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# SPAC IPOs

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## Abstract

Specified Purpose Acquisition Companies (SPACs) are a special type of public companies currently available to investors in financial markets. As an investment vehicle, modern SPACs are traced back to 18-th century England where blank checks were first mentioned as blind pools during the infamous South Sea Bubble. In the United States, the Security and Exchange Commission classifies SPAC as a blank check company. This chapter reviews the academic and financial literatures about SPACs, describes their institutional characteristics and analyses their market performance since Initial Public Offering (IPO). The sole purpose of SPACs is to use the proceeds to finance future acquisition.

**Keywords:** Blank checks, Initial public offering (IPO), IPO survival, Mergers and Acquisition (M&A), Specified Purpose Acquisition Companies, SPACs,

**JEL Codes:** F30, G12, G14, G24, G30, G32, G34

# SPAC IPOs

## Introduction

Specified purpose acquisition companies (SPACs) are special type of public companies that emerged in financial market in August 2003 and until now have established themselves worldwide as a new asset class widely used in financial markets.<sup>i</sup> This chapter reviews the existing literature, discusses the institutional characteristics and analyses the market performance of SPACs, companies that conduct their Initial Public Offering (IPO) with the sole purpose of using the proceeds to finance future merger or acquisition.

The Security and Exchange Commission (SEC) classifies SPAC as a blank check company that is characterized as “a development stage company that has no specific business plan, or purpose, or has indicated in its business plan is to engage in a merger or acquisition with an unidentified company, other entity, or person. These companies typically involve speculative investments and often fall within the SEC’s definition of "penny stocks" or are considered "microcap stocks.”<sup>ii</sup> Similarly, the SECs’ Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database for public companies assigns them a standard industrial code (SIC) of 6770 as a subgroup of blank-check companies. Simultaneously, Rule 3a-51-1 of the SEC excludes from the formal classification as a “penny stocks” any stock issuer with the total net assets higher than \$5 million after the IPO. Every modern SPAC listed in the U.S. financial markets since they reemerged in 2003 has been structured in a manner to raise more than \$5 million. This enables

the issuers of SPAC to evade being classified as blank check penny stock companies, avoiding being a subject of additional scrutiny by the SEC.

## **Academic literature on SPACs**

The first academic research on SPACs emerged in 2007 simultaneously in the legal and financial literatures. Below we survey the literature in a chronological order accounting for the discrepancy in dates between working and publishing papers. In the legal literature, Hale (2007), Heyman (2007), Reimer (2007), Davidoff (2008), and Sjostrom (2008) explain the basic structural characteristics of SPACs, their differences with respect to the blank-check companies operating in the 1990s, their benefits and pitfalls to potential investors, without conducting any empirical analysis. Hale (2007) outlines the structure of SPACs and their incentives for stakeholders. She concludes that the introduction of SPACs represents a positive development in financial markets with potential benefits to all stakeholders.

Heyman (2007) provides historical overview of blank-check companies and states that SPACs existing in the market for the period 2003-2006 did overcome all major issues of their predecessors in 1990s. He also argues that SPACs' structure enables sufficient protection for investor, adherence to all SEC rules and represents an example of legal creativity establishing itself as a mainstream corporate entity traded in financial markets.

Riemer (2007) claims that SPACs constitute a substitute for private equity firms, As such they are a beneficial financial innovation. He partially attributes SPAC emergence as a response to governmental policies, namely the restrictions that the 2002 Sarbanes-Oxley Act have imposed on small firms attempting to raise funds in public markets. Davidoff (2008) attributes the emergence of SPACs to a mismatch between supply and demand in capital markets that creates

distortions due to the inability of investors to replicate portfolios of private equity and hedge funds. Therefore, the interest in SPACs is mostly due to the demand by investors to otherwise hardly accessible private equity investment. Sjostrom (2008) concludes that SPACs appear to be a valid alternative to traditional IPOs from the perspective of a private company because their structure enables injection of cash into a new company, share liquidity and vested-in underwriters.

Jog and Sun (2007) as well as Boyer and Baigent (2008) are the first to assemble market as well as structural data on SPACs and empirically examine their market performance, within the company incentives and returns to major stakeholder. Jog and Sun (2007) use a sample of 62 SPACs over the period 2003-2006 to explain their structure. They enlighten potential conflict of interest between founders and investors. Examining a subsample of 24 companies with available data on initial investments and returns to SPAC founders, they report annualized returns of 1,900% to them and term it as a “home run.” Comparably worse is the performance of SPAC investors who experience a negative annual return of 3%, based on subsample of 42 SPACs.

Boyer and Baigent (2008) recognize three important features of SPACs as an investment tool. First, SPACs provide the public an easy and relatively inexpensive access to private equity investments, which in the past was solely available only to institutional investors. Second, given the requirement to report their activities and to file regular financial statements with the SEC, SPACs have higher degree of transparency than private equity investments. Third, their innovative corporate structure and establishment of trust accounts, where majority of IPO proceeds are held until the execution of merger, enable them to offer a limited downside to potential investors. They extend the sample to 87 SPACs for the period 2003-2006. Their empirical analysis of SPACs shows that issued securities, contrary to most of the empirical evidence in the literature, do not exhibit significant underpricing at the IPO date. Furthermore, they report that SPACs offer less

costly and faster route to public financing of private companies, especially in periods of low IPO activity.

Floros (2008) includes 12 SPACs in a sample of 94 foreign reverse mergers in comparing reverse mergers with penny stock issuances. He finds that these reverse mergers are good type of companies for foreign private companies with high level of debt, low legal efficiency in their home countries and low level of protections of shareholders' rights. Berger (2008) reports that SPACs alleviate many issues in the IPO market for the period 2003-2007 and offer to private companies many features that traditional IPOs are incapable to provide. He claims that SPACs are better suitable for complicated circumstances, by having readily available cash that brings capital structure into an optimal state, offer valuation benchmarks and provide exit opportunities for companies without strategic buyers. To show all these features of SPAC, Berger (2008) examines cases of three complete mergers.

Lewellen (2009) analyzes performance of SPACs, highlighting the relatively high frequency of their IPOs in the U.S. financial markets for the years 2007 and 2008. He suggests that SPACs should be treated as a separate asset class. Examining a sample of 158 SPACs that conducted the IPO in the period 2003-2008, Lewellen (2009) concludes that SPACs are similar to private equity funds, but less prone to selection and survivorship biases that are often present in private equity datasets. Lewellen (2009) finds that SPAC portfolio has a close to unity *Beta*, despite its higher than usual leverage. Finally, he divides the life cycle of a SPAC into sub-periods and reports that returns to investors vary within the different stages of SPAC lifecycle. Whereas

investors experience a positive 2% return following an acquisition announcement, their returns shrink to negative -2% return at the date of acquisition.

Kim (2009), in his dissertation, provides extensive analysis of SPACs. He uses their features to isolate and measure managerial quality. Using a sample of 158 SPACs that went public in the period 2003-2008, he reports that, on average, SPACs have managers with longer industry experience than traditional IPOs. Additionally, he observes that within the SPACs, the ones with comparably higher managerial experience and quality characteristics have higher market valuations. Furthermore, Kim (2009) reports that the average management experience of SPACs is a signal for the firm quality, which attracts more outside investors and produces greater offer size. Furthermore, it impacts the level of underwriting spread, the level of quality and interest of institutional investors. He finds that experience of SPAC management team positively increases the possibility of an acquisition.

Jenkinson and Sousa (2011) form a sample of 161 SPAC for the period 2003 until 2009 analyzing a subsample of 58 SPACs that completed mergers. They classify SPACs into “bad group” and “good group,” based on the movement of the share price with respect to the pro-rata level of funds that SPACs keep in their trust accounts. They report that the financial market is able to identify bad SPACs prior to the date of acquisition, but in spite of that, many acquisitions are approved notwithstanding expected post-merger’s negative returns. Overall, ex-post, more than half of the SPAC acquisitions are value destroying and overall, six months after the merger, SPAC investors experience an average cumulative return of negative 24%. Furthermore, it gets worse with time, as reported, one-year average cumulative return is -55%. Jenkinson and Sousa (2011) show that these average cumulative returns are driven by the “bad group” SPACs who experience -39% six months and -79% annual return, while the “good group” experiences close to zero six

months return and -6.2% annual return. One of the possible interpretations of these results is the pre-acquisition activity in the market by SPAC managers and their inclination, in the final voting, to purchase as many shares as needed in order to approve the acquisition.

Thompson (2010) constructs a sample of 162 SPACs that went public in the period 2003-2010. She argues that the unique structure of SPAC is helpful in mitigating shareholders concerns about future investment decisions by the management. Thompson (2010) finds that the establishment of time limit under which the acquisition has to be executed is an important positive feature that helps in mitigating agency problems. Additionally, the fact that shareholders vote on acquisition approval and that qualified percentage of investors can disapprove the deal despite wishes of the management, adds to investors' confidence. Finally, in cases when SPAC management teams strongly favor acquisition and attempt to alleviate voting and threshold mechanisms, they do so at the detriment of future returns.

Kim (2010) is the first study that explains the features and performance of SPACs outside the U.S. capital markets. He constructs a sample of 15 SPACs that were listed in the South Korean stock market until the year 2010. He documents that Korean SPACs have many structural differences with respect to their U.S. counterparts, mainly due to regulatory differences. Korean SPACs are required to have more than one SPAC sponsor who is an authorized securities dealer, they issue common stocks instead of units in the U.S. and the majority of their investors are retail investors. Kim (2010) finds that shares of Korean SPACs have larger liquidity and higher volatility as compared with securities of SPACs listed in the U.S. He shows that Korean SPACs exhibit significantly higher underpricing around the IPO date. The paper suggests that the volatility and



excess liquidity in the market are due to the limited number of targets and competition by retail investors, thus advocating entrance of more institutional investors.

Tran (2012) utilizes a sample of SPACs for the period 2003-2009. He finds an increase in their importance since 2003 and a significant activity of SPACs in the U.S. capital markets for the year 2008. He compares SPACs to other public acquirers showing that SPACs are benefiting from three characteristics, namely, the specialization of their underwriters and managers, their ownership structure and monitoring role of long term institutional investors. Tran (2012) concludes that SPACs execute more focused acquisitions, are less likely to structure these deals as cash only or tender offers opposed to their public counterparts and are able to negotiate an additional 7.6% discount in comparison with other acquirers who target private companies.

Floros and Sapp (2011) examine market performance of SPAC securities with respect to typical reverse mergers. They assemble a sample of 111 SPACs conducting IPO until 2008 and report that they exhibit significant post acquisition negative return. SPACs also perform worse than typical reverse mergers and their investors have limited post acquisition upside potential post mergers.

Datar, Emm and Ince (2012) investigate the long term performance and operational performance for the period 2003-2008 analyzing 156 SPACs. They benchmark SPACs to 794 firms that conducted traditional IPOs during the same period. Overall, they find that the operational performance of SPACs is inferior to industry peers and conventional IPOs in the same period. In addition, SPACs carry more debt, have smaller size, invest less and have lower growth opportunities than the benchmark firms.

Lakicevic and Vulcanovic (2013) utilize a sample of 161 companies for the period 2003-2009. They argue that additional insights from various announcements can be obtained if the

performance of all three types of securities that SPACs issue during the IPO, namely; units, common stocks, and warrants are concurrently analyzed. They report that in general, SPACs exhibit positive merger announcement returns, but the degree of reported positive performance varies and is the highest for warrant holders. In addition, they report -9.59% cumulative abnormal return ten days after the acquisition date. Finally, based on subsample of 66 SPACs that completed acquisition, they report a -28.00% return to unit holders, confirming similar findings in the literature that report that on average post-acquisition SPACs are value destroying to investors.

Murray (2014) uses a sample of 161 SPACs for the period 2003-2008 and documents their differences across the listing exchanges. The results suggest that SPACs do not exhibit a significant underpricing and that underpricing is not a function of exchange setting. Moreover, the author addresses the valuation of all three SPAC securities and note that the value of a unit is not a simple sum of the values of the stock and warrant.

Howe and O'Brien (2012) discuss how the structure of ownership and corporate governance characteristics impact both short and long term performances of SPACs. They construct a sample of 158 SPACs for the period 2003-2008 and report positive performance in the range of 2% to 3% for SPACs in the short term. However, for long term performance, the average half year return is equals to -14%, average one year return is -33% and average three years return is -54%. They state that board independence and the structure of ownership do not affect returns.

Rodrigues and Stegemoller (2012) document similarities and differences between traditional private equity and SPACs. Their analysis does not distinguish between SPACs that successfully executed the IPO and the rest of the SPAC shells which only filled preliminary registration statements with the SEC announcing the intention to conduct an IPO in the future but were never delivered. Consequently, their sample covering the period 2003-2008 consists of 243

SPACs and, with the addendum for years 2009-2011, the entire sample consists of 273 SPACs. They conclude that SPACs are a successful legal innovation and show that SPAC managers receive high returns in the early period pre-2006, but have to increase their investment and to share some of these gains with both retail and institutional investors after 2006.

Dimitrova (2017) examines long term post-IPO returns and the effects of the contractual features of SPAC structure on their performance. Her final sample consists of 73 SPACs. Dimitrova (2017) finds that SPACs exhibit poor performances across the board. She reports a -51.9% four year buy-and-hold return post the IPO date. She takes performance of other IPOs that went public in the same period as a benchmark and reports positive annual return of 8.5%. Dimitrova (2017) also finds that variation exists in the performance of SPACs and that the performance is related to the degree of managerial pressure for the completion of the deal since their incentives with respect to approval are not aligned with the rest of investors. Furthermore, she presents evidence on accounting performance. Using operating margins and return on sales as performance measures, confirms that SPAC acquisitions significantly under-perform various benchmarks.

Ignatyeva, Rauch and Wahrenburg (2013) are the first to explain the structure of SPACs and their performance in European capital markets. They construct a sample of 19 SPACs for the period 2005-2011 and report that European SPACs neither necessarily have acquisition focus within Europe, nor their investors are inevitably European. They report that these European SPACs share some institutional characteristics of their U.S. counterparts, and that their performances are heterogeneous.

Cumming, Haß and Schweizer (2014) use a sample of 139 SPACs for the period 2003 - 2010 to ascertain the factors that affect the probability of acquisition approval. Their results

suggest that a younger management teams have higher degree of acquisition approvals. However, managerial experience and enhanced boards do not positively improve the likelihood of acquisition. Similarly, they report that the support of well-known underwriters and larger syndicates do not increase the likelihood for approval. Finally, they document that the strongest influence on deal approval comes from the block-holding structure. Moreover, for deals where the level of ownership by hedge funds and private equity funds increases, merger likelihood decreases.

Similarly, to Cumming et al. (2014), Lakicevic, Shachmurove and Vulcanovic (2014) examine the factors that influence the likelihood of approval of SPAC acquisition. Using a sample of 163 SPACs that either merged or liquidated during the period 2003-2012 they report that timing of the merger announcement, the deals which focus on China, and deals underwritten by the EarlyBirdCapital increase merger likelihood. Additionally, they construct a sample of 184 SPACs for the same period and notice that, due to market pressures and constant realignments of incentives among major stakeholders, SPACs significantly change their structure along the way as compared with the first entrants in the market in the earlier period of 2003-2006.

Shachmurove and Vulcanovic (2016) compare performances and characteristics of SPACs that have acquisition focus on China with the remaining SPACs in light of the SEC decision in 2011 to delist a number of Chinese companies from the U.S. capital markets alleging potential accounting fraud and misrepresentation. They find that, except size, there is no statistically significant difference in institutional characteristics for the two subsamples. However, Chinese focused SPACs provide higher return to their investors than other SPACs.

Rodrigues and Stegemoller (2014) compare IPOs of regular companies to SPACs documenting underwriting characteristics and announcement performance of the later. Their main findings are that, on average, SPACs pay similar level of underwriting fees as typical IPOs and

that SPACs exhibit relatively higher positive abnormal return at announcement dates than regular companies.

Shachmurove and Vulcanovic (2015) examine characteristics and performance of subsample of SPACs that are having clear focus to merge with private companies in the shipping industry for the period 2003-2013. They report that the most institutional characteristics of SPACs with focus on shipping are similar to the rest of SPACs. However, shipping SPACs tend to perform better. In addition, they report relatively high returns to founders of shipping SPACs, pointing out that potential conflict of interest between investors and SPAC managers exists in case of shipping SPACs.

D'Alvia (2014) conducts a legal study comparing institutional and legal frameworks for SPACs operating in the U.S., Italy and Malaysia. The author claims that SPACs are a beneficial innovation for M&A market and note of legal differences across these three systems.

Kolb and Tykvová (2016) study the properties of 127 SPACs of modern era with 1,128 IPO counterparts. They report that SPAC acquisitions are a good innovation, allowing firms to enter public markets in difficult times when other alternatives such as regular IPO are costly. However, with regards to performance, SPACs significantly underperform regular IPOs and overall are not value creating investments.

Vulanovic (2016) studies to what degree the structural characteristics and set of contracts that create incentives for SPACs are impacting their post-merger survival. He finds that the structural characteristics of SPACs are important in determining post-merger outcomes. The main finding is that increases in pre-merger commitment on behalf of SPAC management and underwriters and initial positive market performance increase the likelihood of post-merger

survival. However, mergers with high transaction costs and a focus on foreign companies are more likely to fail.

## **Summary of findings in literature**

Generally, a decade after the first papers on SPACs are written, the legal and financial literature, explained their historical development, institutional characteristics, the conflict of interest arising from their structure and structural adjustments in response of market pressure. Moreover, the literature analyses the performances of their securities at the IPO date, at the announcement and at various stages before the merger as well as the returns to major stakeholders. The literature documents underwriting characteristics and isolates the factors that impact the likelihood of their acquisition approvals. Recent papers analyze long term performance and how corporate governance mechanisms impact the performance as well as how SPACs perform vis. a vis regular IPOs. A few papers address performance of SPAC subsamples with either geographical or industrial focus. Finally, the literature recently addresses institutional features and performance of SPACs outside the U.S., explaining their structure in cases of Europe, Malaysia and South Korea.

The authors of this paper maintain that more work could have been done if data are easily accessible in the earlier stage of SPACs entering the financial markets. But, we agree with the assessment of Dimitrova (2017) stating that “The literature on SPACs is limited compared with the importance of SPAC deals. Researchers have overlooked the richness of empirical data that

SPACs' public disclosures offer and the unique form of SPACs (public form of private equity) that can be used to shed more light on the classic private equity contract”.

## **SPACs history, structure and sample description (2003 -2016)**

### **History of blank-check market (pre 2003)**

As an investment vehicle, modern SPACs are traced back to 18<sup>th</sup> century England where blank checks were first mentioned as blind pools during the infamous South Sea Bubble. Cowing (1957) quotes an unknown promoter who raised money through a stock offering for a "company carrying on an undertaking of great advantage, but nobody is to know what it is." In their seminal work on investing, Graham and Dodd (1934) document that United Kingdom blind pools were imported to U.S. capital markets as so-called “investment trusts” in the early 1920s and that their activity diminished with the peak of the financial crisis at the time.<sup>iii</sup> In recent history, refurbished concept of blind pools and investment trusts in the form of blank check companies, receive attention in some niches of capital markets in the U.S. during the 1980s and 1990s. Major issuers at the time were penny stock promoters with their shares listed on Over the Counter (OTC) markets, with limited disclosures about their intentions or guarantees to investors.

The legal literature on SPACs argues that inadequacy of regulations and enforcements in 1980s and 1990s led to a certain pattern of behavior where blank check promoters were systematically exploiting original investors. Reimer (2007) points to the SEC hearing reports published at the end of 1980s, where regulators acknowledged that fraud and abuse in the penny stock market has reached “epidemic proportions.” The typical behavior of a blank check

management team at the time was to exercise its warrants following the announced acquisition of a private company expecting that the market would respond favorably to such an announcement. Once the stock price in the market jumped, the management team would be dumping its shares and hoard profits. This strategy is known as “pump-and-dump scheme.” It was facilitated with brokers and market makers who were withholding important pricing information from the original investors. Heyman (2007) estimates that about 2,700 of these companies operated during the years 1987 until 1990. As a response to overwhelming fraud in blank check market, attempting to protect capital formation and boost investor confidence, the U.S. Congress passed the Penny Stock Reform Act (1990). The act instructed the SEC to adopt rules that govern registration statements filed by blank check companies issuing penny stocks. The SEC acted as instructed and in 1992 introduced Rule 419-a, which established regulations of the blank check market. That rule explicitly determines boundaries for blank check offerings and forced promoters to keep raised funds in specially established escrow accounts maintained by an insured depository institution until the acquisition is consummated. In addition, the rule states that acquisition target must have net assets of at least 80% of the funds deposited in escrow accounts. In order to gauge pricing speculation, the rule prohibits the trading of blank check securities until the acquisition occurs. Finally, it obliged blank check companies to supply investors and the SEC with audited quarterly and annual financial statements. The new regulation brought an order to the market. Heyman (2007) reports that only 15 blank check companies entered the market in the early 1990s. That state of the market provided incentives to a number of promoters and underwriters to construct a new type of blank-check company that would comply with all regulatory rules. In 1992, the least distant cousin of modern SPAC was established. That concept failed in mid 1990s, mainly because the period represents an easier time to access capital markets via traditional IPO (Heyman, 2007). An



additional obstacle to blank check market in the mid and late 1990s were the actions undertaken by the National Association of Securities Dealers (NASD) in 1997 that resulted in revocation of licenses of twenty-nine brokers and chief executive officer of GKN Securities Corporation which represented the main promoter of blank checks at the time. The NASD decision states that GKN Securities Corporation dominated the market, continuously charged excessive markup and hindered competition. After the NASD ruling, activities in the blank check market completely ceased until 2003. In August 2003, the small investment bank Early Bird Capital, employing many of former GKN Securities Corporation employees, underwrote the first modern SPAC, i.e., Millstream Acquisition Corp. This new modern SPAC complied with all rules previously imposed by the SEC in order to govern blank check market. Millstream Acquisition Corp voluntarily provided additional features to investors even though structuring IPOs to raise more than \$5 million and by pricing securities above the minimum price was not formally obligatory. But those facts separate them from penny stocks issuers. That move was fruitful and in the period 2003-2016, 245 SPACs entered the U.S. capital market creating a market size larger than \$33 billion.

### **Life-cycle of Modern SPACs**

The literature on SPACs usually follows the life-cycle path as presented in Lewellen (2009) and shown in Figure 1. This approach is useful in explaining SPACs' structure with some

exceptions. We add the formation or establishment stage prior to IPO because contractual agreements defined in that stage are shown to determine their long term outcomes.

## **Establishment**

SPACs are formally established when their underwriters, on behalf of management team, file Form S-1 with the SEC announcing intention to conduct an IPO in some future date.<sup>iv</sup> This initial registration statement is a lengthy document where underwriters describe the process of transformation of the registered shell with typical investment of \$25,000 into a new public company that would be seeking to find a proper acquisition target within a limited amount of time. Form S-1 describes the financing needs of the new company, the nature of issuing securities, discloses entire underwriting agreement, conflict of interest between SPAC founders and future investors, elaborates on proposed business and presents background of the management team. In addition, Form S-1 informs the establishment of escrow accounts where all funds raised during the IPO, minus administrative expenses, are going to be deposited, details how the proceeds from this fund would be used in case acquisition happens and in case the SPAC is unable to execute acquisition and needs to liquidate. Once Form S-1 is certified by the SEC, the management team and underwriters conduct a number of preparatory moves for an eventual IPO and any relevant change to the initial form is immediately registered with the SEC. Just prior the IPO date, underwriters file final prospectus, Form 424-B, that reports all changes that have happened since the initial registration statement. We collect entire statistics presented in Table 1 from 424-B

forms, with the needed adjustments after the IPO when the underwriters disclose the level of oversubscription and exact amount deposited in the escrow accounts.

### **IPO event**

Underwriters and management, having in mind historical developments in blank check market, structure the IPO of SPACs with units being the security of choice. Schultz (1993) and Chemmanur and Fulghieri (1997) provide rationale why risky companies should choose units during the initial public offering, committing at the same time to further dilution by issuing more stocks in a future date, at the warrant's exercise price. According to them, unit IPOs are well positioned to solve information asymmetry problems and to enable companies that are considered risky by outsiders, to signal their true value.

No doubt that SPACs as new entrants in financial market and bearing resemblance of their blank check predecessors are risky companies and should respond with a structure that would reduce risk. By definition, a unit is a composite security that consists of a certain number of shares and a certain number of warrants exercisable in some future date. At the beginning, a typical SPAC would issue units consisting of one common share and two in the money warrants. More recent SPACs issue units consisting of one share and either one half or one third out of the money warrant. The change in the number of warrants in the unit represents evolution of SPAC as an asset class under various market pressures.

An interesting feature of SPACs is that they price their securities at the level above \$5 and therefore avoid the SEC rules regulating penny stocks and other blank check offerings. That enables underwriters to make a market in SPAC's units immediately after the IPO and similarly market for shares and warrants after filing the required post-IPO forms. This feature enables investors to freely participate in the price discovery process. The proceeds from the IPO, after

administrative and other similar expenses are taken, are placed in an escrow account with established financial institution where the proceeds are invested in short term high grade securities (almost exclusively U.S. Treasury bills) and are kept there until being used either to finance an acquisition or returned to investors in case SPAC liquidates.

SPAC securities in period 2003-2005 were traded in the Over the Counter Market (OTC) markets. In 2005, after imposing many restrictions the AMEX started to list SPACs. In 2008, both NASDAQ and NYSE started listing SPACs. In the last five years, NASDAQ is the primary choice for listing of SPACs.

### **SPAC exits: acquisition or liquidation**

The final prospectus, filed with the SEC, determines many features of SPACs corporate life between the time of IPO and exit. Form 424-b specifies the length of time within which the acquisition has to be executed. For majority of SPACs, that limit is set at 2 years. SPACs allow the extension of allotted time for additional six months, assuming the acquisition is already announced and final vote cannot be conducted due to various regulatory requirements. This time limit is self-imposed by the SPAC management and serves as an additional assurance to investors that the ultimate goal of the management is value creation through acquisition.

Acquisition announcement is usually reported in the press and the SEC is notified about it via 8-K forms. Once the acquisition is announced, all efforts are placed on securing an approval of acquisition in the final shareholders meeting. That approval is in many instances hard to obtain primarily as SPACs in the period 2003-2010 have established, in their final prospectuses, qualified majority that could disapprove a merger. This majority requirement for disapproval of an acquisition, or threshold, was in early years 20% of shareholders at the meeting voting against the acquisition and asking for redemption of their shares at the pro-rate price. Cumming et al. (2014)

document the importance of these threshold characteristics while explaining the determinants of likelihood of acquisition. Vukanovic (2010) points out to the so-called “yield game,” where some institutional investors have incentives to vote against acquisition and instead prefer to cash their shares. Therefore, SPACs proceed with acquisition if they have the needed support of the shareholders. If they are unable to provide that support, the funds, held in the escrow accounts, are returned to shareholders at the pro-rata bases.

As it was evident that SPACs structure and especially the establishment of threshold shown to be an obstacle to acquisition approval, management and underwriters were restructuring the SPACs, investing more of their own funds into the companies and increasing the level of threshold that could nullify an acquisition. While in the period 2003-2006 that threshold was 20%, from 2006 to 2008 it increased to approximately 30% with a number of SPACs having threshold of 40%. After the recent global financial crisis and further restructuring of SPACs, only few of them formally maintained the threshold feature. Instead making sure that the minimum support for acquisition is in aggregate higher than \$5 million. In this way, the management team avoids the rules imposed by the SEC on penny stock companies and blank check offerings. Similarly, these post financial crisis SPACs are almost exclusively structured as tender offers and technically, if the overall investment of management and underwriters is higher than \$5 million, shareholders are unable to prevent acquisition and face the choice of either to approve the merger or to redeem their shares.

Offenberg and Pirinsky (2015) provide a theoretical reasoning and empirically show that tender offers are mainly attractive because they offer an unmatched acquisition completion speed.

Given that SPACs in their prospectuses limit the time between the IPO and acquisition and due to various institutional and market obstacles, tender offers arise as an adequate solution.

## **SPAC Stakeholders and their incentives**

Three major classes of SPAC stakeholders are: management, underwriters and investors. Each of the stakeholders has its own incentives to participate in the creation of a SPAC, the IPO process and the acquisition execution. Below, we address the main characteristics and incentives for each stakeholder.

### **SPAC management team**

The initial registration statement and final prospectus elaborate in detail the composition of the management team, their previous experiences in the financial industry, their earlier involvements in merger and acquisition activity and their connection to venture capital and private equity funds. Based on prospectuses, many members of management teams are well known public figures. Their reputation, knowledge and skills serve as a warrant that SPACs would create value by finding a proper acquisition target. Table 1 reports that a typical SPAC management team has 6 members and they are on average 51.08 years old. Jog and Sun (2008) and Lakicevic and Vulcanovic (2013) show that on average management teams invest about \$25,000 to purchase the entire amount of pre-IPO securities. Depending on the number of registered shares, management teams typically pay a price that ranges between \$0.017 and \$0.047 as they prepare a company for IPO. Until mid-2005, this was the only investment on behalf of the management. At the IPO, the members of the management team sell 80% of their shares to interested investors. Practitioners call this 20% difference, a “finder fee.” The financial literature recognizes the finders as the

primary cause for an immediate dilution, which investors experience when buying SPAC securities.

Since mid-2005, increased pressure from other stakeholders, primarily investors and uncertainty about acquisition approval caused by low level of disapproval threshold, forced SPAC management teams to increase their monetary commitment or as Rodrigues and Stegemoller (2012) call this increase as putting more of their “skin in the game.” In order to achieve approval for acquisition in majority of such deals, management members purchase warrants before the IPO and, in some cases, also acquire additional units. Lakicevic and Vulcanovic (2013) report that for the period 2003-2009, approximately 2.76% of funds deposited in the escrow accounts originated from these up-front purchases by SPAC management. After the year 2009, for almost every SPAC, management purchases warrants or units or combination of both, in excess of \$5 million to guarantee that the SPAC would not be dissolved, if the initial investors are not satisfied from a proposed acquisition.

This relatively low level of monetary investment by management creates a conflict of interest when it comes to the approval of acquisition. Lakicevic and Vulcanovic (2013) argue that any post acquisition price higher than \$1 would mean a positive return to the SPAC management. Therefore, in most acquisitions, the management strongly favors the deal. The financial literature almost uniformly, supports the conclusion that, on average, many value-destroying acquisitions are approved and that the primary reason for the approval are incentives aligned in favor of SPAC management (Jog and Sun, (2007), Jenkinson and Sousa (2011), Howe and O’Brien (2012), Lakicevic and Vulcanovic (2013), Kolb and Tykvová (2016) and Dimitrova (2017)).

Generally, it is important that the SPAC management convinces investors that the incentives are properly aligned. Most of the SPACs, in their prospectuses, underline that their

members of management team had previous SPAC experience. This feature has been shown as important evidence that the management teams are able to raise money for another SPAC, once their initial acquisition is perceived as successful. Lakicevic and Vulcanovic (2013) document the case where managers and underwriters of Chardan China, after first successful IPO and acquisition were able to structure four more SPACs. This trend is evident since many of SPACs have their successor, for example Millstream and Millstream II, Aldabra and Aldabra II, KBL Healthcare II and KBL Healthcare III, Tremisis Energy and Tremisis Energy II.

### **Underwriters: incentives and characteristics**

Underwriters play an important role in the emergence and existence of SPACs. Many practitioners agree that modern SPACs are the creation of EarlyBirdCapital, a small investment bank, that refurbished old blank check companies, structured them to be in compliance with all the requirements imposed by the SEC, voluntarily added additional features to gain the confidence of investors and finally for being market maker for securities. Carpentier, Cumming and Suret (2012) show that compliance with the exchange requirements and stricter regulations impact long term performance of similar type of companies in Canada. The majority of the management team of EarlyBirdCapital were previously employed by GKN Securities Corporation and involved in the 1997 NASD ruling that closed the blank check market until 2003. Heyman (2007) argues that the interest of underwriters is mainly due to their perception that SPACs are highly interested product in times of downside market.

The underwriters are also actively supporting SPACs as advisers. Dimitrova (2017) report that in 47% of deals, underwriters also serve as SPAC advisers. In some cases, underwriters purchase securities for their own account and deposit them into escrow accounts. The total underwriters' fee is approximately 7%. This figure is similar to the level that Chen and Ritter



(2000) as well as Abrahamson, Jenkinson and Jones (2011) report for a traditional IPO. Although in the first two years of the SPAC market, underwriters were able to receive their total compensation at the time of an IPO, later on the total compensation is usually divided into a part received immediately after the IPO and a deferred portion that is conditional on the approval of acquisitions. Establishing this deferred part of underwriting fee, creates an alignment of incentives between the incentives and managers and possibly investors in order to approve the acquisition. Table 1 shows that post-2005 this deferred fee is higher than 2% of IPO proceeds.

A typical underwriting syndicate has four members. Until 2006, SPACs were exclusively underwritten by smaller size investment banks. The syndicate size of SPACs is approximately five times lower than that of traditional IPOs, as reported by Aggarwal (2000). After the year 2006, the largest players have entered the market and the literature reports that Citibank on behalf of large institutions and EarlyBirdCapital for smaller ones have been the leading underwriters of the SPAC market.

Cumming et al. (2012) report that the composition of the underwriter syndicate affects the probability of acquisition approval. SPACs, with well-known lead underwriters, have higher likelihood of approval. Similarly, the decrease in the size of underwriting syndicate increases the approval probability.

### **Investors and their incentives**

The financial literature reports that the majority of investors in SPACs are institutional. Lakicevic and Vulcanovic (2013) observe that, they are, on average, owners of 78.2% of SPAC equity while at the same time are providers close to 97% of cash. That discrepancy between the amount of contribution and the level of ownership leads to a significant dilution. The dilution increases for cases of potential conversions and redemptions. The financial literature reports

dilution level around 33% percent. Final SPACs' prospectuses report that, for SPACs after the year 2010, the dilution reached 90% and above. The way that underwriters and management compensate for this dilution is the establishment of the escrow account where almost all IPO proceeds are deposited. Given that investors purchase units consisting of warrants and shares, early SPAC investors could sell their in-the-money warrants and hold shares until the acquisition date, obtaining some minimal positive returns. Mitchel and Pulvino (2012) provide economic reasoning showing that investing in SPACs was a dominant strategy for hedge fund investors in the years preceding 2009. SPACs are structured such that shareholders have payoffs that are equivalent to the payoffs from holding a risk-free bond plus a call option. Before the recent global financial crisis of 2007 - 2009, they yielded, on average, approximately four percent higher than T-bill. The SPACs' literature confirms that returns to investors, during the period between the IPO and acquisition, are in general either slightly positive or around zero. This is due to the fact that investors can redeem their shares and sell their warrants in the market. At the same time, evidence show that post-acquisition returns are substantially negative and those investors, on average, do not benefit for supporting an acquisition.

## **Short term and long term performance of SPAC securities**

The literature on SPACs explains their performance at various stages of their lifecycle. Almost every study reports the performance of SPAC shares and some, additionally report the performance of their warrants and units.

### **IPO filing statistics and underpricing**

We construct filing statistics utilizing EDGAR database and report mean values on major structural characteristics for 245 SPACs that have entered financial markets for the period 2003-

2016. SPACs issue units in their IPO. On average, they issue 15.13 million of units at an average price of \$8.54. When the exercise of overallotment is added, on average, SPAC gross proceeds are \$135.36 million. For a comparison, Hanley and Hoberg (2010) report that for their sample of 2,043 general IPOs for the period 1995 until 2005, the average size is \$116 million. Table 1, Panel B, shows temporal distribution of gross proceeds. There is an evident pattern of an increase from 2003 until 2008. Similarly, we see an increase in the amount of gross proceeds from 2012 until 2016. Consequently, the total size of SPAC market in the U.S. is slightly larger than \$33.16 billion. The absolute prices of units are \$6, \$ 8 or \$10.

An important feature of the SPAC structure is an escrow account, where the net proceeds of the IPO are deposited. On average, 98.01% of gross proceeds are placed in the escrow account where SPACs in each year after 2008 deposited more money in the escrow accounts than the level of IPO proceeds. This was possible due to two factors. First, underwriters decided to defer part of their compensation until the acquisition and those funds, averaging 2.37% of gross proceeds, are deposited in the escrow accounts. Second, SPAC management, with the exception of the period 2003-2006, purchased either warrants or units prior to IPO and deposited these funds into the escrow accounts.

One of the recurring themes in the IPO literature is the degree of underpricing. Jog and Sun (2007) report underpricing of 3.8%. Boyer and Baigent (2008) find that the average one-day return for 87 SPACs in their sample is 1.23%, which is relatively small as compared with the average first day IPO returns of 26% for general companies. These results are confirmed also by Lewellen (2009), Lakicevic and Vulanovic (2011), Ignatyeva, Rauch, and Wahrenburg (2012) and Murray (2014), using a larger sample of SPACs, both in the U.S. and the European markets. Rodrigues and Stegemoller (2014) conclude that this lower-than-usual underpricing is intuitive and consistent

with the valuation process. According to them, SPACs' IPOs are much less noisy, and thus easier, than that of a typical IPO. They argue that the role of the investment bank serving as an underwriter and adviser should be less labor intensive as the SPAC represents "pool of cash." In addition, the establishment of the escrow account model makes valuation relatively constant compared to that of the typical firms in the general IPO market.

### **Performance between the IPO and acquisition**

A typical SPAC spends about two years in the stage between the IPO and acquisition or liquidation. During that time, SPACs' shares, units and warrants are freely tradable. Given the establishment of the trust account, the price of these securities should be close to the pro-rata value of the trust. However, the literature observes abnormal returns at major announcement dates. The SPACs' literature focuses mostly on acquisition announcement returns. Howe and O'Brien (2012) report a positive 1.7% return at the announcement date. Lakicevic and Vulcanovic (2013) report acquisition announcement returns for units, shares and warrants. They find that all three securities experience positive abnormal announcement returns. Shares experience 1.2% return, units 2.42% and warrants 10.4% return. Tran (2012) and Dimitrova (2017) report returns around 1% on the announcement date. Rodrigues and Stegemoller (2014) compare acquisition announcement returns of SPACs with traditional IPOs and find positive and stronger returns for SPACs. The performance of SPACs' securities at the merger announcement is in line with findings in the general financial literature. Travlos (1987) and Andrade, Mitchel and Stafford (2001) report positive returns for acquirers, in cases in which the deals were financed by cash. Lakicevic and Vulcanovic (2013) calculate portfolio return for SPACs that were in the post-announcement stage for the period 2007-

2009 taking IPO date as the basis point. They report positive 9.6% buy-and-hold return. Dimitrova (2017) observes that, for her sample, return between the announcement and merger is 4.4%.

### **Acquisition and Post- Acquisition performance**

The financial literature discusses acquisition event returns, post-acquisition performance, level of ownership and determinants of survival. Lakicevic and Vulcanovic (2013) report that SPAC shareholders earn a negative 3.81 percent return on the day of merger completion. Additionally, they find that seven-day post-acquisition return is -9.59%. Jog and Sun (2007) report return on investment of 1,900% to management teams for successful acquisition. In the same time, annual return to investors is -3%. Jenkinson and Sousa (2011) report -24% return for six-month post-acquisition and -55% for a year post-acquisition. Howe and O'Brien (2012) find that the average half year return is -14%, one-year return is -33% and three years return is -54%. Datar et al. (2012) report buy-and-hold returns for SPACs which completed acquisition for the period 2003-2008. They report one-month post-acquisition return of -5.37%, six month return of -20.93% and one-year post-acquisition return of -38.32%. Lakicevic and Vulcanovic (2013) form a portfolio of all SPACs with completed acquisition for the period 2004-2009 and calculate the buy-and-hold return for a hypothetical investor who purchases one unit at the IPO date and holds that unit until the last week of June 2009. They report portfolio return of -26.89%. To sum, the literature is consistently finding that overall, SPACs underperform post-acquisition as a financial asset.

### **Conclusion**

This chapter studies the institutional characteristics and market performances of Specified Purpose Acquisition Companies (SPACs) that conduct their Initial Public Offering (IPO) with the

sole purpose of using the proceeds to finance future acquisitions. Modern SPACs are structured in a way that allows them to avoid certain classifications that would cause additional scrutiny by the SEC. This paper explores the advantages of operating as a SPAC and the benefits that SPACs have for financial markets. Through an analysis of legal and financial literatures as well as empirical data, assumptions on SPACs effects on financial markets are ascertained.

This chapter is based on historical and empirical analysis of SPACs dating back to the early 2000s. The main focus of a SPAC is to create value through company acquisitions or mergers. The structural integrity of a SPAC can benefit investors or stakeholders which creates conflict of interest and agency problem during the approval process. These innovative SPAC structures provide security for IPO proceeds while limiting the downside for potential investors. Important characteristics of SPACs include its life-cycle, high degree of transparency, and regulatory obligations to the SEC. SPACs are attractive to investors and larger companies because the life-cycle is limited to promote efficiency. Transparency lends confidence to investors and regular reporting to the SEC gives SPACs and its investors a high level of security, re-enforcing the confidence to create or invest in SPACs.

The literature gives an overview of the activities that happen throughout the life-cycle of a representative SPAC. This makes it easier to understand and isolate market performance before and after an IPO announcement. The findings about market performance are analyzed based on statistical data. However, the research leaves much information to be desired because earlier data on SPACs are inaccessible. Information on market performance is necessary to make predictions that lead to successful business transactions and enables risk analysis for potential investors. This

same information helps SPACs management teams to decide on either acquisition or liquidation which is the declared purpose of each SPAC.

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**Table 1: SPACs' structural characteristics in the period 2003-2016**

This table describes the sample which consists of 245 SPACs that entered U.S. fin in period 2003-2016. Data Covering all important institutional characteristics is from EDGAR.

<b>Panel A : Sample temporal distribution and SPACs structural characteristics</b>														
Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
SPAC IPO count	1	12	28	37	66	17	1	7	16	9	10	11	20	10
IPO size	24.15	40.25	74.95	90.79	183.23	226.03	36.00	71.79	72.10	54.44	139.23	141.36	180.66	235.82
Units number	3.50	5.86	10.33	10.87	18.67	21.79	3.60	7.01	7.28	5.51	13.38	14.14	18.07	23.58
Unit Offer Price	6.00	6.34	6.86	7.47	8.48	9.18	10.00	10.00	9.33	9.78	9.80	10.00	10.00	10.00
Escrow	0.85	0.87	0.92	0.96	0.98	1.00	1.03	1.01	1.01	1.02	1.03	1.05	1.02	1.01
Rights											0.10	0.10	0.11	0.10
Management size	4.00	4.58	5.46	5.70	6.52	5.82	3.00	6.57	5.73	5.89	6.80	6.36	6.40	6.36
Manager age	59.25	47.91	48.12	51.25	52.30	49.27	37.00	52.30	50.41	49.83	52.82	51.02	52.16	55.13
Deferred Fee	0.00	0.00	0.57	2.20	3.14	3.83	4.00	2.34	2.15	2.02	2.42	2.25	2.87	3.09
Underwriter total fee	10.00	9.17	7.43	6.80	6.97	6.84	7.00	4.48	4.73	4.54	4.98	4.84	5.30	5.09
Warrant purchases	0.00	0.21	0.59	0.98	3.10	5.06	3.60	4.71	4.47	3.11	3.30	5.85	7.20	7.30
Warrant Price	0.00	0.00	0.06	0.39	0.88	0.93	0.50	0.68	0.61	0.51	0.30	0.45	0.38	0.66
Unit purchases	0.00	0.00	0.04	0.19	0.22	0.00	0.00	0.00	0.03	0.12	0.48	0.55	0.16	0.11
Uquant	3.50	5.86	10.33	10.87	18.67	21.79	3.60	7.01	7.28	5.51	13.38	14.14	18.07	23.58
Dillut	28.80	31.66	29.50	30.12	29.67	30.64	29.80	55.83	72.39	73.20	86.39	84.86	87.07	89.02
Warrant Strike	5.00	5.00	5.25	5.42	6.15	6.38	11.50	10.93	9.66	10.33	6.90	11.55	10.55	11.50
Warrants per unit	2.00	1.92	1.68	1.49	1.08	1.06	1.00	1.00	0.97	1.00	0.51	0.75	0.77	0.48

**Table 2: SPACs' literature overview**

The table summarizes legal and financial literature on SPACs from 2003 until 2016. The table reports authors, data sources, sample, time period, dependent variables and main findings. The main findings are mainly paraphrased from authors representation of findings, and sometimes interpreted by the authors of the chapter.

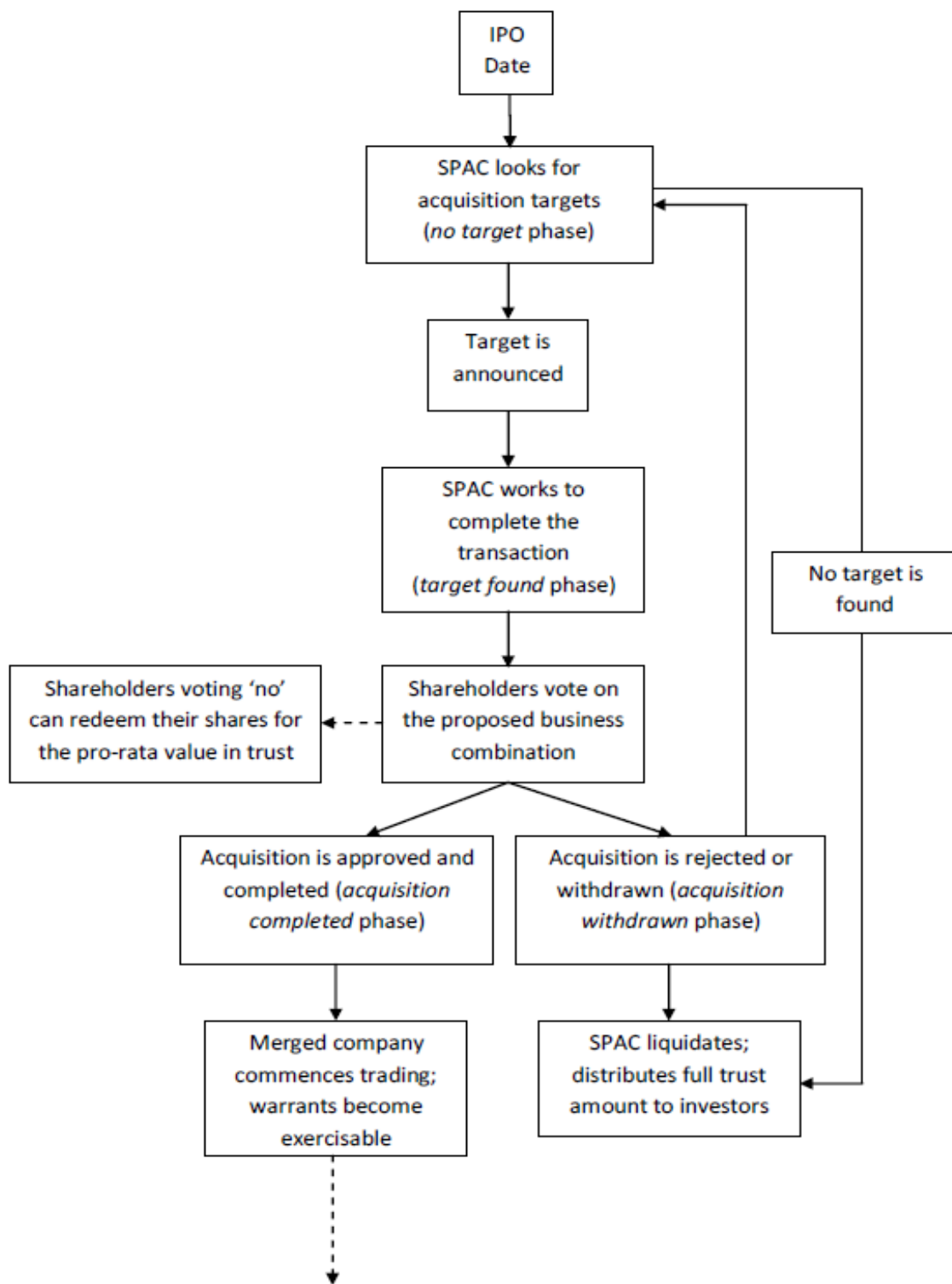
Authors	Data Source	Sample	Time period	Dependent Variables	Main Findings
Hale (2007)	EDGAR	64 SPACs	2003 - 2006	Legal overview of SPACs	The introduction of SPACs represent positive development in the financial markets. SPAC are good tool to experienced and proven managers.
Heyman (2007)	EDGAR	Individual SPACs	1992 - 1999 2003 - 2007	Historical and legal overview	Modern SPACs in post 2004 period have higher legitimacy than their counterparts in 1990s. To a certain class of private companies SPAC offer more suitable solution compared to traditional IPO. Modern SPACs provide high enough protection for initial investors.
Reimer (2007)	EDGAR	Descriptive study		Historical overview, the description of structure	SPACs are in essence publicly traded buyout firms. Comparison of SPACs with blank check companies required to follow Rule - 419 shows that SPACs have more efficient corporate structure.
Davidoff (2008)	EDGAR	115 SPACs	2003 - 2007	Descriptive study	SPACs emerged due to the mismatch between supply and demand in capital markets. Primarily due to inability of investors to replicate portfolios of private equity and hedge funds
Sjostrom (2008)	EDGAR	More than 70	2003 - 2006	Descriptive study on legal aspects and structure of SPACs	SPACs are compared with reverse mergers and Private investment in public equity (PIPE) companies. Their structure a valid alternative to traditional IPOs from the perspective of a private company because it enables injection of cash into a new company, share liquidity and vested-in underwriters.
Jog and Sun (2007)	Datstream, Factiva, SDC Platinum, EDGAR,	62 SPACs	2003 - 2006	Excess rate of return to management and investors	SPACs are "home run" for founders. Shareholders of blank check IPOs earned minus 3% annualised abnormal returns, while management earned 1900% annualised returns. Median size of the typical SPAC listed at AMEX is similar to median size of typical company listed at AMEX. Underwriting fees are close to 7% and at similar level as typical IPO fees. SPACs exhibit very low level of underpricing.
Boyer and Baigent (2008)	Bloomberg, EarlyBirdCapital, EDGAR	87 SPACs	2003 - 2006	Excess rate of returns and underpricing levels	On average, investment in SPACs provided higher return than in NASDAQ index in years 2004 and 2005, while SPACs underperformed NASDAQ index in 2006 (3.50% vs. 8.48%). SPACs exhibit 1.23% underpricing at the IPO. In overall SPACs offer less costly and faster route to public financing of private companies, especially in periods of low IPO activity.
Floros (2008)	Compustat, Factiva, SDC Platinum	14 SPACs	2003 - 2007	Excess returns	He classifies SPACs as a reverse mergers and compares them with penny stock issuing companies. Reverse mergers and SPACs as their subset are convenient corporate structure to foreign private companies with high level of debt, low legal efficiency in their home countries and low level of protections of shareholders' rights.
Berger (2008)	Dealogic M&A Analytics, Thomson SDC	3 SPACs	2003 - 2007	An overview and case study	SPACs offer to private companies many features that traditional IPOs are incapable to provide. They are better suitable for complicated circumstances, by having readily available cash that brings capital structure into an optimal state, offer valuation benchmarks and provide exit opportunities for companies without strategic buyers.
Lewellen (2009)	Bloomberg, CRSP, EDGAR, Morgan Joseph and Maxim Group research reports, SDC Platinum	158 SPACs	2003 - 2008	Excess returns at various lifecycle periods. Beta of SPACs as an asset class	SPACs should be recognized as a new asset class. Their structure and behavior is unlike any other class in public equity markets. Their returns after merger announcement are close to 3% on a monthly basis. SPACs after the merger exhibit negative returns. Their Beta is approximately 0.75.

Kim (2009)	CRSP, Deal Flow Media, EDGAR, EOD Data, SDC Platinum, WRDS	158 SPACs	2003 - 2008	IPO size, Underwriter quality, Abnormal returns, Underpricing levels	SPAC experience positive merger announcement returns. Their managers, on average, have longer tenure in the industry than managers of comparable IPOs. Managerial experience of SPACs is a signal for the firm quality, which attracts more outside investors and produces higher offer size at the IPO. Furthermore, it impacts the level of underwriting spread and the level of quality and interest of institutional investors. Experience of SPAC management team positively increases the possibility of an acquisition.
Jenkinson and Sousa (2011)	Capital IQ,	161 SPACs	2003 - 2009	Excess returns	In overall, SPACs are not value creating entity. Financial market is able to identify bad SPACs prior to the date of acquisition, but in spite of that, many acquisitions are approved notwithstanding expected post-merger's negative returns. Overall, expect more than half of the SPAC acquisitions are value destroying and, six months after the merger, SPAC investors experience average cumulative return of -24%. Furthermore, it gets worse with time, as reported one-year average cumulative return is -55%. The sub-group of the best performing SPACs exhibit -6.2% annual return.
Thompson (2010)	Datastream, EDGAR, Factiva, SDC Platinum	162 SPACs	2003 - 2010	Excess returns	SPAC investors approve acquisitions that seem value reducing, despite good voting mechanism that protects them SPACs, in overall, exhibit significantly positive 1.1% abnormal return on merger announcement. The announcement CAR in three day window is 1.5%
Kim (2010)	Korea Stock Exchange	15 SPACs in S.Korea	2010	IPO size, Pricing information	Korean SPACs have many structural differences with respect to their U.S. counterparts, mainly due to regulatory differences. Korean SPACs are required to have more than one SPAC sponsor who is an authorized securities dealer, they issue common stocks instead of units in the U.S. and the majority of their investors are retail investors.
Tran (2012)	COMPUSTAT, CRSP, EDGAR, Morgan Joseph report, SDC Platinum	108 SPACs	2003 - 2009	Excess returns, means of payment dummy variable,	SPACs are important innovation in financial markets. Compared to other public acquirers showing that SPACs are benefiting from three characteristics, the specialization of their underwriters and managers, from their ownership structure and monitoring role of long term institutional investors. SPACs execute more focused acquisitions, are less likely to structure these deals as cash only or tender offers opposed to their public counterparts and are able to negotiate an additional 7.6% discount in comparison with other acquirers who target private companies.
Floros and Sapp (2011)	DealFlow Media's PrivateRaise database	111 SPACs	2003 - 2008	Excess returns	Comparatively, SPACs exhibit negative and lower returns than typical shell companies.
Datar, Emm and Ince (2012)	DealFlow Media's PrivateRaise database, EDGAR,	156 SPACs	2003 - 2008	Size, Excess Returns	They compare 156 SPACs to 794 firms that conducted traditional IPOs during the same period. Overall, they find that the operational performance of SPACs is inferior to industry peers and conventional IPOs in the same period. In addition, SPACs carry more debt, have smaller size, invest less and have lower growth opportunities than the benchmark firms.
Lakicevic and Vulanovic (2013)	Bloomberg, CRSP, EDGAR,	161 SPACs	2003 - 2009	Excess returns at various lifecycle periods for shares, units and warrants	All three SPAC securities exhibit positive merger announcement returns, but the degree of reported positive performance varies and is the highest for warrant holders. Post acquisition SPAC unit holders experience -28.00% buy and hold return.
Murray (2014)	EDGAR	161 SPACs	2003 - 2009	IPO returns	SPACs do not exhibit a significant underpricing. The the value of a unit is not a simple sum of the values of the stock and warrant.
Howe and O'Brien (2012)	Mergent Online, CRSP,	158 SPACs	2003 - 2008	Excess returns	Positive buy and hold returns after the merger announcement. In the long run average half year return is equals to -14%, average one year return is -33% and average three years return is -54%. The board independence and the structure of ownership do not have affect returns.
Rodrigues and Stegemoller (2012)	EDGAR	243 SPAC registration forms	2003 - 2008	Descriptive study	SPACs are a successful legal innovation and show that SPAC managers receive high returns in the early period pre-2006, but have to increase their investment and to share some of these gains with both retail and institutional investors after 2006.
Dimitrova (2017)	Bloomberg, CRSP, EDGAR, SDC Platinum	73 SPACs	2003 - 2010	Excess returns at various lifecycle periods	SPACs exhibit poor performances across the board. Their four year long run buy and hold returns are -51.9%. The performance is related to the degree of managerial pressure for the completion of the deal since their incentives with respect to approval are not aligned with the rest of investors. Using measures of accounting performance such as operating margins and return on sales SPAC acquisitions significantly under-perform various benchmarks.

Ignatyeva, Rauch and Wahrenburg (2013)	SpacData	19 SPACs listed in Europe	2003 - 2011	Descriptive study, excess returns	European SPACs share structural characteristics of the U.S. counterparts. Their underpricing statistics and post-merger announcement returns are of the same size and magnitude. European SPACs are value destroying post-acquisition with -11.4 % semiannual and -14.2% annual return.
Cumming, HaB and Schweizer (2014)	DealFlow Media, EDGAR, Morgan Joseph reports, Thompson One, Proprietary data	163 SPACs 139 SPACs for main analysis	2003 - 2010	Approval dummy variable,	The strongest influence on the approval of SPAC acquisition comes from the block-holding structure. In deals where the level of ownership by hedge funds and private equity funds increases, merger likelihood decreases. Younger management teams have higher degree of acquisition approvals. However, managerial experience and enhanced boards do not positively improve the likelihood of acquisition. Similarly, the support of well-known underwriters and larger syndicates do not increase the likelihood for approval.
Lakicevic, Shachmurove and Vulanovic (2014)	Bloomberg, Chicago Board Option Exchange, EDGAR, Morgan Joseph reports,	184 SPACs 163 SPACs for main analysis	2003 - 2012	Merger status dummy variable	Timing of the merger announcement, the deals which focus on China, and deals underwritten by the EarlyBirdCapital increase merger likelihood of SPACs. SPACs significantly change their corporate structure in the first decade of their existence due to market pressures and constant realignments of incentives among major stakeholders.
Shachmurove and Vulanovic (2015)	Bloomberg, CRSP, EDGAR, Morgan Joseph reports,	193 SPACs	2004 - 2013	Buy and hold returns to stakeholders	Shipping industry uses SPACs as a source of financing and in order to gain access to the U.S. financial capital markets. While investors in shipping focused SPACs exhibit low positive buy and hold return of 3%, founders of these SPACs reap significant positive returns.
Rodrigues and Stegemoller (2014)	EDGAR	260 preliminary prospectuses	2003 - 2011	Underwriting fees	SPACs pay similar level of underwriting fees as typical IPOs and that SPACs exhibit relatively higher positive abnormal return at announcement dates than regular companies.
Shachmurove and Vulanovic (2017)	Bloomberg, CRSP, EDGAR, Morgan Joseph reports,	184 SPACs	2003 - 2011	Buy and hold returns	SPACs are frequently used as an exit strategy for Chinese private companies. SPAC merging with Chinese companies were under the regulatory and market pressure in 2011 and exhibited decline in performance. In overall, Chinese focused SPACs overperform the rest of SPACs.
D'Alvia (2014)	Italian Securities and Exchange Commission	Descriptive study	2003 - 2013	Descriptive study on legal aspects and structure of SPACs	SPACs are a beneficial innovation for M&A market and they exhibit legal differences across U.S., Italy and Malaysia
Kolb and Tykova (2016)	Morgan Josef TriArtisan, EDGAR, Ellenoff Grossman & Schole, Capital IQ	127 SPACs	2003 - 2015	Merger status dummy variable, excess returns	SPAC acquisitions are a viable alternative to IPOs for firms that wish to access the public markets in turbulent times when IPOs may be difficult to accomplish. VC involvement is negatively related to the probability of a SPAC acquisition. Private equity preferred IPOs over SPAC acquisitions to sell their stakes as well. Although there is a cash out advantage associated with SPAC acquisitions, they do not seem to attract profitable and prestigious firms
Vulanovic (2016)	Bloomberg, Datastream, EDGAR, WRDS	105 SPACs	2003 - 2013	Survival analysis, post merger status dummy	Structural characteristics of SPACs are important in determining post-merger outcomes. Increases in pre-merger commitment on behalf of SPAC management and underwriters and initial positive market performance increase the likelihood of post-merger survival. However, mergers with high transaction costs and a focus on foreign companies are more likely to fail

Figure 1

Figure represents lifecycle of SPAC. Source is Lewellen (2009)





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<sup>i</sup> Aside of the US, SPACs are present in the financial markets in Australia, Austria, Brazil, Canada, Germany, Italy, Malaysia, Netherlands, New Zealand, South Africa, South Korea, Sweden and the United Kingdom.

<sup>ii</sup> <https://www.sec.gov/answers/blankcheck.htm>

<sup>iii</sup> “The American “investment” trusts functioned as blind speculative pools, administered in many cases by men of reputation and ability who were carried away by the universal madness. These new “creations” played a double role in intensifying the speculative orgy, for they were themselves both active speculators and active media of speculation.”

<sup>iv</sup> Certain number of SPACs initially file as foreign private entities and instead of Form S-1, submit Form F-1