption rates of more than 80 percent; most of the common investors take their money and run, while hanging on to warrants. Investors redeem between 20 and 80 percent of shares for the remaining twenty-nine SPACs in our sample.

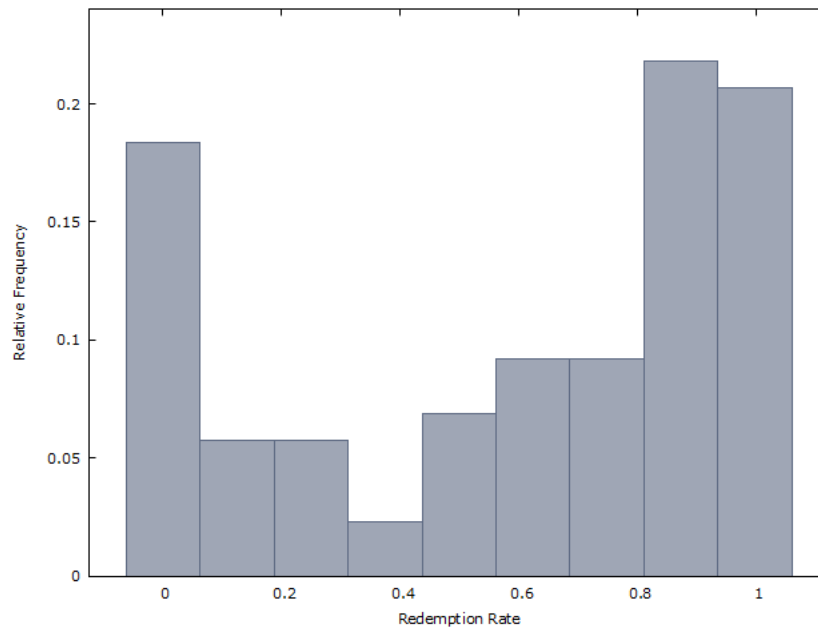


Figure 1: SPAC Redemption Rate Frequency Distribution, n = 87

Consider, then, the relationship between redemption rates and the closing deadlines that sponsors confront. Sponsors facing deadlines may rush to close weak deals. On the other hand, most investors will know this, and they will depart, whether or not they take the opportunity to vote against the merger that a sponsor proposes. Alternatively, if the sponsor and the investors think that with some more time the sponsor can find or consummate a deal in the near future, the investors can help the sponsor

extend the search period. The sponsor will get something if a minimally acceptable deal is completed in the previously announced (normally two-year) period, but it is easy to see that an extension will often be in the best interest of the sponsor as well as the investors. Additional search can lead to discovery or completion of a profitable business combination. Investors who continue to have confidence in the sponsor's skill at discovery, or believe that the market is ripe, or actually observe that the sponsor is close to completing a good deal, will favor allowing more time for search. But at some point, investors will become impatient, and lose confidence in any claim made by the sponsor; they know that the sponsor has reason to rush as the announced time for a discovery comes to an end and, for most investors, it is likely that one extension is more than enough. Asking for multiple extensions is either a signal that the sponsor is less capable than previously thought, or that the market does not offer suitable targets. Sponsors are aware of this, of course, and it is unsurprising that at present the market favors a two-year period followed by a fair number of (just) one year extensions.

Available data support this theory. For each SPAC in our sample, we compute the number of days that pass from IPO to business combination. Summary statistics are presented below.

Number of Days from IPO to Business Combination	
Mean	703.91
Median	694.00
Minimum	248.00
Maximum	1307.0
Standard Deviation	246.70

Table 2: Days Passed from IPO to Business Combination
Summary Statistics, n = 87

The distribution of number of days passed is concave. Twelve SPACs close within 450 days; the sponsors did not rush at day one to claim rewards, but searched for a reasonable period and avoided any fear that they rushed to completion before the expiration of a two-year (730 day) period. Nine SPACs close after 980 days. The remaining sixty-six SPACs close between 450 and 980 days.

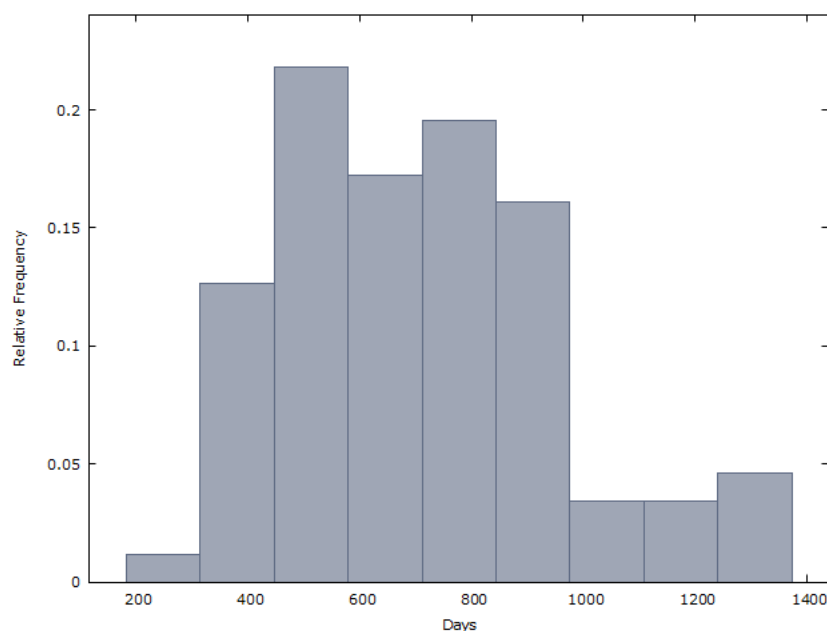


Figure 2: Days Passed from IPO to Business Combination
Frequency Distribution, n = 87

In addition to redemption rates and length of time to merger, we collect a set of control variables—some of which prove useful in thinking about the role played by PIPEs as discussed presently in Section B. We take account of the number of public shares issued, a set of measures for market conditions (including year dummies),⁴⁶ and a set of measures for sponsor characteristics. The latter consist of the size of the sponsor team, the team’s average age, whether the team includes a female, the gender of the CEO, whether the CEO has prior experience as a CEO at a public company, and whether the CEO has completed a Ph.D., MBA, J.D., or graduated from an Ivy League school. A list of the controls, along with summary statistics, is provided below.

Variable	Mean	N
Total Public Shares	25,820,000	-
T-Bill Rate	1.46%	-
Russell 2000	1470.20	-
VIX	14.15	-
Year 2015	-	8
Year 2016	-	8

⁴⁶ Specifically, they are the rate for 13-week treasuries, the value of the Russell 2000 index, and the value of VIX (all at the time of IPO). Year dummies are assigned on the basis of IPO date.

Year 2017	-	29
Year 2018	-	42
Size of Sponsor Team	6.6	-
Average Age of Sponsors	53.038	-
Sponsor Team Includes Woman? (1 = yes)	-	53
CEO Gender (1 = man)	-	84
CEO Prior Experience? (1 = yes)	-	63
CEO Ph.D.? (1 = yes)	-	12
CEO MBA? (1 = yes)	-	45
CEO J.D.? (1 = yes)	-	12
CEO Ivy League? (1 = yes)	-	42

Table 3: Control Variables with Summary Statistics, n = 87

2. Empirical Analysis

We first examine a scatter-plot of number of days passed between IPO and business combination versus redemption rates. The plot shows a clear relationship between the two variables.

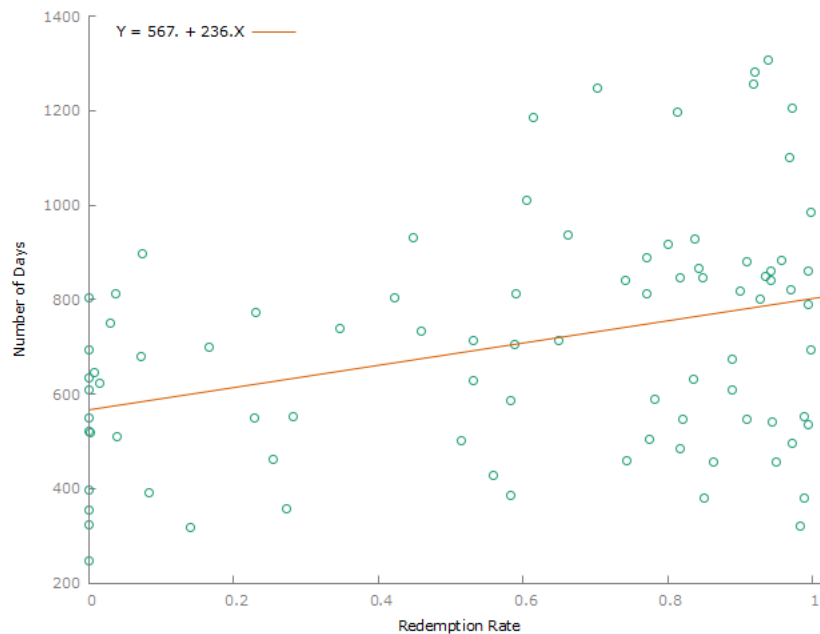


Figure 3: Number of Days from IPO to Business Combination versus Redemption Rate (with least squares fit)

We next regress redemption rate on days passed and the complete set of controls in column (1). Days passed is significant at conventional levels. In column (2), insignificant variables are dropped and redemption rate is

regressed again. Days passed remains significant at conventional levels.

Outcome variable: Redemption Rate		
	(1)	(2)
Constant	-0.00348 (1.12740)	-0.07803 (0.23168)
SPAC Features		
Days IPO-BC	0.00047 *** (0.00015)	0.00043 *** (0.00013)
Public Shares	-7.17e-09 *** (2.14e-09)	-7.13e-09 *** (1.76e-09)
Market Features		
T-Bill Rate	-0.20219 (0.15484)	
Russell 2000	3.27e-05 (0.00078)	
VIX	0.00323 (0.01589)	
Sponsor Features		
Number	0.06023 ** (0.02860)	0.05063 * (0.02598)
Avg. Age	-0.00392 (0.00731)	
Female Incl.? (1 = yes)	0.31519 ** (0.15722)	0.21195 * (0.12706)
CEO Gender (1 = man)	-0.02762 (0.07616)	
CEO Prior Exp. (1 = yes)	-0.00331 (0.09176)	
CEO Ph.D.? (1 = yes)	0.03296 (0.11889)	
CEO MBA? (1 = yes)	-0.09437 (0.08214)	
CEO J.D.? (1 = yes)	-0.10703 (0.12962)	
CEO Ivy? (1 = yes)	-0.04116 (0.08508)	
R-squared	0.38456	0.27664
N	87	87

Notes: Robust standard errors in parenthesis. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels respectively. Year dummies insignificant and not reported.

Table 4: Ordinary Least Squares Estimates, SPAC IPOs between June 2015 and December 2018 that Successfully Combine Prior to June 2022

We then run a series of robustness checks. First, one-half of the data is randomly sampled, and the regression in column (2) is estimated again. Days passed between IPO and business combination remains significant, but at the 10% level. In addition, the standard error slightly loosens from 0.00015 to 0.00018. Consistent with the theory that sponsors optimally choose to stop searching for a target in order to maximize their expected compensation—both because impatient sponsors are willing to settle for a weak deal and patient sponsors prefer to continue searching only if they can maintain investor confidence—we restrict the sample on the basis of closing

before and after two years. First, all transactions that conclude beyond the standard search time of two years are excluded and the regression is re-estimated. Number of days between IPO and business combination does not significantly impact redemption rates when transactions conclude within two years. Next, and finally, all transactions that conclude beyond two years are set aside for estimation. As expected, number of days is significant for the transactions of this cohort.⁴⁷ Sponsors may wish to extend, but are less able to do so because investor confidence in their discovery capabilities may deteriorate further in response. As anticipated, the data show that lengthier searches beyond two years cause an increase in redemption rates.

Outcome variable: Redemption Rate				
	(1)		(2)	
Constant	-0.14556	(0.32117)	0.207560	(0.34979)
SPAC Features				
Days IPO-BC	0.00022	(0.00044)	0.00053 **	(0.00025)
Public Shares	-9.49e-09 ***	(2.32e-09)	-2.58e-09	(3.12e-09)
Sponsor Features				
Number	0.02641	(0.03681)	0.01525	(0.04180)
Female Incl.? (1 = yes)	0.21786	(0.18806)	-0.02958	(0.10481)
R-squared	0.34931		0.13792	
N	48		39	

Notes: Robust standard errors in parenthesis. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels respectively. Year dummies insignificant and not reported.

Table 5: Ordinary Least Squares Estimates,
SPAC IPOs between June 2015 and December 2018 that Successfully
Combine Prior to June 2022 in Less than and Greater than 730 Days

This analysis is consistent with the theory that sponsors provide a valuable service to the common investor. Because sponsors identify profitable targets, investors are willing to extend search periods for a time, but they will eventually lose confidence and exit.

B. The Role of the PIPE

The difficulty one encounters in judging the performance of a sponsor explains the role of a PIPE (as well as any venture capitalist), which should be understood not only as providing capital—which will be of special value

⁴⁷ As a robustness check, insignificant variables were dropped and the regression re-estimated. Days passed is significant at the 1% level, the coefficient slightly increases to 0.00062, and the standard error tightens to 0.00021.

the more that the original investors exit—but also as providing information to new investors, and also to earlier investors who have the opportunity to exit. Any small investor would need to expend a great deal of energy in evaluating the project and management skills at stake in the new company, and there is therefore a collective action problem because a single investor does not have enough at risk to justify a full investigation.⁴⁸ Many investors could pool this work, or hire an evaluator, but then they need to evaluate the evaluator, unless they are able to rely on past experience and reputation. Inasmuch as sponsors cannot possibly offer evidence of a very large number of successes, it will be rare for a sponsor to be able to offer convincing evidence of past performance. One solution is to see whether a large investor thinks the sponsor has done a good job in choosing a target. In turn, this large investor, with more at stake, will require payment for the work, inasmuch as the small investors are, in a sense, hoping to free-ride on the work of an investor who evaluates the sponsor. The idea is that the sponsor needs to be rewarded for discovering and managing, and then another party needs to be rewarded for evaluating the sponsor.⁴⁹ In the world of SPACs, these payments, or rewards, are apparently made by giving these parties stock in the post-takeover SPAC, at preferential prices. The sponsor is rewarded with stock that comes at very low cost, and is valuable only in the event of a successful acquisition; meanwhile, the evaluator, or PIPE, that effectively certifies the sponsor, is rewarded with the ability to buy shares at a discount price.⁵⁰ No wonder it must hold these shares for a period of time.

⁴⁸ Collective action problems, generally, are social dilemmas where all would be better off cooperating, but none has a personal incentive to do so. See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 2* (1965). The collective action problem facing investors helps explain why small investors, even acting rationally, have not demanded better disclosures from law. It is important to see that investors are seeking good returns (and not information), and that sponsors and PIPEs can evaluate and certify targets that generate those returns independent of the level of information provided to investors. In general, it should be expected that the importance of disclosure is increasingly eclipsed by certification and vetting as collective action problems increase. But the more important point, as stressed presently, is that sponsors and PIPEs provide skillful identification and evaluation of targets, which is more valuable to investors than serialized information. As a result, disclosures that focus on keeping sponsors and PIPEs honest are more valuable than disclosures that provide information about targets inasmuch as the two do not overlap.

⁴⁹ This process of identification and evaluation suggests that permitting common investors to directly purchase shares of targets will accomplish little towards curbing share dilution and investment in SPACs generally. It is the skillful identification and evaluation of targets that they are seeking, not access. If other means of identification and evaluation arise, such as prediction markets or insurance (as suggested *infra* § IV), then a demand for direct purchase of shares might increase.

⁵⁰ PIPEs are rewarded in a variety of ways, one of which is to enjoy priority over common investors.

Retail investors pay market price for SPAC shares, while the PIPE negotiates for a discount. Pre-merger investors are also paid with warrants, whether stock is purchased during the IPO or on secondary exchanges,⁵¹ and this is another way to acquire shares in the evolved SPAC at prices lower than those paid by late-comers who can see the target and thus possess more information than the original investors in the blank SPAC.

We do not mean to imply that this relationship among SPACs, PIPEs, and small investors is a universal one. Some PIPEs put in far more money than the smaller investors in the original SPAC. In these cases, the SPAC's role is probably to get the company listed in the first place and to create a market in which shares can be traded.⁵² These SPACs also play a sensible role in the market, and can also be thought of as part of the chain. However, most of the discussion here focuses on (the more interesting and familiar) cases where SPACs are an important means of gaining access to the capital offered by small investors.

Another problem with the SPAC-PIPE story offered here is that the development of PIPEs could have brought about the elimination of the small investors' easy exit option, or money-back guarantee. It did not, but the problem is not a big one for the theory offered here. First, the presence of the guarantee encourages the original investment. After all, if a PIPE is observed entering in a feeble manner, the earlier investors will want to exit, and they will invest more readily pre-PIPE if they know this is to be a later option. Second, two guarantees, or signals, are better than one. Still, we must concede that the argument here proves a little too much. If the development of the PIPE pattern had been accompanied by a reduction in the ability to exit at no loss, we would surely claim that our argument about the role of the PIPE was yet stronger.⁵³

⁵¹ See notes 22-24 and accompanying text.

⁵² See Matt Levine, *Big SPAC Deals Don't Need Big SPACs*, BLOOMBERG LAW, Apr. 13, 2021, <https://www.bloomberg.com/opinion/articles/2021-04-13/grab-spac-mega-merger-isn-t-mega-without-blackrock-pipe>.

⁵³ Of the 47 SPACs examined by Klausner, Ohlrogge & Kuan, 77% received some amount of PIPE investment. See Klausner, Ohlrogge & Kuan at 245. The fact that some SPACs receive no help from a PIPE, which could be interpreted as a signal of rejection and disapproval, may help explain the persistence of the redemption right.

This Article is different from other recent analyses of SPACs in that it offers a theoretical view without direct empirical observation—apart from the novel analysis of redemption rates and discovery deadlines *supra*. Empirical analyses of SPACs suffer from small sample sizes and a proclivity to make claims based on descriptive statistics. Accurate causal claims are difficult (if not impossible) to make with larger sample sizes that aggregate historical SPAC data because today's SPACs are not comparable to those that came before. While aggregated descriptions of a handful of SPACs can be useful if studied

This tidy description of the reward system surrounding a SPAC's formation is, however, subject to a more serious objection. The preferential stock prices obtained by the sponsor and then by the PIPE seemingly eliminate any signal or service to the small investor. These intermediaries may well be paid, as just described, for their evaluative and management services, but how do investors know that the sponsor and PIPE are not being overpaid or, what is the same thing, that the SPAC is a good investment at the higher price required of the common investor? For example, a PIPE that acquires shares at a price of \$8 per share is not really telling investors that the investment available to them at \$10 a share is worth that amount or more. The PIPE could think it worth \$9 in terms of the present value of future profits, and indeed could be counting on the profit produced by innocent investors who are paying \$10.

1. The Information Benefits of PIPE Deal-Terms to Small Investors

We have seen that the presence of a PIPE provides valuable information to small, and even unsophisticated, investors. As the sponsor's time period in which to find a target comes to an end, investors are increasingly skeptical because they recognize that in order to profit, the sponsor must combine the SPAC with a target, or bring the adventure to an end with no profit for the sponsor.⁵⁴ The sponsor's choice of a target therefore provides less valuable information to investors as time goes on. But once a target is identified, and a deal is struck between the sponsor and the target, the sponsor now needs to induce a PIPE to join, in order to provide more capital to the target. At this point, the PIPE has more information than the early investors, because the target and its arrangement with the sponsor are now known. Smaller investors cannot avail themselves of the deals offered to the sponsor or to the PIPE, but at least they can see the identified target—though they know little about it because information is costly for them to acquire directly—and, of far greater importance, they can see that a PIPE has been attracted, even if it enjoys a price that is better than that available to the less informed investor. If we know that the best informed person in town is willing to pay \$X for a company's shares, it is rational for an uninformed person to pay a bit more than \$X for similar shares.

carefully, they also can generate misleading conclusions as any other phenomenon under study with too few observations. Our own empirical analysis of redemption rates should be read keeping these caveats in mind. The theoretical claims and suggestions presented here can be tested as well any other analysis, and we make no claim of superiority (or inferiority) over other methods.

⁵⁴ See *supra* note 21 and accompanying text.

To see this somewhat counterintuitive point, consider a buyer who is choosing whether to purchase a basic Toyota or a comparable car from Honda. Frequently, the cars look alike, come with similar features, and are available at very similar prices, with comparable warranties. Online reviewers extol or criticize their features after short trial runs, but different reviewers are likely to prefer different vehicles, often for idiosyncratic reasons. The buyer would like to know more about reliability, future resale value, likely maintenance costs, and other characteristics that test drives are unlikely to reveal. A given buyer has neither time nor reason to invest much in evaluating the car. But now imagine that the individual buyer can observe that a much larger buyer, like the Avis car rental company has contracted to buy 3,000 of the Toyota vehicles. Avis will have its own maintenance and inspection facilities, and Avis will know much more about the vehicles than a single buyer. To be sure, Avis's sizeable transaction will give it a better per-vehicle price than what is available to an individual, and the fact that Avis buys the car gives it yet further bargaining power with Toyota. Both know that Avis's choice allows many potential buyers to sample the car as a rental, and both know that Avis's choice tells potential buyers that a very sophisticated buyer has chosen Toyota over Honda. Still, we have the same problem as before; if the car is available at \$25,000, but Avis is expected to obtain a discount, normally unknown (but imagine it buys at \$22,000 per vehicle), the typical buyer might reason that Avis values the car at something on the order of \$23,000 and would not have bought the car at the \$25,000 price required of the typical individual purchaser. If so, Avis's choice does not seem to give the one-off buyer valuable information, any more than the PIPE's investment should give the typical investor a positive signal.

But this is probably faulty reasoning. It is true that Avis is better situated to evaluate the resale value of its cars than are most owners. Avis is better informed than the typical buyer, and the one-off buyer might want to learn from Avis's decision. It is also the case that Avis has no direct means of charging buyers for its information; the presence of new Toyota cars can be observed at no cost in Avis's lots, and the only way Avis can obtain some compensation for its evaluation effort and information is in the form of a better price from Toyota, which will then benefit from making more sales or obtaining a higher price from consumer purchasers. Again, the problem is that the individual who observes Avis's purchases does not know whether Avis would regard the Toyota as a good purchase if it faced the same, higher price, required of the individual consumer. Avis might buy at \$23,000 but not at \$25,000, in which case the typical consumer would not

want to buy the car at the price available in the dealership. And yet—and here is the key to the argument—the same reasoning and problem would have been present if Avis had selected the Honda vehicle. It too would have benefited from Avis’s purchase, so that Honda and Toyota are in similar positions with respect to Avis. Avis’s decision to buy from Toyota really does provide information to the consumer, even though the typical consumer cannot obtain the better price that is surely available to Avis.

Similarly, a PIPE has numerous firms in which to invest.⁵⁵ It may even have multiple sponsors with which to partner. The fact that a PIPE chooses a given sponsor, when combined with the SPAC’s selection, does provide valuable information to relatively ignorant investors. And this is so even though the consumers, which is to say the common investors, cannot join in at the same price per share available to the PIPE. The PIPE is in this way rewarded for its investigative efforts and for the information it provides smaller investors, even though they can never be sure that the PIPE values the opportunity at a price equal to or greater than that available to the smaller investor.

In many cases, the sponsor invests more after discovering the target, and it may be required to do so by the target,⁵⁶ but this is not terribly valuable information for small investors. After all, the sponsor needs the transaction to be completed in order to obtain the value of the “free” shares it took at the outset. If the sponsor retains 20% of the (eventual number of) shares at the outset, sells 60% in the market, and then 20% to the PIPE at a price better than that available in the market, it is not terribly useful information to see that the sponsor purchased one-quarter of the 60% at market value, or even that the sponsor simply “gave” money to the target in one form or another. After all, this investment is likely necessary to give value to the original 20% obtained by the sponsor. It is true that the sponsor, like the PIPE, also has other places in which to invest, much as Avis could buy other vehicles, but the return to the sponsor from the survival of the SPAC-target entity is sufficiently great that the fact of the sponsor’s investment provides little information to ignorant investors. It is a bit like finding that Avis was able to buy the Toyota vehicles at \$10,000 each; in that case, the information would be of very little value to an individual purchaser, who must decide which vehicle to buy at \$25,000.

⁵⁵ This number has been growing. In 2021, 397 IPOs generated proceeds of \$142 billion. In contrast, 613 SPACs raised \$145 billion and nearly 200 mergers were completed. Renaissance Capital, *US IPO Market 2021 Annual Report*, Jan. 3, 2022.

⁵⁶ See Gahng, Ritter & Zhang, *supra* note 5 at *2.

Tangentially, we might note that if Hertz buys 2,000 of the Honda vehicles after Avis has bought many of the Toyota vehicles, it is the earlier Avis purchase that probably provides better information to most consumers. After all, in our somewhat stylized case, Honda and Hertz both know that if Hertz now buys the Toyota, consumers will have a yet stronger message about the relative value of Honda and Toyota's vehicles. Honda is thus induced to offer Hertz a lower price than it offered the first mover, Avis, and, in turn, consumers should be less certain that Hertz, another well-informed buyer, assigns a greater value to the Honda vehicle than that required of the individual consumer. This, in turn, makes the value of the information provided by Avis yet more valuable, because Avis and Toyota both know that Honda's retail price will go down if Avis waits, and the differential between the price paid by the rental agency and that available to the typical consumer will shrink, so that the information provided to the consumer will be more valuable. This thinking is of interest to game theorists but it is set aside here because it is unlikely to play a role in the PIPE-sponsor-target negotiations.

2. The Information Benefits of Failed PIPE Negotiations

Before a sponsor team concludes terms with a PIPE, it likely attempts to persuade other PIPEs to invest in the SPAC on similar or less favorable terms for the newcomer.⁵⁷ Small investors cannot presently learn of these negotiations. This hidden information would be useful inasmuch as it would reveal how PIPEs evaluate SPACs. A college sports coach with 100 wins and 10 losses is more likely to advance in the market for coaches than is another coach with 100 wins and 90 losses. Wins and losses are just a piece of information in a large set, but both wins and losses reveal something about the coach's potential and abilities.

When a PIPE rejects a SPAC investment, it signals a belief that the SPAC will generate lower returns relative to the PIPE's other investment opportunities. If, for example, the PIPE earns 15% risk-adjusted returns on average, then small investors can reasonably infer that this PIPE believes that the SPAC will earn less than 15%. If the SPAC earns more, then the PIPE will have made a bad decision. Over time, investors can tally the good and bad decisions of PIPEs, and learn whether some PIPEs are superior evaluators. Learning of this kind already occurs by observing PIPE

⁵⁷ Cf. Dmitri Basev & Jason C. Katz, *How SPAC Skepticism Has Given PIPE Investors an Edge*, LAZARD INSIGHTS, May 2021, https://www.lazardassetmanagement.com/us/en_us/research-insights/lazard-insights/spac-skepticism-pipe-edge#! (noting that PIPE capital has become scarcer).

investments. It can be enhanced by observing PIPE rejections. It is possible that regulation will evolve to require publicly traded, or publicly offered, companies to reveal information about rejections. Requiring a privately owned PIPE (or SPACs) it has considered, to reveal these decisions for the benefit of investors who consider copying the PIPE's investment would be a new path for law to take. Investors would want to know not only the PIPE's decision to forego an investment opportunity, but at what price this SPAC was available. In the case of automobiles, consumers can observe that the Avis lots are full of Toyotas, but they do not know at what price these cars were purchased, or the price at which a comparable Honda deal might have been struck. It is plausible that in a very efficient market, consumers could pay for this information. This, too, is a topic best left for another day, as it requires some thinking about strategic behavior on all sides.

To be fair, it is no small task to evaluate a given PIPE over time. Its management may have changed, it is difficult to adjust for risk correctly, and a PIPE's opportunity costs are not easily discovered. This, of course, is a general problem in evaluating decision-makers, and in comparing them to others in the field. Those who watch and study *Shark Tank* are familiar with this problem. Among other things, the television program brings back success stories for the audience to celebrate,⁵⁸ but it does not advertise the losing decisions made by the investors, who are repeat players and would be easier to evaluate than founders as well as most PIPEs.

3. The PIPE's Early-Mover Advantage

The PIPE serves as a link on the SPAC chain because of its ability to evaluate and select a good investment opportunity. Investors will be skeptical of founders, especially when the latter finds a target towards the end of the (usual two year) period before expiration, but there is no similar reason to be skeptical of a PIPE. In turn, the PIPE is compensated, with preferential prices, for its role in the chain. On the surface, it may appear that a portion of its discount is attributable to buying a large block of shares (a bulk discount so to speak) and bearing the price risk during the lock-up period following the merger. The PIPE could, conceivably, avoid this risk by purchasing all the desired shares on the retail market after the identity of

⁵⁸ See, e.g., *Success Story: The Paint Brush Cover*, SHARK TANK (Feb., 13, 2015), https://abc.com/shows/shark-tank/video/most-recent/vdka0_sf9wx9af. Another way to put the point made in the text is that if one is offered the opportunity to invest in just one of the sharks on the program, it would be difficult to choose among them. Viewers are not offered information about the losing investments they make; some can be followed online, but even then there is no information about further commitments made by the sharks.

the target was announced. It would be logistically difficult, however, for the PIPE to purchase a large retail stake without causing the market price to rise through its purchase activity.⁵⁹ In this sense, the SPAC is offering a valuable service by making the bulk purchase possible.

Inasmuch as this service is valuable to the PIPE, it should receive less of a discount. The discussion here has drawn a comparison to the information provided to the market by an early and large purchaser of one car rather than another. But it should be noted that in the case of cars, the final sales to individual consumers come with all sorts of transaction costs, while the purchase (and sale) of shares and warrants in a SPAC, both before and after any acquisition of a target, does not involve advertising, showrooms, promises about servicing, and other costs. In short, the PIPE provides information that benefits public investors as well as the SPAC founders, and it is rewarded in the form of a lower price and preferential shares, but the precise distribution of rewards on the chain, both to PIPEs and to founders, is difficult to predict. It is likely that this distribution depends on the state of the SPAC market. For instance, if there is great variation in the current batch of SPACs available to public investors, then the PIPE should be expected to be rewarded more substantially for its evaluation capability because its selection of a particular SPAC does more to distinguish a winner among losers. The enhanced reward can take the form of preferential prices or a side payment from sponsors. A sponsor team under pressure to complete a transaction might, for example, surrender more of its founder shares to a PIPE.

C. Other Links in the SPAC Chain

The financing chain that is discussed in this Article does of course have other links, including those occupied by underwriters and law firms. At the pre-documentation stage, legal counsel assists the sponsor in determining whether a SPAC is an appropriate vehicle for achieving the sponsor's objectives.⁶⁰ If, for instance, the management team is simply looking to finance a venture or pre-revenue opportunity, then a SPAC may not be the best fit. An experienced counsel surely plays a role in determining such a fit. Similarly, before a sponsor commits capital, counsel advises of potential

⁵⁹ See Joshua Mitts, *A Private Ordering Solution to Blockholder Disclosure*, 35 N.C. CENTRAL L. REV. 203, 204-05 (2013) (discussing the logistical difficulty of accumulating a large number of shares at a particular price on a retail market).

⁶⁰ Lawyers have long been noted for the ability to discover and screen efficient transactions. See Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L. J. 239, 241 (1984).

risks related to SPAC liquidation and the loss of sponsor capital. In some cases, sponsors are referred from previous SPAC sponsors and bankers. Pre-vetted referrals may be more likely to culminate in the business combination of the SPAC and the target, but counsel still can proceed with caution so that clients proceed with eyes wide open. Finally, if counsel determines that the deal is “SPACable,” then there is the opportunity to connect a SPAC with a bank that will serve various needs. Experienced lawyers will also help sponsors in structuring warrants, and good work is surely associated with avoiding long delays in arriving at agreements with investment banks. Delays can spell the end of a deal, a fact that is impressed upon law firm associates when they are asked to work late into the night.

In short, lawyers—and investment banks and some other participants—are also found on the SPAC chain, and yet their compensation is not discussed here because it is hard to see why it would be different from that associated with an IPO or other alternatives to the SPAC chain. In all cases it is tempting to wonder about the development of fees that are contingent on success, but as we know from tort law, family law, and other areas, contingency fees come with incentive problems of their own. We leave fee structures for another day.

Lawyers also play an important role when it comes to regulatory hurdles.⁶¹ Again, there are reasons why lawyers who deal with the SEC and other authorities are not compensated based on outcomes; they charge fees, and clients are free to move among vendors, known as law firms. But here it is even clearer that SPACs present nothing new in comparison with IPOs and other substitutes, because at present there is less regulatory oversight of SPACs and PIPEs than of their competitors found in other means of finding targets and assembling capital. The discussion here continues to focus on what is different about the SPAC world.

Exchanges, like underwriters and lawyers, screen out low-quality SPACs, or perhaps force changes in the terms of an acquisition, but their primary role is to standardize transactions. Listing rules are blunt instruments that largely reflect minimum standards set by law⁶² or a

⁶¹ See Steven L. Schwarcz, *Explaining the Value of Transactional Lawyering*, 12 STAN. J. L. BUS. & FIN. 486, 486-87 (2007) (providing survey evidence of lawyers’ role in reducing regulatory costs).

⁶² See, e.g., NYSE Listing Manual Rule 102.6 and NASDAQ Listing Rule IM-5510 (requiring a minimum SPAC price per share of \$4.00 consistent with the Securities Exchange Act minimum required for avoiding classification as a “penny stock.” For the classification rule, see Securities Exchange Act of 1934 § 240.3a51-1.

particular exchange's rules on minimum market value and liquidity.⁶³ Other listing rules for SPACs set the basic requirements for trust account maintenance, maximum time allotted for finding a target, minimum value of the merger in relation to the cash held by the trust, minimum number of votes required for merger approval (a majority), and specification of redemption rights.⁶⁴ These, too, represent blunt forms of quality control and serve more as a checklist for serializing transactions. Over time we can expect these to change or to be eliminated, as controls generate runarounds—much as SPACs themselves can be seen as circumventions of rules regulating IPOs and other methods of acquisition.⁶⁵ As a place for carrying out minimal screening and substantial standardization, exchanges serve to elevate, rather than diminish, the role of the sponsor and the PIPE in merger screening and selection. A small investor faced with a group of standardized SPACs relies on the sponsor team and PIPE as signals of quality. But even optimal standardization leaves room for subcategories and market innovation.

III. IS THE PIPE UNIQUE?

To the extent that a PIPE can be understood as a link in the investment chain, and one that certifies SPACs, it is useful to see that in other markets there are entities that perform a similar function. In some cases this link has also been a recent development, while in others there is a legal or other hurdle that stands in the way of such a function.

There are myriad settings in which small investors are unlikely to find it worthwhile to study potential targets, and where they are willing to reward intermediaries to certify an investment. In some settings certification is unnecessary. An applicant who is choosing a law school in which to

⁶³ NYSE imposes, for SPACs, a minimum aggregate market value of \$100 million, while the market value of publicly held shares must reach \$80 million. NYSE Listing Manual 102.6. There are various configurations permitted for the minimum share requirement. *Id.* NASDAQ imposes smaller minimums. For instance, the total market value of publicly held shares of a listing in the NASDAQ Capital Market is set at \$3.5 million. NASDAQ Listing Rule 5510.

⁶⁴ The NYSE Listing Manual 102.6 and NASDAQ Listing Rule IM-5510 require: (1) at least 90% of IPO gross proceeds must be deposited in trust, (2) a business combination must be completed within 36 months, (3) one or more business combinations must have a fair market value of at least 80% of the value held in the trust account, (4) a majority of common shares must approve a merger, and (5) anyone who votes against the business combination has a right to redeem shares for a pro-rated share of the cash held in the trust account (except sponsors, family affiliates, etc.).

⁶⁵ *See, e.g.,* Coates, *supra* note 8 (noting looser rules with respect to forward-looking statements in the SPAC context).

“invest,” can see a long history of various and their job placement records. Rankings by third-party intermediaries are also available. These providers of information are financed by advertisements and by subscribers, but for the most part the information they relay is easy to acquire and requires little financial support. Some information that would be useful goes unprovided, often because the party that creates or possesses it prefers not to reveal what it knows. For example, a law school from which many graduates fail the bar examination and have difficulty securing employment that makes use of a legal education, prefers for these facts to be unknown by applicants. Over time the American Bar Association, and in extreme cases the threat of fraud claims by disappointed graduates, has required schools to reveal this information.⁶⁶ Vigilant alumni who are potential donors to the schools, and state legislators in the case of public universities, care about the reputation of the school, and they might also pressure law deans to reveal information or to improve outcomes. In some cases, potential donors have the opposite effect, because they want to hear good news, and law school administrators have reason to exaggerate the quality of outcomes, often by broadcasting the accomplishments or placements of successful students, and saying nothing about failed bar exams and unfulfilled career plans. Overall, the need for intermediate providers of information has been reduced by these requirements and incentives, and this reduction takes the place of an intermediary. In any event, an intermediary that sought to provide this information to paying customers, would find it difficult to be sufficiently compensated, because information that it discloses to one paying customer is easily shared with other, non-paying, users.

The quality of other goods can be certified or ensured by warranties, by repeat play, and some by a buyer’s ability to observe the market for used goods. In some markets, buyers pay for inspections, so that there are fewer hidden defects in things like houses or used automobiles that they purchase.⁶⁷ A long list of such developments can be understood as doing what PIPEs do; they give small investors information before the latter must commit to a purchase or other kind of investment.

Somewhat closer to the world of SPACs, which have arisen with an eye on modest size businesses that are viewed as ready to expand and go public,

⁶⁶ See American Bar Association Standard 509, <https://www.abarequireddisclosures.org/Disclosure509.aspx> (last visited Feb. 15, 2022) (requiring law schools to disclose employment outcomes and bar passage outcomes of students for accreditation).

⁶⁷ See Saul Levmore & Frank Fagan, *The End of Bargaining in the Digital Age*, 103 CORNELL L. REV. 1469, 1507-08 (2018) (providing examples).

we find large investors that move among existing opportunities in the great stock exchanges. When Berkshire Hathaway purchases a sizeable chunk of a publicly traded company's stock, other investors who are relatively ill-informed know that an informed investor has found an investment opportunity that they can now wisely grab onto. This is especially useful information because Berkshire Hathaway (or Warren Buffett) is known to interfere little with the management of a firm in which it invests.⁶⁸ The large investor has found an opportunity, as a SPAC claims to have done. The acquirer is evaluating rather than providing management skills; it affirms one link rather than two in the investment chain. Less-informed investors are now likely to buy stock in the same target, and of course they pay a somewhat higher price, and often drive up the price of the shares already owned by the first mover, which can be thought of as providing information to other investors. The target may also be ready to expand as these stock purchases are often associated with substantial borrowing by the target company. Warren Buffett is rewarded when the price of his Berkshire Hathaway investment rises, the smaller investors in Berkshire Hathaway are rewarded for their earlier investment in the firm, and are often further rewarded when the firm borrows money and thus expands successfully. Presumably, Berkshire Hathaway, in the manner of somewhat more complete takeover artists, does not want to take on more risk by buying a yet larger share of its new target; instead, it shares its insights with tag-along investors.

There are, to be sure, investment advisers and columnists that try to sell their claimed expertise in these matters in a more direct fashion, without having to invest huge resources on their own. But anyone can claim to be an expert, and some advisers will be lucky and then try to profit from their past (lucky) picks. Buffett has not only a history of good investments—though these could be random results—but the fact that he invests a considerable amount of his own money indicates something more than a recommendation. Smaller investors can see that it was worth it for him and his firm to investigate and evaluate potential investments, and they now sensibly invest in his wake. This is what a PIPE does in its evaluation not only of a SPAC but also of the SPAC's target. We should think of the SPAC as claiming expertise in discovering a target, in negotiating a takeover of the target, and then of helping to manage the new, enlarged company. The PIPE tells the market whether the SPAC's work is well done.

⁶⁸ See Marilyn Haigh, Warren Buffett on Managing People: Find the '.400 Hitters' and Don't Tell Them How to Swing, CNBC INVESTING, Feb. 13, 2019, <https://www.cnbc.com/2019/02/13/warren-buffett-on-managing-find-the-point400-hitters-and-then-dont-tell-them-how-to-swing.html> (describing this hands-off approach).

The SPAC's founder is not itself sufficient evidence, for reasons we have seen; it is paid early-on for its work and it is constrained by time, because it must rush to find a target as its specified time, with or without an extension, nears a final moment.

Consider, as a final and less obvious example of PIPE-like work, the structure of many not-for-profit organizations. When we decide how to support research or save lives through malaria control in distant countries, it is difficult to find the right investment, and certainly difficult to be a sensible, or even efficient, altruist. There are now not-for-profits that provide information about other not-for-profits, but they necessarily do this by studying some (of many) variables that can be learned about "competing" not-for-profit providers. These (not-for-profit) students and evaluators of not-for-profit (and often distant) performance, do not have an easy job, and it is difficult to know whether they are themselves reliable. It might for example be efficient for a not-for-profit to spend a substantial fraction of what it receives on its own management, but this is usually taken as a sign of waste. One university is hardly a better investment than another simply because its president receives a lower salary than the other's. Law plays a limited role here by requiring some disclosures and, most famously, by giving favorable tax treatments to organizations that are not-for-profit. The managers and founders can receive reasonable compensation but they cannot receive dividends or otherwise extract funds that have been put into the organization with favorable tax treatment. There is, however, another way to judge universities that engage in scientific research or distant malaria-control providers. A potential, relatively small, donor, might look to see what a large donor does. Just as an investor looks to a PIPE for information, a small donor might look to see what the Gates Foundation has done.

Many NFPs (not-for-profits) try to solve the assessment problem facing potential donors by disclosing information and specific plans. Some are required by law to show how much of what they take in goes to managing the entity, and to raising yet more money, rather than to working on the goal that interests the donors.⁶⁹

But very much in the style of following a PIPE, if donor X, who wants to give \$1,000 to a cause, sees that donor Y has given \$100 million to that cause, X might reason that Y has investigated the field and decided that this

⁶⁹ The IRS requires a tax-exempt organization to make certain filings but none includes a measure of performance. Private foundations must also disclose the identities of substantial contributors. 26 CFR § 1.6033-2(a)(2)(ii)(F).

is the best place to invest that considerable sum. It is no wonder that a charitable cause will normally advertise Y's large gift, as this fact provides information to smaller investors, like X. The conventional wisdom is that the advertisement serves to enhance the donor's social standing, but another possibility is that it motivates people like X. X can use Y, much as a small investor uses Buffet or the behavior of a PIPE.⁷⁰

IV. ALTERNATIVES TO SPACs AND PIPEs

A. Prediction Markets

SPACs and PIPEs, and their counterparts in other markets, have been described here as entities that discover prospects and that confirm the presence of skilled discoverers of investment opportunities. These descriptions assume that some significant expense is required to carry out investigations. However, there are situations in which small, often dispersed parties already possess information about quality, or can easily acquire such information, and the trick is to aggregate information rather than to acquire it. By way of analogy, an expert might evaluate a new restaurant, but an alternative is for many customers to record their own lived experiences. The problem here is that there is no reward for providing the information and, often, no reason to think that the reviews are provided by disinterested parties.

A prediction market is one way to solve this information problem and to assemble information from numerous providers who have some reason to think that they can evaluate the likelihood that their own impressions are accurate.⁷¹ Patrons, or a yet larger group of likely observers, might be allowed the opportunity to earn money and glory by winning a competition for predicting a measurable outcome—in this case perhaps the number of patrons the restaurants will have with a given menu in a given month. Waiters, regular patrons, and even competitor restaurant owners might bet on the result by buying and selling shares in a prediction market much as there is betting on horse races and presidential elections. This kind of market had proved to be better than highly paid experts in assessing the first weekend's ticket sales for a new film.⁷² The knowledge helps theater

⁷⁰ Variations on this theme are discussed in Saul Levmore, *Not-for-Profits, ESGs, and The Economic Structure of Corporate Law*, U. CHI. BUS. (forthcoming 2022).

⁷¹ See Michael Abramowicz, *Predictive Decisionmaking*, 92 VA. L. REV. 69, 69 (2006) (describing potential uses of prediction markets for law).

⁷² See Ekaterina V. Karniouchina, *Are Virtual Markets Efficient Predictors of New Product Success? The Case of the Hollywood Stock Exchange*, 28 J. PRODUCT INNOVATION

owners decide which screens to dedicate to new films. A prediction market is likely to be effective when knowledge is spread among many parties, though it is worth noting that if there is a single knowledgeable party, that person can also emerge victorious in a prediction market otherwise intended to attract numerous dispersed players. One hurdle faced by prediction markets is that state law often regards these markets as nothing more than gambling casinos and these are highly regulated.⁷³

But why would a prediction market that is focused on new businesses of the kind that SPACs currently evaluate, be more useful than a “real” market such as a stock market—assuming that both will soon be permitted by law without excessive regulation? A prediction market might be useful when the parties with knowledge do not have the resources to buy shares and do not have the risk-taking inclination to buy in highly leveraged fashion or to buy and sell stock short. If one hundred small “investors,” like employees and other observers,⁷⁴ can evaluate a SPAC or the SPAC’s target as well as a PIPE, but these parties do not have substantial resources, they might participate in a prediction market where the winner is the one that best estimates the value of the SPAC at a specified date. Other configurations are possible. People could purchase contracts that pay if the business combination increases or decreases in market value by a particular percentage, or reaches a particular revenue or profit target by an announced date. These contracts could then be traded on an information market.

In some sense, stock markets already pull together the knowledge of numerous and dispersed buyers and sellers, and these markets are prediction markets. The market for SPACs, both before and after announcement of a business combination, is no different. Initially, investors want to know whether a sponsor team can find a good target. A purchase of shares can be understood as a prediction of success. Once the SPAC identifies a target, investors want to know whether its acquisition will be profitable. The

& MGMT. 470, 470 (2011) (describing the Hollywood Stock Exchange prediction market and its success).

⁷³ See Jerry Brito, Houman Shadab & Andrea Castillo, *Bitcoin Financial Regulation: Securites, Derivatives, Prediction Markets, and Gambling*, 16 COLUM. SCI. & TECH. L. REV. 144, 196-97 (2014) (providing some examples of prediction markets that have been highly regulated).

⁷⁴ There is evidence that opinions of employees may be particularly valuable. Rank-and-file employees participating in a prediction market at Hewlett-Packard outperformed executives in forecasting printer cartridge and ink toner sales 75% of the time, and a prediction market that included a diverse mix of employees at e.Lily more successfully predicted FDA approval of drugs. See James Surowiecki, *Smarter Than the CEO*, WIRED (Jun. 1, 2004), <https://www.wired.com/2004/06/smarter-than-the-ceo/>.

purchase of shares by a PIPE can also be thought of as a prediction. While the right to redeem protects the earlier investor, the challenge for later public investors who face a decision to remain or be redeemed (at the time of the merger) is to understand how much the PIPE's purchase of shares can be interpreted as a seal of approval as opposed to the mere taking advantage of insider benefits. Mandating the revelation of PIPE terms will very likely serve as a warning system for transactions that are extremely unfavorable to public investors. But disclosure is unlikely to do the expert work of separating the good from the bad for the close calls. More information is needed beyond PIPE terms.

B. Insurance

Prediction markets offer one way to elicit the information that investors would like. Insurance is another way to find out how a well-informed party assesses a risk, while it is also a means of avoiding risk.⁷⁵ Instead of mandating disclosure of PIPE terms, the business combination might offer to purchase insurance against bankruptcy, or a particular magnitude of decline in market value, such as anything greater than a 20% decline in value from the time of merger.⁷⁶ Each share of the business combination could be coupled with this insurance, or warranty, valued proportionally to the market value of the business combination at the time of its completion. The counterpart to a “merger unit,” consisting of a share plus an insurance contract, is today's SPAC unit, consisting of a share plus a warrant. The insurance could separate and trade on its own, much as warrants do. If the business combination performs well over time, the value of the insurance contract will decline. This additional information found in a secondary market for insurance contracts is comparable to that already available in the stock market for the business combination's shares.

But merger units can be attractive when compared to one-size-fits-all disclosure rules—especially when over-disclosure is in the air. Combinations of skilled sponsors and target management teams will be rewarded with lower up-front insurance costs. Less-skilled groups, that may be inclined to provide overly generous terms to a PIPE, will pay more. While disclosure of PIPE terms will certainly reveal something about the quality of the business combination, insurance reveals information about the beliefs of large investors and other insiders regarding the merger's market value at a later point in time. Without insurance and other prediction

⁷⁵ See Abramowicz, *supra* note 61 at 79 (describing the use of partial insurance markets for eliciting information).

⁷⁶ The larger idea is not new. See Sean J. Griffith, *Deal Insurance: Representation & Warranty Insurance in Mergers & Acquisitions*, 104 U. MINN. L. REV. 1839 (2020).

markets, information regarding the business combination's value is reflected in share price, PIPE terms, and other features of the transaction such as the surrender of founders' shares, but all of these also reflect insider benefits. Information on merger performance and insider compensation is commingled, and insurance works to separate this information. The disadvantage of encumbering SPACs with higher pay-to-play costs is a resultant decrease in deal volume. But this is the price we pay for any form of regulation, and insurance may prove comparatively superior to rules of mandated disclosure. Prediction markets offer the advantage of avoiding these costs, but require broad participation—and information to be held across many parties—in order to be effective.

C. Will SPACs Survive?

We have seen that the development of SPACs and PIPEs can be understood as filling useful roles in the market. But the discussion has also suggested that there are substitutes for them. If, for example, law allowed prediction markets to flourish, would PIPEs, and therefore SPACs, disappear? Probably not, because one calls on single well-equipped investigators who inform the market, while the other specializes in cases where there are numerous well-informed parties who would convey information if they had an opportunity to profit even just a little bit without risking much on their own.

Insurance offers a more likely, and lower cost, substitute for PIPEs. It might be offered by third parties, in which case it too counts on a limited number of well-informed players. But small investors must be confident that the insurer is reliable in the event of a loss, and this might require regulation of its own. If the insurance is provided by the SPAC itself, as a side product, smaller investors might be offered the choice of buying in with or without what might be called a warranty, as easily as insurance. A warranty offered by a seller is not normally subject to regulatory supervision.

D. SPACs and Hold-outs

The arrival of SPACs can be understood as a new way of dealing with hold-outs in corporate law. In property law, when the government wants to develop a road, it buys land and deals with hold-outs by asserting its eminent domain power. In corporate law, a company that wants to merge with another, must convince enough shareholders to come along for the ride, and it can often deal with strategic shareholders with a short-form

merger that forces out dissenters, if 90% of the shares (at least in Delaware) want to go along with the terms of the mergers.⁷⁷ It is a kind of private law of takings. A SPAC founder knows that it could face a similar problem, but here its main business is to attract investors by promising to try to find a good target. The market has thus far evolved by relying, once again, on a supermajority “vote” of sorts, and by forcing out any dissenters by telling them in advance that they can exit when they like, and receive what amounts to the pre-merger and pre-finding price; they have agreed to stay aboard or get their money back with interest.

The SPAC market can in this way be seen as yet another way to deal with strategic dissenters, albeit in a setting where the very task of the firm is to find an attractive target. We leave for another day this larger comparison of methods that law and the private market provide for dealing with dissenters, some of whom might be strategic, and in the end block efficient combinations. The important point here is that the SPACs bring on PIPEs who help acquire the necessary cash, so that money is something of a substitute for votes as a tool to deal with hold-outs.

CONCLUSION

Special Purpose Acquisition Companies, or SPACs, have developed in response to market opportunities, alongside legal restrictions associated with other methods of combining capital in order to expand promising businesses. As is so often the case, observers have been quick to find problems where it is at least as likely that there is efficient development in plain view. Some SPACs have, no doubt, attracted small investors while allowing larger ones to escape legal rules. But many SPACs do the work of allowing smaller investors to invest in new firms without paying the costs and suffering from the favoritism inherent in IPOs. The SPACs themselves claim to be able to find good opportunities for expanding a business idea that is already in progress, and PIPEs then confirm their selections, and receive better investment deals in return. At this point we are unable to say how often the optimistic story offered here is a fair description of what is found in reality, but it is surely promising enough that lawmakers need to be cautious about putting hurdles in the face of SPACs and PIPEs.

The small investors pay SPACs to find targets, and they also pay PIPEs to certify or at least signal the quality of SPAC work. PIPEs are simply larger investors that are copied by smaller ones, and PIPEs can be thought

⁷⁷ DEL. CODE ANN. tit. 8 § 253 (2019).

of as compensated by small investors or by the SPACs they acknowledge to be good search firms and good investments. This Article has emphasized the interesting role played by this large investor, or PIPE, among the other links in the chain of the investment machine that is associated with the arrival of SPACs.

Seen this way, it is also clear that the development of SPACs and PIPEs should not have been unexpected. Smaller investors everywhere need guidance from larger ones that had reason to invest in discovering things about their targets. These intermediaries are compensated in a variety of ways. It is possible that a new development will be that SPACs offer a kind of warranty, or insurance, to risk averse and ill-informed small investors they hope to retain or attract. It is even possible that a prediction market will develop so that informed parties without serious capital to invest will have a means of profiting from their knowledge. Whether this is a desirable development or an opportunity for a new form of unhealthy insider trading remains to be seen.