NAVIGATING THE BOOM AND BUST OF GLOBAL SPACs

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Abstract

This paper examines the recent surge and decline in special purpose acquisition companies (SPACs), an alternative public listing option that offers certain companies a potentially faster and more flexible route to public markets. Once a niche market, SPACs became the primary route to going public in 2020-2021, attracting significant investor interest. This analysis begins by reviewing the unique structure of SPACs and their perceived advantages over traditional initial public offerings (IPOs). Using transaction-level data, this paper examines issuance trends and the specific characteristics of global SPACs up to end-2023. It also discusses various concerns surrounding the SPAC process, including inherent information asymmetry, agency costs, and potential conflicts of interest involving SPAC sponsors and underwriters. The paper then analyses the returns associated with SPAC transactions at various stages, shedding light on the risks and differences in returns between different stakeholders. In particular, SPAC sponsors and early investors, primarily hedge funds, enjoy very positive returns. Conversely, end investors, including retail investors, who invest in the companies that go public through SPACs, also known as deSPACs, earn mostly negative returns. Specifically, using a sample of individual US and non-US SPACs from 2016 up to the end of 2023, this paper demonstrates the suboptimal performance of deSPACs for different investment horizons. These concerns about SPACs' structure and negative outcomes for individual investors have led to increased regulatory scrutiny and contributed to the rapid decline in SPAC activity since 2022. Amid an evolving SPAC market and regulatory framework, this analysis contributes to the ongoing debate on the role and viability of SPACs as an effective tool to raise equity.

Keywords: special purpose acquisition company, initial public offering, warrants, deSPACs, post-merger performance, market functioning and regulation.

JEL classification: G34, G24, G14.

Resumen

Este artículo aborda el reciente auge y declive de las sociedades de adquisición con propósito especial (conocidas como SPAC, por sus siglas en inglés), una alternativa potencialmente más rápida y flexible para la salida a bolsa de ciertas empresas. Las SPAC se convirtieron en la principal vía para salir al mercado en 2020-2021, atrayendo un gran interés de los inversores. Este análisis presenta la estructura financiera de las SPAC y sus potenciales ventajas sobre las ofertas públicas de venta (OPV) tradicionales. Mediante el uso de datos a nivel de transacción, este estudio examina las tendencias de emisión y las características distintivas de las SPAC a nivel global hasta finales de 2023. Además, se discuten varias preocupaciones en torno al proceso de creación y cotización de las SPAC, incluyendo la asimetría de información inherente, los costes de agencia y los posibles conflictos de interés que involucran a los patrocinadores y suscriptores de las SPAC. Asimismo, se analizan las rentabilidades de las SPAC en sus diversas etapas, arrojando luz sobre los riesgos y disparidades de rentabilidad entre los diferentes participantes en este mercado. De esta manera, los patrocinadores de las SPAC y los inversores institucionales, principalmente fondos de inversión alternativa, obtienen rentabilidades positivas. Por el contrario, los inversores finales, incluyendo los inversores minoristas, que invierten en las empresas que salen a bolsa a través de la fusión con una SPAC (también conocidas como deSPAC), obtienen en su mayoría rentabilidades negativas. A partir de una muestra de SPAC de Estados Unidos y del resto del mundo desde 2016 hasta finales de 2023, este documento demuestra el rendimiento subóptimo de las deSPAC para diferentes horizontes de inversión. Estas preocupaciones sobre la estructura de las SPAC y los resultados negativos para los inversores finales han llevado a un aumento de la supervisión regulatoria y han contribuido a la rápida disminución de la actividad de las SPAC desde 2022. Teniendo en cuenta los cambios que se están produciendo en este mercado y su regulación, este análisis contribuye al debate en curso sobre el papel y la viabilidad de las SPAC como una herramienta efectiva para captar capital.

Palabras clave: sociedades de adquisición con propósito especial (SPAC), oferta pública de venta (OPV), emisión de opciones sobre acciones *(warrants),* empresa resultante de la fusión con una SPAC (deSPAC), rendimiento posfusión, funcionamiento del mercado y regulación.

Códigos JEL: G34, G24, G14.

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1 Introduction

The meteoric rise and subsequent slowdown of Special Purpose Acquisition Companies (SPACs) have captured the attention of the financial world, sparking intense debate among academics, practitioners, and regulators alike. These entities, often referred to as "blank-check companies", provide an alternative pathway to going public compared to established methods like Initial Public Offerings (IPOs). Unlike traditional IPOs, where operating companies raise capital by issuing new shares, SPACs are shell corporations designed to raise capital through an IPO and list on a stock exchange with the sole purpose of acquiring an existing operating company or entity within a defined timeframe (Securities and Exchange Commission, 2023).

Historically, IPOs have dominated the public listing landscape, offering companies access to substantial capital and fostering broader market participation. SPACs originated in the 1980s as an alternative but were initially plagued by regulatory concerns and limited usage (Credit Suisse, 2020). Most companies seeking to go public opted for conventional IPOs, which were supported by strong equity markets. Despite undergoing significant structural reforms over the years (Lakicevic, Schachmurove and Vulanovic, 2014), SPACs remained a niche market until a dramatic resurgence in the latter half of 2020, when US equity markets witnessed an explosion in the number of SPACs being launched, with substantial retail investor participation (Dobridge, John and Palazzo, 2022). In mid-2021, the number of newly listed SPACs reached its peak, followed by a sharp decline, raising questions about the driving forces behind this phenomenon and the rise of SPACs as a viable public listing option.

While some perceive SPACs as an innovative alternative to traditional IPOs with potential advantages (Rodrigues and Stegemoller, 2021a), their use remains under scrutiny. Concerns have been raised regarding SPACs being another example of relatively untested financial instruments, particularly considering the specific economic environment of low risk aversion and "search-for-yield" behaviour existing during 2020 and 2021.

This paper investigates this "boom and bust" of the SPAC market, exploring its growth, key characteristics, and the factors that fuelled its initial surge. Utilizing issuance data from various sources, our analysis extends through the end of 2023, providing a comprehensive perspective. Furthermore, we examine the roles and potential challenges faced by various participants in the SPAC ecosystem, including sponsors, institutional investors (e.g., hedge funds), and retail investors in the acquired companies.

Our analysis aims to contribute to the ongoing discourse and recent regulatory actions by examining the potential benefits and drawbacks associated with SPACs. We focus specifically on the return disparities and potential pitfalls for individual investors. We utilize recently updated data on global SPAC IPOs and post-merger returns through the end of 2023 to corroborate the reported negative performance of acquirer companies after merging with SPACs (Gahng, Ritter and Zhang, 2023).

This paper is structured as follows. Section 2 presents the key characteristics of SPACs and their stakeholders, offering a detailed understanding of their structure, phases, and operation. Section 3 explores the purported advantages of SPACs compared to traditional IPOs, highlighting that some claimed legal benefits are subject to debate. Section 4 examines the structure of the SPAC market, providing a detailed overview of issuance trends and market dynamics. Section 5 analyses the potential costs and risks associated with SPACs and Section 6 unveils challenges and return disparities among investors. Section 7 summarizes the response of regulatory authorities, particularly in the US. Finally, Section 8 concludes.

2 What is a SPAC

SPACs, also known as blank-check vehicles, are basically shell companies created by a sponsor, with the sole purpose of raising capital from investors through a private conventional IPO. Unlike traditional operating companies, SPACs do not engage in operational activities; rather, they serve as financial conduits, pooling investor capital to pursue future business combinations. The sponsor sells the redeemable securities for cash to investors, particularly hedge funds and other financial institutions – although involvement of retail investors has been growing – and places the proceeds in a trust. SPACs have also been called the poor man´s private equity funds, because they allow relatively small individual investors to obtain exposure to the equity of technical start-ups and other small previously unlisted innovative firms.[1]

The fundamental premise of a SPAC lies in the sponsor's endeavour to utilize raised capital to identify and merge with one or more undisclosed non-listed businesses to be identified after the SPAC's IPO (Huang, Ritter and Zhang, 2023; Layne and Lenahan, 2018). The aim of the process is a merger between the listed SPAC and the identified (non-listed) target business, combining the two into one publicly (listed) traded operating company. Consequently, small start-up firms lacking the requisite resources for a traditional IPO can leverage SPAC mergers to attain public listing status, thereby accessing capital markets and investor liquidity. In recent years, the growing popularity of SPACs has been accompanied by a notable trend of celebrity involvement in the SPAC market (Rodrigues and Stegemoller, 2021b). This trend includes elite athletes such as Serena Williams and Shaquille O'Neal, renowned entertainers like Jay-Z, and even prominent politicians like Donald Trump and Paul Ryan, who have all participated in launching SPACs in various capacities.[2]

The lifecycle of a SPAC consists of various stages and involves a diverse range of stakeholders. The sequence of these different phases is summarized in Figure 1. A step-by-step overview of the process is provided as follows, offering more detailed insights into the various stages and stakeholders involved in each phase.

2.1 Phase 1. The SPAC IPO: sponsors, SPAC units and institutional investors

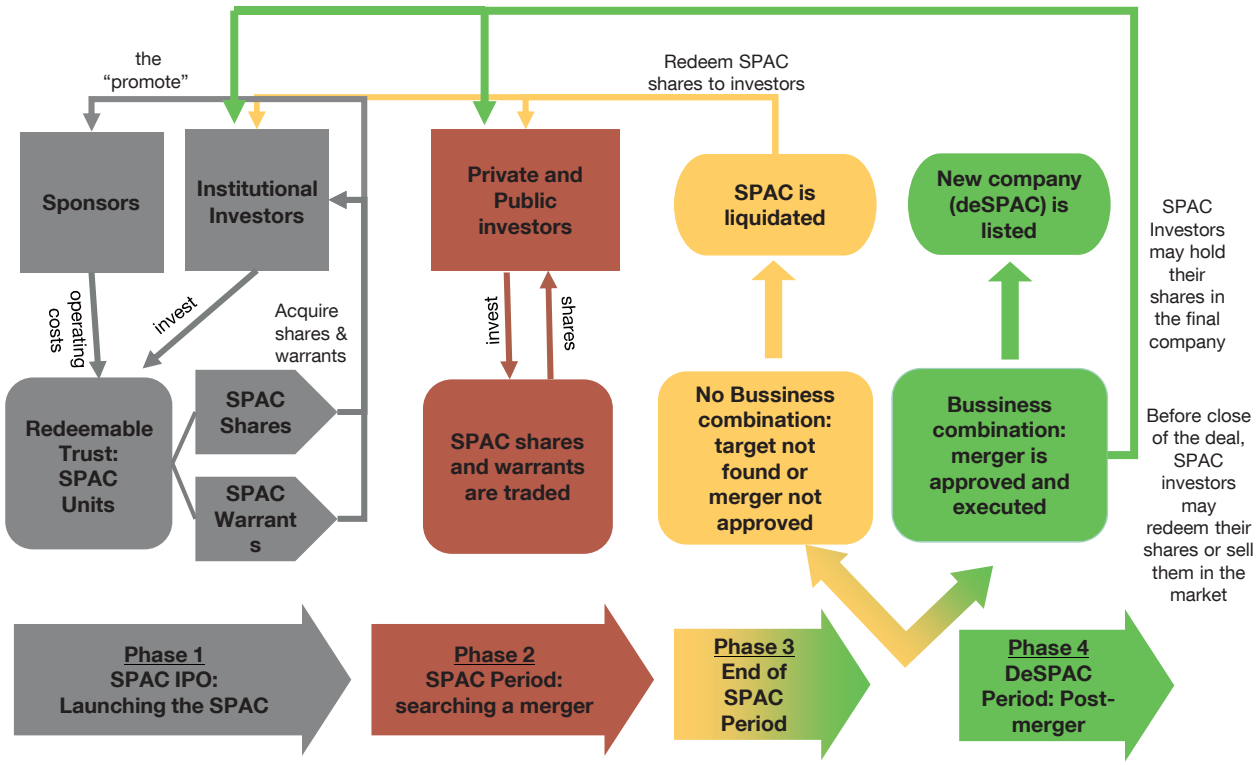
The founders or sponsors initiate the SPAC creation process, marking the beginning of the venture. Following the decision to launch a SPAC, efforts are made to generate investor interest through roadshows and promotional activities. Having secured the investment of institutional investors, the sponsor then proceeds to raise equity by issuing SPAC units. These units are securities with a fixed price (e.g., $10 in the United States) and typically

1 Blank-check companies often involve speculative investments and are typically classified as "penny stocks" or "microcap stocks" by Securities and Exchange Commission (SEC). This classification is due to their relatively low trading price and issuance by small companies with limited market capitalization. To protect investors, these companies may be subject to additional regulations when registering for a security offering. However, SPACs are usually structured to raise more than $5 million during their IPO phase, which allows them to avoid being classified as penny stock companies and minimizes further scrutiny by the SEC.

2 On March 25, 2024, Trump Media & Technology Group (TMTG), a venture by former President Donald Trump, successfully completed its merger with Digital World Acquisition Corp. (DWAC), a SPAC. According to the Financial Times, the majority of shareholder base of the combined company consists of retail investors.

Figure 1

Main stages of SPAC's process and structure



SOURCE: Own elaboration.

consist of a common share in the SPAC and accompanying warrant rights.[3] Upon the formation of the SPAC, the units are listed for public trading on an exchange in what is known as the SPAC Initial Public Offering or SPAC IPO (Phase 1 in Figure 1, represented by the grey-coloured elements in the scheme).[4]

The sponsor covers the SPAC's operating costs and acquires a block of shares typically amounting to 20% of post-IPO equity (the "promote"), i.e., a compensation for the costs that these sponsors have incurred and generally a reward for their work involved in launching a SPAC. Initial IPO investors are typically professional traders and hedge funds that hold both SPAC shares and warrants. Some of these institutional investors are often referred to as the "SPAC Mafia" due to their dominant role in the SPAC market (Goldman Sachs, 2021a; Klausner, Ohlrogge and Ruan, 2022; Gahng, Ritter and Zhang, 2023).

Common shares are typically redeemable for a pro-rata portion of trust value, usually only prior to the initial close of a business combination (Gritstone, 2021). However,

3 A warrant is a stock option issued and payable by the company itself. The warrant gives the holder the right, but not the obligation, to buy a specified fraction of a share at a certain price (for US SPACs, typically $11.50 per share) in the future, post-merger company (CFA Institute, 2022).

4 In the United States, the NASDAQ and the New York Stock Exchange are the two common exchanges for SPAC listings.

the sponsor's shares cannot be redeemed. Warrant rights issued by the SPAC are offered to initial IPO investors as an incentive to get the SPAC up and running (see, for instance, Goldman Sachs, 2021a). These warrants are usually fractional, ranging from a quarter to a full warrant.[5] Each whole warrant entitles the holder to purchase one common share and expires worthless in the event of SPAC liquidation, with no rights to the trust.

2.2 Phase 2. SPAC Period: Target search, new investors and merger negotiation

After the SPAC units are listed, common shares and warrants typically detach after a designated period post-listing (usually around 90 days or less), enabling separate trading in public capital markets. Then, initial institutional investors and new public and private investors can trade their shares and warrants (Phase 2 in Figure 1, represented by the red-coloured elements). During this period, SPAC sponsors initiate the search for suitable target companies, engaging in negotiation processes upon identification. This process is time-bound, in most cases around two years, but shorter periods such as 18 months have also occurred.[6] To safeguard SPAC investors, common stockholders are required to vote on any identified acquisition.

When a prospective candidate is found, the terms of the merger are negotiated, and a letter of intent is signed. Then, the SPAC sponsors publish information about the business combination and merger terms, and about the process of shareholder voting to approve or reject the proposed merger. SPAC sponsors may disclose company financial projections and forward-looking statements to institutional and retail investors, potentially influencing investor perception of the target company (Credit Suisse, 2020).

2.3 Phase 3. End of the SPAC period: merger approval or liquidation

The end of the SPAC period can result in either a business combination with the target company or in the SPAC's liquidation (in Figure 1, Phase 3 is highlighted in orange). Shareholders in the SPAC vote on the proposed merger. If the transaction is not approved, sponsors may continue to search for a suitable target company. Under certain conditions, an extension of the search period can be granted. In the case of an extension, SPAC shareholders have the option to redeem their shares. If the SPAC fails to find a target or fails to conclude a deal within the specified time frame, the SPAC is liquidated, shareholders receive their money back, and the sponsors receive nothing (see Rodrigues and Stegemoller, 2021b). On the other hand, if the shareholders' vote is affirmative, the merger with the target company can be executed.

2.4 Phase 4. Business combination and the deSPAC period

If shareholders approve, the merger is announced and executed. The new business combination is consummated over a period of several months, during which the SPAC

5 The most common structure has been that the units sold in the SPAC IPO would include half a warrant, although one-third of a warrant is more common in larger IPOs (see Layne and Lenahan, 2018). Typically, they are exercisable for 5 years after the completion of a business merger.

6 Finding a target company is getting more difficult: The Economist (2022) reported that more than 600 North American-listed SPACs were still searching for a target company.

and the target company combine to form a new publicly traded company. The completed business combination is known as the deSPAC transaction and begins trading under a new ticker (Phase 4 in Figure 1, represented by the green-coloured elements). At this point, SPAC shareholders can choose to keep their shares, redeem them, and receive their initial investment back plus interest, or sell them. Hedge funds and other institutional investors typically exercise the guaranteed redemption option when a deal is announced, while retain the warrants to maintain exposure to potential upside if the post-merger company, or deSPAC, succeeds (CFA Institute, 2022).

Following a successful acquisition, the SPAC issues equity to the target company shareholders (often referred to as legacy shareholders), converting their shares into publicly traded shares of the merged entity (Gahng, Ritter and Zhang, 2023). Contemporaneously with the merger, so-called Private Investments in Public Equity (PIPEs), which often accompany the deSPAC process, are used to raise additional capital for the new company. This capital helps fund redemptions of SPAC-shares by initial SPAC shareholders and secure financing to support company operations post-merger (Coates, 2022; Credit Suisse, 2020)

The process presented here aims to facilitate mergers between SPACs and target companies, potentially offering advantages in navigating regulatory hurdles or market complexities, as we will explore in the upcoming sections. We also delve into the benefits and address some misconceptions associated with SPACs in the following section.

3 Alleged Advantages of SPACs for "Going Public"

SPACs emerged as a popular alternative to traditional IPOs for companies seeking to go public during 2020-2021. The rise and fall of SPACs have sparked debate about their impact on the public markets. Do SPACs truly benefit target companies, or are some claims overblown? This section explores both the purported advantages and common misconceptions surrounding the SPAC route for businesses considering going public.

3.1 Faster time to market and lower fees

The conventional IPO often is a long and expensive process for companies trying to go public, with a lot of scrutiny by the regulators and financial and legal risks for the banks involved (as underwriters and advisers) in the IPO process. One key argument for SPACs is their purported speed and efficiency compared to traditional IPOs. SPACs proponents cite that the SPAC structure offer greater flexibility, less legal and regulatory hurdles, and faster access to capital markets for target companies compared to conventional IPOs. SPACs offer a quicker route to public markets than IPOs, potentially reducing the time from initial discussions to listing within months. Particularly, the target company needs less time to obtain approval from its shareholders to merge with the SPAC (Gahng, Ritter and Zhang, 2023). Additionally, proponents claim SPAC mergers generally incur lower fees (e.g., reduced underwriting fees) due to streamlined processes and fewer regulatory barriers (Klausner, Ohlrogge and Ruan, 2022). This can translate into significant cost savings for target companies.

However, these claims about speed and cost advantages should be considered cautiously. While the expedited timeline holds theoretically some merit, some empirical research like Gahng, Ritter and Zhang (2023) generally obtains the result that SPACs are not a faster way of going public compared with conventional IPOs.[7] According to Coates (2022), sponsors of SPACs have allegedly also and incorrectly claimed that the Securities and Exchange Commission (SEC) registration process makes the conclusion of SPACs faster than for conventional IPOs. In addition, while certain fees might be lower, others may emerge depending on the specific deal structure. Gahng, Ritter and Zhang (2023) and Klausner, Ohlrogge and Ruan (2022) find that merging with a SPAC is, on average, more expensive than conducting a conventional IPO for shareholders of the combined company. These higher costs stem from various fees received by financial institutions supporting the SPAC, such as underwriter fees, capital markets advisory fees, PIPE placement agent fees, and financial advisor fees.[8] Most of these costs are borne by final investors in the target company.

3.2 Immediate liquidity, flexible deal structure and strategic benefits

Merging with a SPAC provides owners of target company with immediate access to their shares, offering liquidity and the ability to reinvest proceeds (Credit Suisse, 2020). This

7 There seems to be one exception: For target companies without audited financial statements, SPAC mergers with target companies might be quicker than an IPO (Gahng, Ritter and Zhang, 2023, p. 11).

8 Notably, Gahng, Ritter and Zhang (2023) report that the total costs for the median company going public via a SPAC merger between January 2015 and March 2021 were 15.1% of the post-issue market cap, compared to just 3.2% for traditional IPOs.

can be crucial for early-stage companies needing early risk capital to fuel growth and for smaller sectors or companies that can obtain capital without the need to comply with size requirements (Rodrigues and Stegemoller, 2021a). This can be particularly attractive in less developed markets with limited liquidity options. Moreover, deSPAC mergers can be flexibly structured and achieve differentiated outcomes for sellers based on their specific needs, given target companies confidence in their future liquidity and flexibility to deploy the capital raised as they best see fit. Additionally, SPACs can raise supplementary capital through PIPEs, bolstering post-merger operational capabilities (Credit Suisse, 2020).

There are also other intangible advantages. For instance, merging with a SPAC can offer a private company managerial or industry expertise from the SPAC sponsors and their professional networks, potentially benefiting target companies through strategic guidance and access to new business opportunities (Credit Suisse, 2020; Gahng, Ritter and Zhang, 2023).

3.3 Price discovery and projections

SPACs are often presented as offering greater certainty to target companies in pricing and control over deal terms compared to traditional IPOs (SEC, 2023; Rodrigues and Stegemoller, 2021b). SPACs may provide greater price certainty to the target. Pre-negotiated merger terms aim to reduce market-driven uncertainties, as pricing terms are negotiated before any additional information about the market's opinion is known (Gahng, Ritter and Zhang, 2023).

Supporters of SPACs underline that this instrument has additional price discovery and legal advantages, by means of the publication of company projections and the information released in relation to PIPE financing. In this way, SPAC founders can quickly approach the market with these company forward-looking statements, which are very appealing both to the target company and the market (Rodrigues and Stegemoller, 2021a and 2021b; Credit Suisse, 2020).

However, it's crucial to consider potential drawbacks alongside these advantages. For instance, fixed pricing does not guarantee accurate valuations and market conditions can still impact post-merger performance. Moreover, relying on forward-looking statements can pose risks for investors, as Sections 5 and 6 on risks and returns will explore further.

3.4 Legal advantages regarding projections liability

SPAC sponsors claim that liability related to projections is lower in SPACs than it is in conventional IPOs. Thus, private companies that go public via this route are protected by the "Safe Harbour" Provision of the 1995 Private Securities Litigation Reform Act (PSLRA), while companies that go public via conventional IPOs are not (Dambra, Even-Tov and George, 2023). Under "Safe Harbour", it is alleged that SPACs can disclose the forward-looking statements of the target company and are not subject to liability, hence no sanctions will follow on incorrect projections being published.

While sponsors promote unique legal advantages for SPACs, legal research attributes these claims partly to the novelty of these structures and the complexities of SPAC law. This, coupled with the perceived trustworthiness of professional advice, fosters legal and financial myths surrounding SPACs (Coates, 2021, 2022; Dambra, Even-Tov and George, 2022; Klausner, Ohlrogge and Ruan, 2022; Meyer, 2022). [9] In particular, Coates (2021) debunks the law myth that only SPACs can utilize projections under the "Safe Harbour" provision, clarifying that traditional IPOs also have this ability. This misconception, actively promoted by the SPAC industry, may influence preferences for SPACs over other listing options and their perceived costs and benefits.[10] Coates (2022) argues that the reduced liability narrative for SPAC participants is overstated. While the "Safe Harbour" provision shields against certain private lawsuits involving forward-looking statements, it does not limit the SEC's authority to pursue legal action. Recent regulatory actions by the SEC highlight ongoing discussions about the applicability of the "Safe Harbour" provision to SPACs and potential liabilities regarding projections (see regulatory response to SPACs in Section 7).

9 Meyer (2022) concludes that "… the SPAC industry has exhibited a striking disregard of corporate law, failing to live up to basic equitable and statutory expectations under existing doctrine", and adds "… SPACs have also fallen short of their statutory obligations in a variety of ways".

10 For example, a published piece from Silicon Valley Bank stated as a leading explanation why SPACs have been chosen over conventional IPOs: "… unlike traditional IPOs, SPAC merger filings can include forecasts, usually for five years" (Coates, 2021, p.18).

4 Issuance Trends and Market Dynamics

This section analyses global SPAC issuance dynamics by examining historical and recent trends across regions, IPO structures, target sectors, and deal features. Drawing on granular transaction-level data from Dealogic and aggregated volume data from Statista, Goldman Sachs, and White & Case, we undertake a comprehensive examination of these facets and the underlying factors shaping this evolving market.

4.1 Global issuance trends

The United States (US) has been at the centre of the SPACs' exuberant growth, particularly in 2020 and 2021 (chart 1.a). In 2020, 230 SPACs were launched, raising a record value of USD 78 billion. This was more than all the previous years combined. This boom continued in 2021, setting a new historic record with 551 SPACs listings worth USD 149 billion. This buoyant activity thwarted SPAC listings outside the US, with 45 and 135 listings in 2020 and 2021 respectively, for in total USD 5.9 billion and USD 22.6 billion (chart 1.b). When looking at the percentage distribution between countries, the share of the US in global SPACs has increased in recent years, from 34% in 2013 to 96% in 2019 (chart 1.c).

The initial SPAC surge sharply declined in late 2022 and 2023, culminating in significant lower issuance (charts 1.a and 1.b). 2023 saw limited SPAC issuance, as only the US and South Korea had some volume, but at very low levels (charts 1.c and 1.d).

The European Union (EU) followed with SPAC listings in most years, but it was just a meagre reflection of the very strong US SPAC activity especially in recent years (chart 1.c). Other regions have registered at times also strong SPAC activity, such as the United Kingdom in 2020 (31%, excluding the US) and 2021 (18%), South Korea in 2010 (47%), 2019 (24%) and 2023 (56%), and Singapore in 2019 (35%) and 2022 (31%) (charts 1.B and 1.D). Singapore's Exchange aimed to solidify its financial hub status by allowing SPAC listings in 2021, catering to Asia's rising tech sector (Lu, 2022). Similarly, SPACs have played a key role in South Korea's private company listings since their introduction in 2010 (Kang and Lee, 2023).

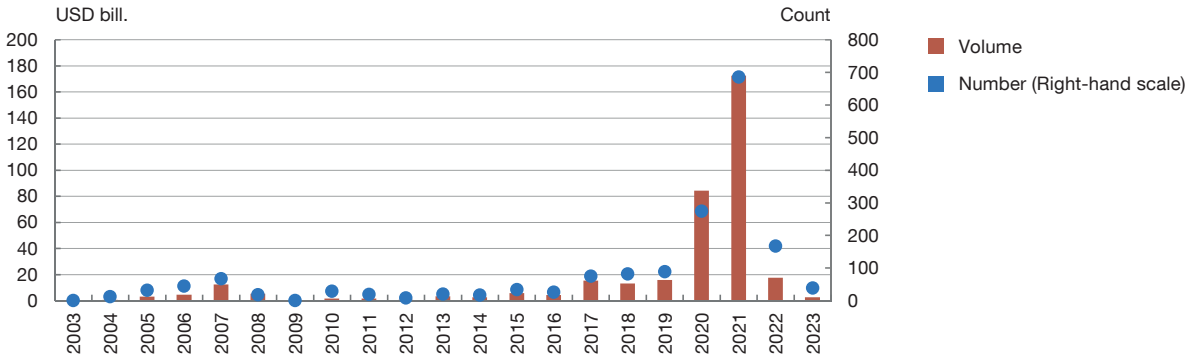
In those record years, most US SPAC IPOs were listed at the Nasdaq followed by the New York Stock Exchange (chart 2.a). In more recent years, European SPACs started to obtain capital through listings in the US (chart 2.c), taking advantage of more favourable market conditions for SPACs there. Nonetheless, Europe has also been seeking to attract more SPACs, although capital raised was almost negligible when compared with that in the US.

In 2021, the Amsterdam Stock Exchange was the leading exchange with the region's highest-profile blank-check listings, with a total of 16 listings, while in 2022 the London Stock Exchange obtained that position with 13 listings (followed by Amsterdam with 9) (chart 2.b). Amsterdam has been emerging as a hub for SPACs in Europe due to a

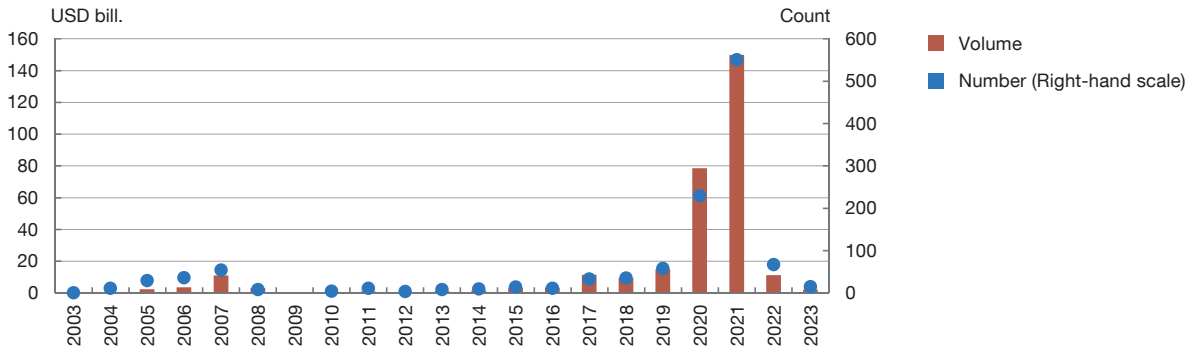
Chart 1

Total volume by region

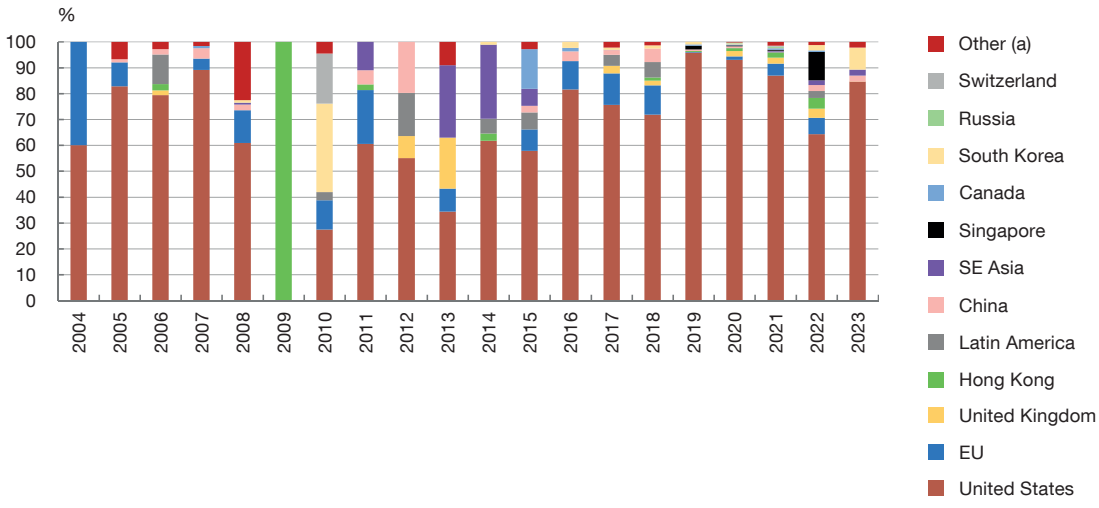
1.a Total SPACs



1.b Total SPACs in the US



1.c Total SPACs by country

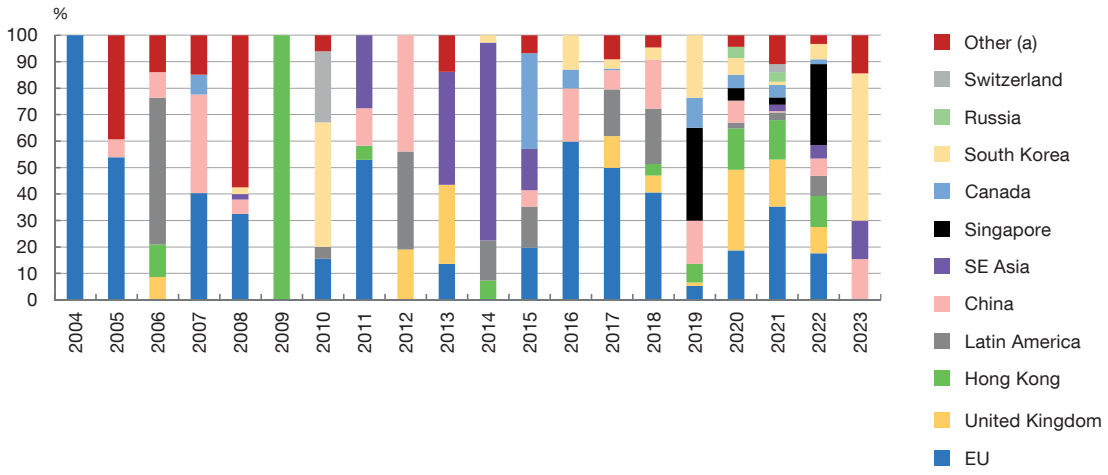


SOURCE: Dealogic.

a "Other" refers to MENA, Cayman Islands, Israel, Bermuda, India, Kazakhstan, Guernsey, Taiwan, Australia, Africa, and Isle of Man.

Chart 1
Total volume by region (cont'd)

1.d Total SPACs by country (without US)



SOURCE: Dealogic.

a "Other" refers to MENA, Cayman Islands, Israel, Bermuda, India, Kazakhstan, Guernsey, Taiwan, Australia, Africa, and Isle of Man.

regulatory environment like that of the US, flexibility offered in the SPAC process, and being home to international and high-growth companies.[11]

SPACs became the dominant way to obtain a listing in the US for three consecutive years (2020-2022), as the amounts raised surpassed the amount of equity obtained through conventional IPOs: USD 78 billion (SPACs) versus USD 67 billion (IPOs) in 2020, USD 149 billion versus USD 117 billion in 2021 and USD 11 billion versus USD 6 billion in 2022 (chart 3.a). In percentage shares, SPACs accounted for a majority percentage of 54%, 56% and 64% in 2020, 2021 and 2022, respectively (chart 3.b).[12]

However, this trend reversed in 2023, with SPACs accounting for only 20% of listings and conventional IPOs regaining dominance in the US. At the same time, SPACs played a minor role globally and conventional IPOs remained the primary method for listing and raising capital in the rest of the world (chart 3.c and 3.d). Particularly, conventional IPOs were driven by transactions in China, followed by those in Europe, India, and ASEAN (chart 3.e).

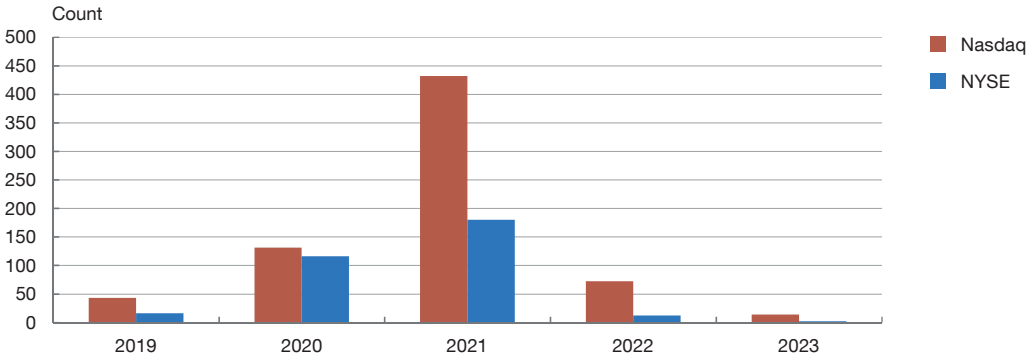
11 The Amsterdam stock exchange and the market supervisor do not provide specific listing requirements for SPACs; instead, they are treated as regular IPOs and are subject to prospectus regulation which means that a SPAC IPO is treated the same way as a simplified IPO (D'Alvia, 2023). Other venues, such as London and Nordic Bourse, have been considering setting up a new framework for such offerings. For a comparison between SPAC Terms in the US, Amsterdam, Frankfurt, and London see Freshfields (2021). On the early years of the SPAC market in Europe, see Ignatyeva, Rauch and Wahrenburg (2013). For legal changes that introduced the concept of SPACs in Spanish financial law see Pérez-Llorca (2023).

12 See also Ramkumar (2022).

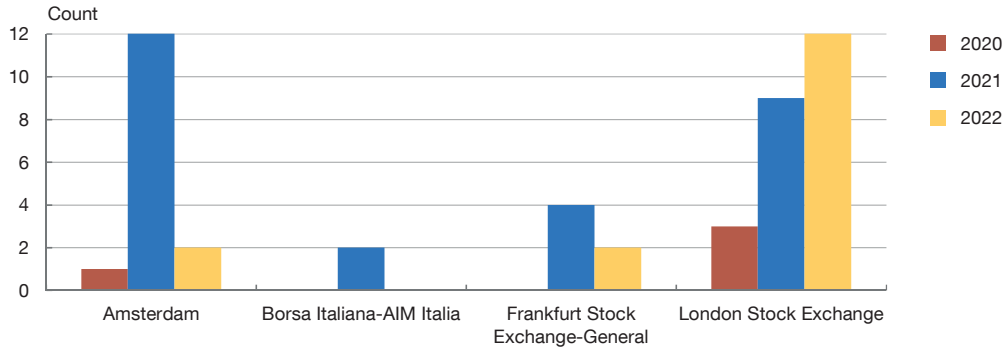
Chart 2

Listed SPAC IPOs by exchange

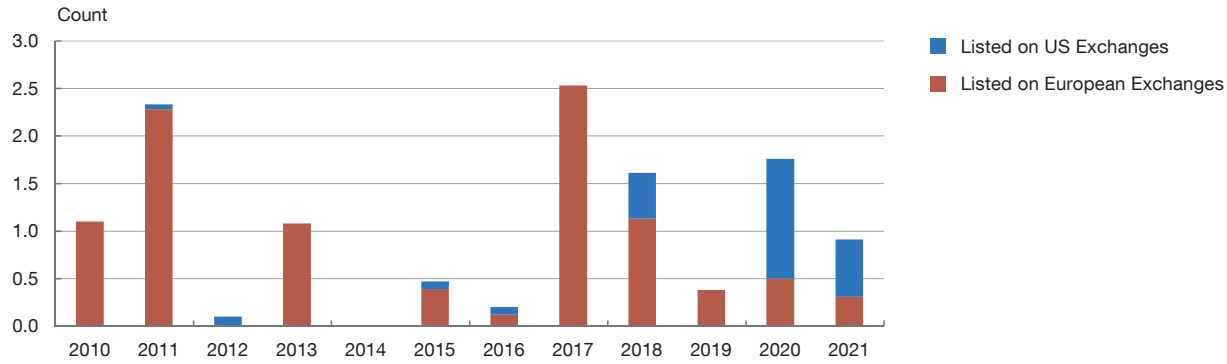
2.a US-Listed SPAC IPOS by Exchange



2.b Number of SPACs by European Exchange



2.c Funds Raised by European SPACs listed in the US and Europe

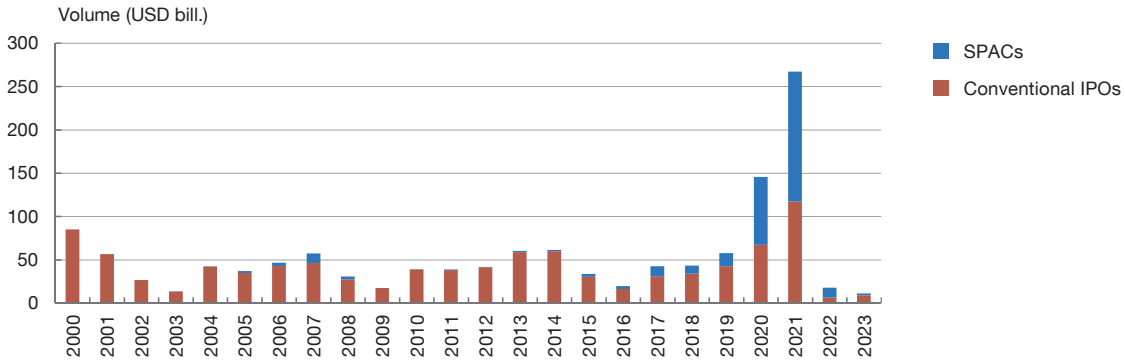


SOURCES: Dealogic, Statista and White and Case.

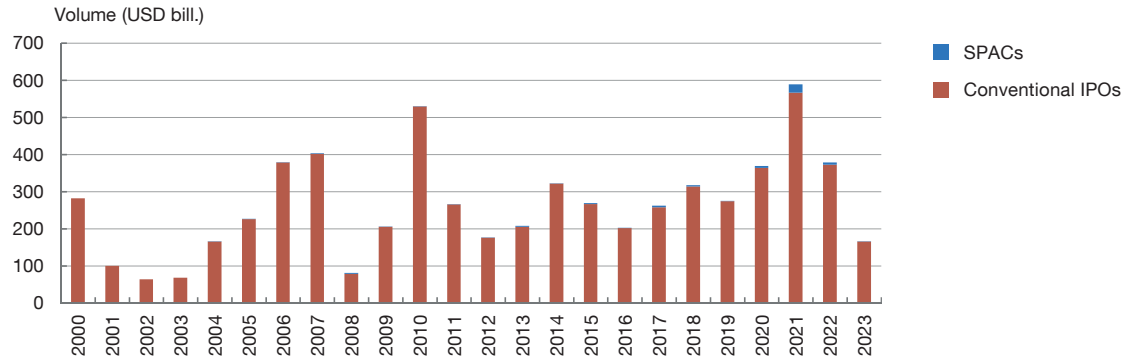
Chart 3

SPAC issuance volume vs. traditional IPOs by region

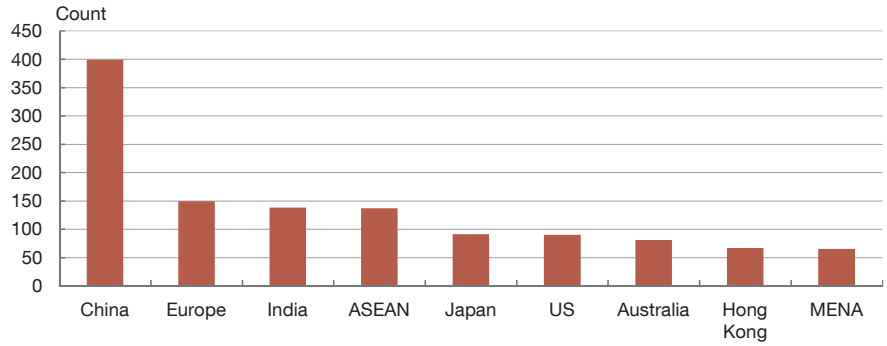
3.a SPACs and Conventional IPOs in the US



3.b SPACs and Conventional IPOs in the Rest of the World



3.c Number of Convetional IPOs in Selected Regions in 2022



SOURCES: Dealogic and Statista.

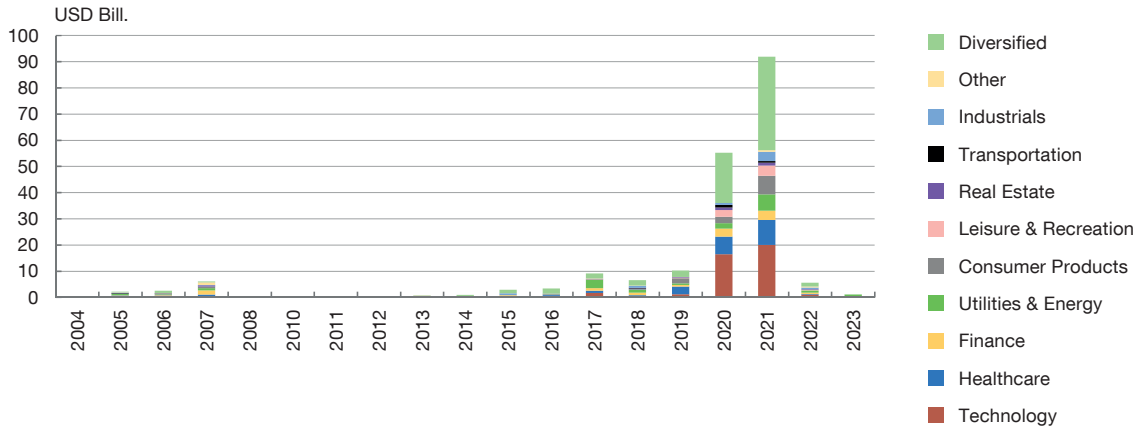
4.2 Targeted sectors, bookrunners and structures of SPACs

SPACs primarily targeted innovative and disruptive sectors, with a significant portion categorized as "Diversified" due to their broad investment mandate encompassing various sectors or lacking a specific industry focus (chart 4.a and 4.b). During the boom

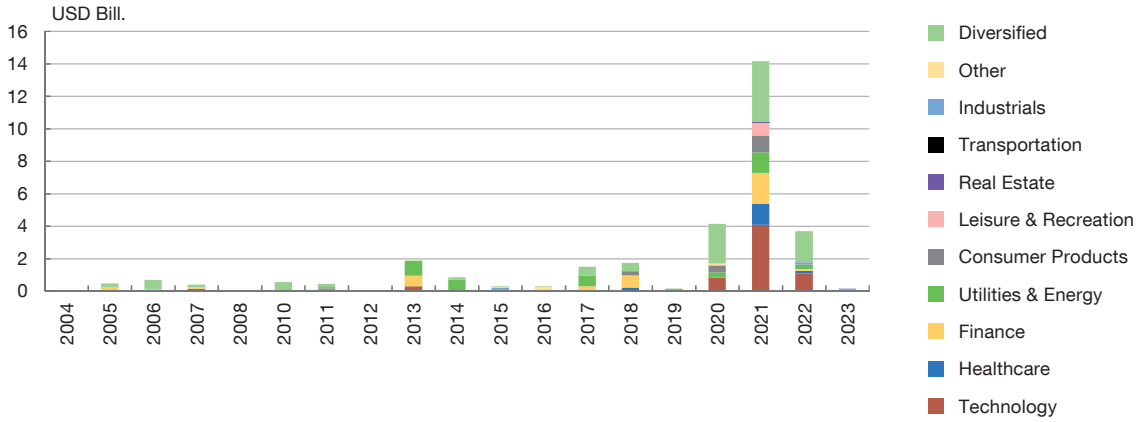
Chart 4

SPAC target sectors by region

4.a SPACs by Sector in the US



4.b SPACs by sector in the rest of the world



SOURCES: Dealogic, Goldman Sachs, and White & Case.

a Only the deals with an informed target sector are considered in these charts. Different sources have been considered for comparison and completion.

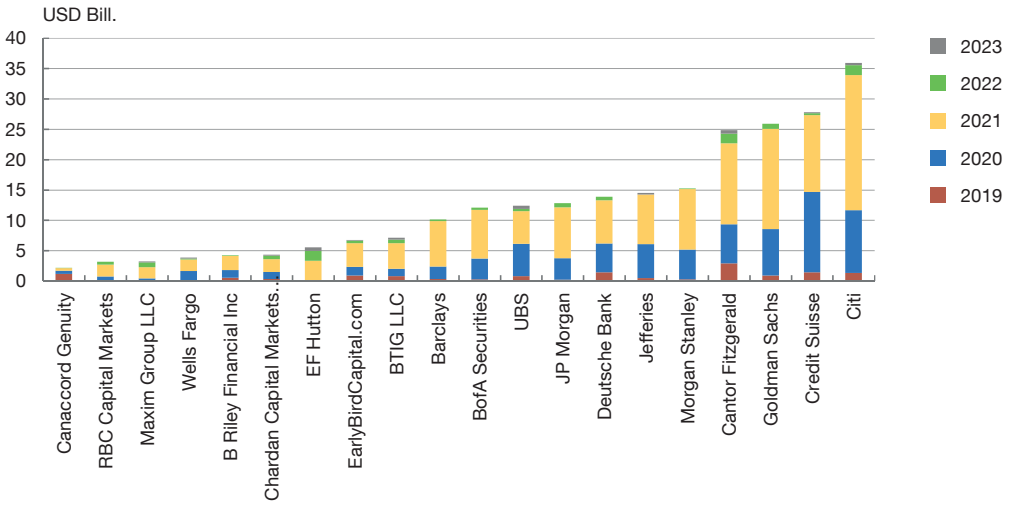
years of 2020-2021 in the US, around 36% of SPACs fell under this category, followed by "Technology" at 20% and "Healthcare" and "Consumer products" at 7%. While "Diversified" SPACs' target sectors remained dominant globally (excluding the US, 39%), "Technology" held a significant share (24%) outside the US too. Understanding these dominant target sectors is crucial for assessing the multifaceted impact of SPACs on specific industries and broader economic outcomes during their rise and subsequent market shift. According to Goldman Sachs (2021b), almost half of the SPAC capital that has been raised since 2018, but has yet to announce or complete a merger, was targeted for "Technology".

Two distinct groups emerge when considering the volume of SPAC capital managed by bookrunners: large, diversified investment banks and focused boutique firms with niche

Chart 5

SPAC's issuance volume by top bookrunners and year

5.a Volume by bookrunner



SOURCE: Bloomberg.

a Bookrunner or main underwriter or lead manager in the issuance of a new SPAC.

expertise in SPAC structuring and underwriting.[13] These boutique firms often specialized in specific sectors like "Technology" or "Healthcare". While traditional players like Citigroup (USD 22 billion and 13% share of total volume in 2021), Goldman Sachs (USD 16 billion and 10%), and Credit Suisse (USD 13 billion and 7%) dominated the boom years (2020-2021), recent years have seen a shift towards firms like Cantor Fitzgerald (USD 13 billion (8%) in 2021 and 1,5 billion (10%) in 2022) and EF Hutton (USD 3,3 billion (2%) in 2021 and 1,7 billion (10%) in 2022), taking the top spots (chart 5). The future of bookrunners in the SPAC market remains uncertain, but their role in navigating the complex IPO process will likely continue to be relevant.

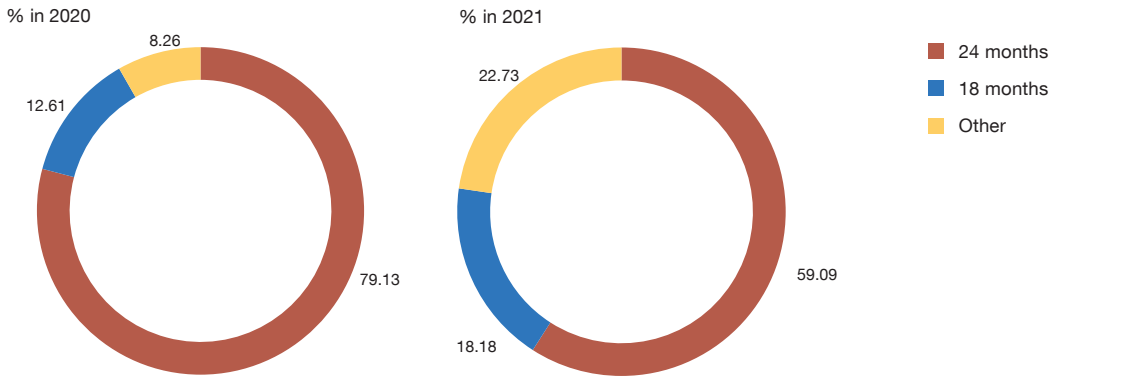
Regarding the SPACs' unit structure, deals in 2021 favoured offering investors more upside potential by issuing predominantly one share plus 1/2 warrant unit, compared to one share plus 1/3 warrant in 2020 (charts 6.b and 6.d). Fractional warrants provide investors with the right to buy additional shares at a predetermined price if the merger with the target company is completed. This shift observed in 2021 may be indicative of changes in SPAC structures, aimed at offering greater potential for upside returns to SPACs' institutional investors. The increase in the proportion of SPACs with extensions of expiration dates for target acquisition, i.e., longer time-to-liquidation windows (primarily in the "Other" category in charts 6.a and 6.c), likely suggests a booming market and the challenges associated with identifying and completing attractive deals.

13 Choosing a bookrunner depends on specific needs and considerations. Large banks offer extensive resources and global reach, while boutique firms provide specialized expertise and potentially more flexibility. They provide resources for structuring the deal, investor outreach, order book management, underwriting, and post-IPO financial services and trading.

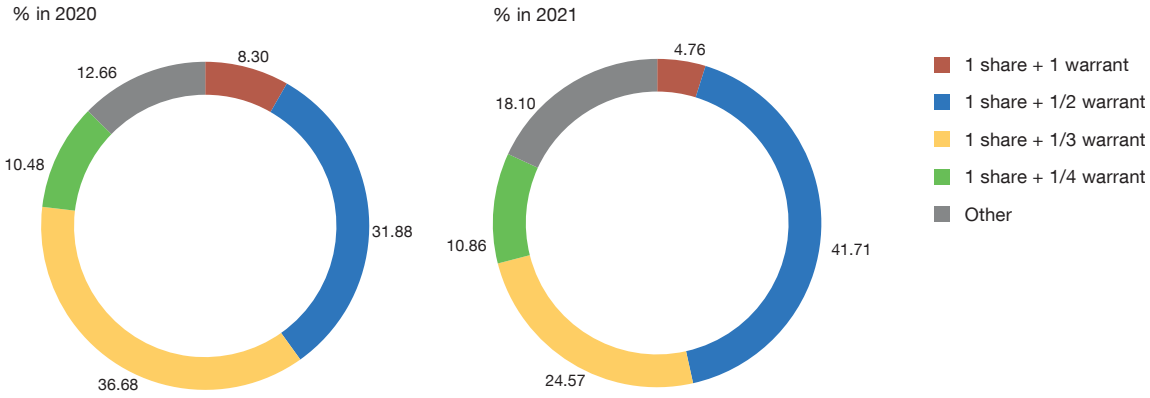
Chart 6

Changes in the SPAC Unit's Structure from 2020 to 2021

6.a SPACs Seeking Acquisitions in the US by Time to Liquidation



6.b SPACs Seeking Acquisitions in the US by Unit Structure



SOURCE: Dealogic.

4.3 Characteristics of deSPACs

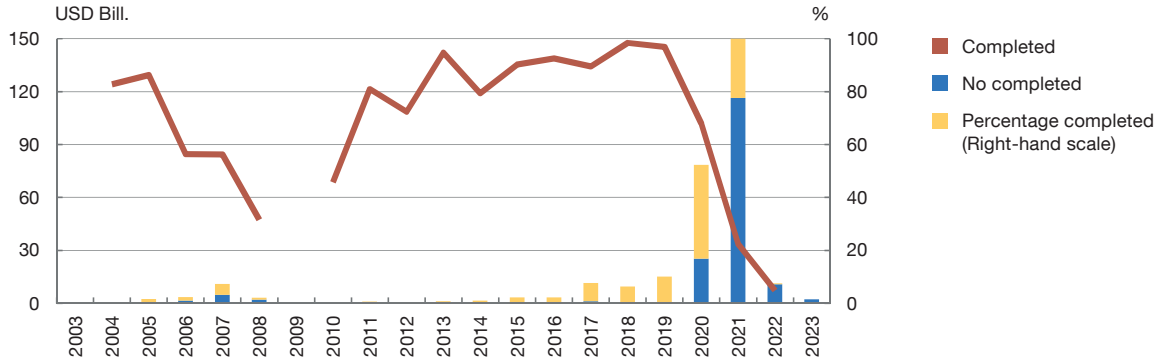
"Healthcare" and "High tech" were the most common sectors for US deSPACs, with the former accounting for nearly 30% of completed deals (chart 7.d). Many of these companies were growth-oriented, cash flow constrained "unicorns", that is, privately held start-up companies valued normally at over US$1 billion (Goldman Sachs, 2021b).

Despite record levels of SPAC activity in 2020-2021, acquiring target companies proved difficult. Notably, in 2021, USD 120 billion worth of SPACs failed to complete mergers, highlighting the challenge of finding suitable targets. Since 2019, the completion rate as a percentage of total deal value has steadily declined, reaching a low of around 5% in 2022-2023 (chart 7.a). This trend aligns with the global market (chart 7.b). Like their US counterparts, European SPACs struggled to find suitable targets.

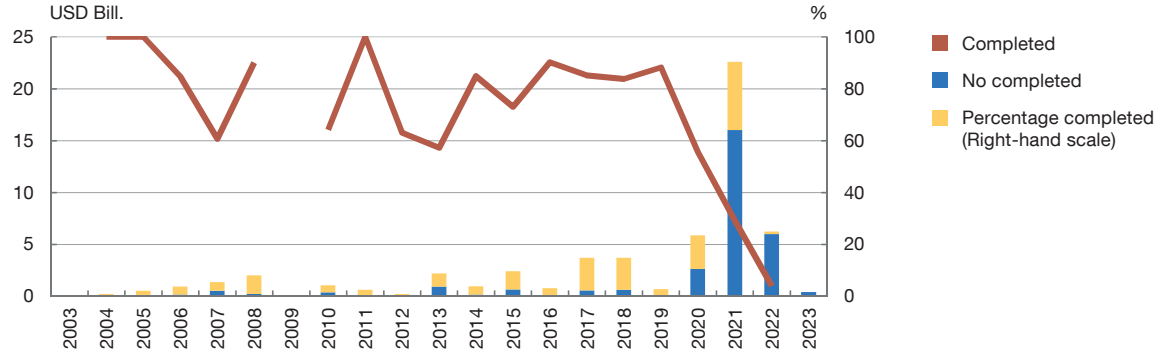
Finding and completing acquisitions also takes longer, averaging 20-25 months (chart 7.c). Given typical search windows of 18-24 months (charts 7.a and 7.c), extensions

Chart 7
DeSPAC characteristics

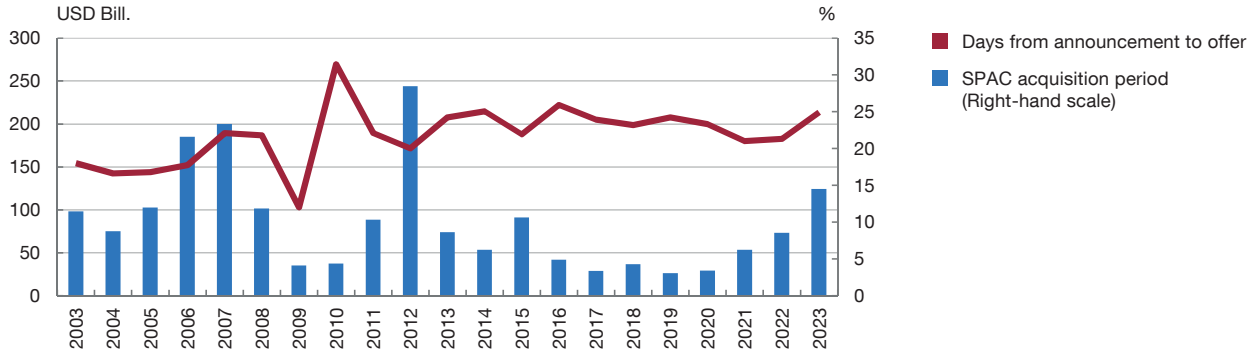
7.a SPACs in the US (Acquisition Completed)



7.b SPACs in the Rest of the World (Acquisition Completed)



7.c SPACs Time to Completion (a)



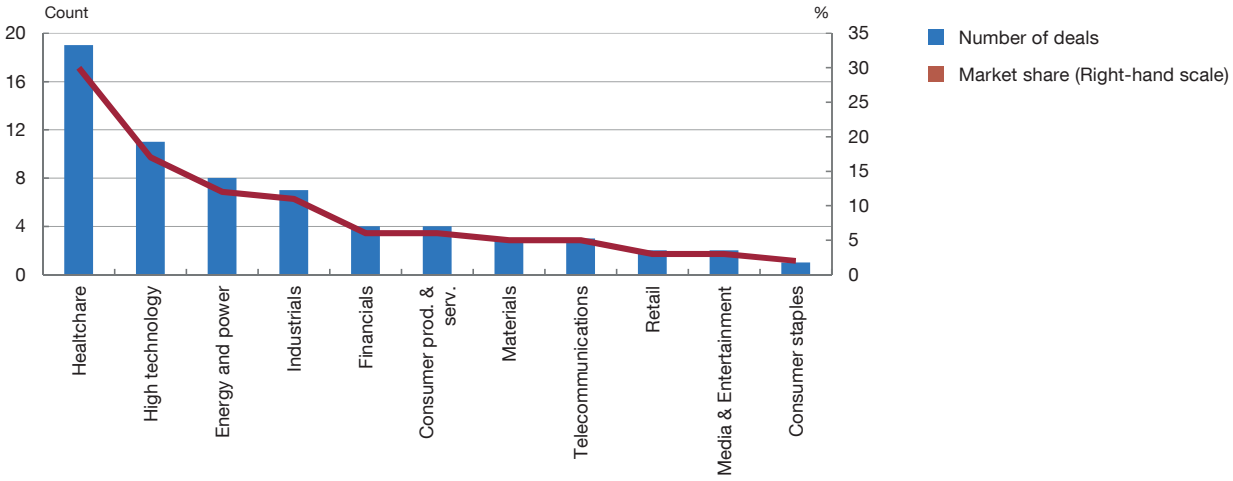
SOURCES: Dealogic and White & Case.

a Blue bars show the average number of days between announcement date and listing date, and red line show the SPACs' average months until complete an acquisition.

are often required. Further, the time between deal announcement and completion has significantly increased, reaching 125 days on average in 2023 (chart 7.c). Potential reasons for these challenges include stricter regulations, changing market conditions, less investor

Chart 7
DeSPAC characteristics (cont'd)

7.d DeSPAC deals in the US by target sector (a)



SOURCES: Dealogic and White & Case.

a DeSPACs from January 2019 to July 2023.

confidence and appetite for risk and increased competition for targets. Of the 66 SPACs listed in Europe since 2020, a mere 13 (20%) had completed mergers by mid-2022, according to Dealogic data (Walker and White, 2022).

In Section 6, we analyse the post-merger performance of these companies and provide more insights into the long-term impact of the deSPAC process.

4.4 Market dynamics and factors

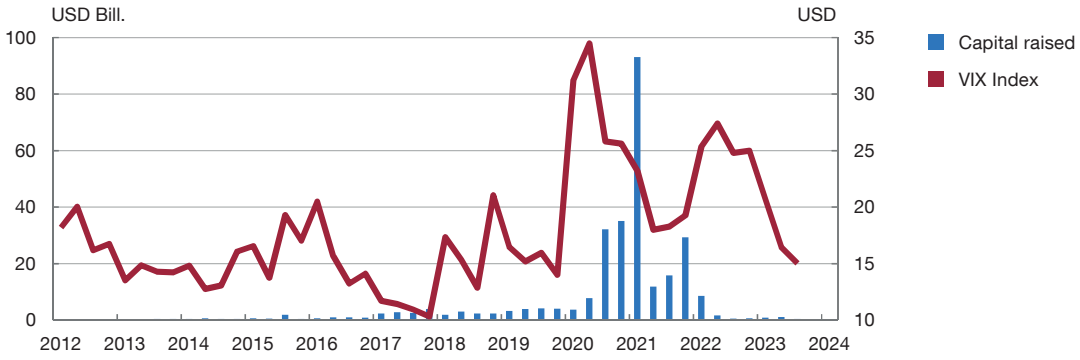
As previous charts have illustrated, the 2020-2021 period witnessed a dramatic surge in SPAC issuance. This rapid growth, characterized by a significant increase in both the number of SPAC formations and the amount of capital raised, attracted labels like "overheated" and even "bubble" from some financial analysts (Economist, 2021; Aliaj and Kasumov, 2021). Several key factors, as identified by various sources (Bazerman and Patel, 2021; Blomkvist and Vulanovich, 2020; IMF, 2021; J.P. Morgan, 2021; Rodrigues and Stegemoller, 2021a), fuelled this surge, revealing opportunistic motives on both sides of the equation.

For private companies and early investors, SPACs emerged as a fast-track to liquidity, capitalizing on favourable market conditions and strong retail investor demand. This was particularly attractive for start-ups seeking growth capital. The streamlined listing process of SPACs compared to traditional IPOs, coupled with the temporary closure of the traditional IPO window during the COVID-19 pandemic, made them a viable and attractive alternative for many companies. Furthermore, standardized SPAC structures facilitated easier market entry, fostering broader participation from companies and investors alike.

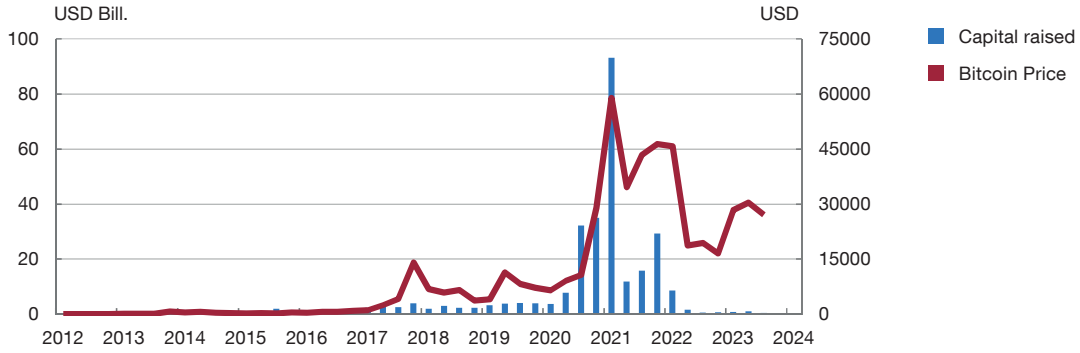
Chart 8

SPAC issuance volume vs. VIX and Bitcoin indexes

8.a SPACs capital raised vs. VIX index



8.b SPACs Capital Raised vs. Bitcoin Price



SOURCES: Dealogic and Bloomberg.

A "search for yield" mentality among investors propelled them towards alternative assets such as SPACs, which offered the potential for higher returns in a low-reward environment. Additionally, a general increase in investor risk appetite emerged as another key driver of the SPAC boom. Low market uncertainty, as evidenced by a low VIX index (see chart 8.a), and low risk aversion during the 2020-2021 period likely contributed to this trend. Essentially, with less perceived risk in the market, investors were more comfortable taking on riskier ventures like SPACs. This potentially led to some investor exuberance, as they sought higher returns (for instance, consider the exponential price increase of Bitcoin during 2021, see chart 8.b). However, this exuberance eventually gave way to concerns about a potential bubble in SPACs, leading to a significant increase in short-selling activity against SPACs (Aliaj and Kasumov, 2021).

Since Q1 2021, many SPACs have seen a rise in redemptions by their shareholders, indicating a lack of confidence in the proposed mergers. Additionally, attracting private investment in public equity (PIPE) deals, a crucial source of funding for SPACs, has become more challenging (CFA Institute, 2022). Several high-profile scandals involving SPAC-backed

companies, tougher access to liquidity, along with a lack of suitable target companies, greater SPAC redemptions, and the poor performance of many post-merger entities (see Section 6) have eroded investor confidence and contributed to the fall of issuance in 2022.

Furthermore, increased regulatory scrutiny from the SEC and other institutions adds another layer of uncertainty to the market (see Section 7). Coates (2022) argues that the recent SPAC boom occurred amidst significant market misunderstanding about the content and implications of SPAC regulations. This lack of clarity may be one of the driving forces behind the sharp decline in SPAC activity.

5 Risks for SPAC investors

This section delves into the potential risks and challenges embedded in SPACs. Some of the touted advantages of SPACs discussed in Section 3 can morph into potential risks for long-term investors. Thus, legal misconceptions and weaker regulation may attract lower-quality companies, while sponsors and early investors, like hedge funds, may be incentivized by the SPAC structure to prioritize their own gains. This creates agency costs and information asymmetries for final shareholders with less information.

5.1 Regulatory arbitrage and lower quality target companies

Concerns exist about SPACs potentially exploiting gaps between existing regulations for traditional IPOs and SPACs, acting as a "backdoor" for riskier, lower-quality companies unable to meet stricter IPO requirements (Kolb and Tykvová, 2016; Bai, Ma and Zheng, 2021; Jenkinson and Sousa, 2011; among others). As discussed previously, the target company, judging the merger advantageous, has chosen to proceed with the SPAC deal instead of a traditional IPO because of faster access to capital and reduced regulatory hurdles. Some research suggests that SPACs derive much of their attraction from the absence of many of the checks which the regulatory authorities and stock exchanges traditionally put in place to filter out companies unfit or unready to go public via conventional IPOs (Rodrigues and Stegemoller, 2021b; Bai, Ma and Zheng, 2021; Klausner, Ohlrogge and Ruan, 2022; Gryglewicz, Hartman-Glaser and Mayer, 2022).

For instance, the "Safe Harbour" provision, which offers alleged advantages to target companies, may be criticized as a potential "license to lie" to convince investors to vote favourably on the deSPAC transaction. Research suggests that forecasts made of the resulting merger often lack precision and accuracy and are highly optimistic and misleading to uninformed investors (Dambra, Even-Tov and George, 2022; Blankespoor, Hendricks, Miller and Stockbridge, 2023). This ability to showcase overly optimistic forecasts might provide SPACs with a short-term advantage in attracting capital and retail investors. However, in the long run, it proves detrimental. These target companies often file earnings restatements and perform poorly post-merger (Kim, Park, Peterson and Wilson, 2022). Gahng, Ritter and Zhang, (2023) find evidence that many of the operating companies merging with SPACs are low-quality, unprofitable companies that would have had difficulty going public in a traditional IPO, but the 2020 and 2021 boom in SPACs allowed them to do so. Regulatory authorities have been taking notice, implementing measures to address these concerns (see Section 7).

5.2 Agency costs and perverse incentives for sponsors and underwriters

Another central concern of SPACs lies in the misaligned interests between different stakeholders, leading to potentially suboptimal outcomes. As the number of SPACs continues to rise, along with increased competition for suitable target companies, some sponsors may face challenges in identifying viable companies to merge with, particularly those with less expertise and smaller networks. However, sponsors and underwriters have an incentive in the success of the deSPAC process. SPAC sponsors are primarily motivated by completing mergers to secure their "promote", a substantial equity stake granted upon deal completion.

In the absence of a merger, sponsors do not receive compensation for their operating costs. This structure may incentivize them to prioritize any merger, sometimes over the long-term viability of the target company, potentially creating a conflict between their interests and those of other investors (Warren, 2022). Additionally, in traditional IPOs, investment banks act as gatekeepers, carefully assessing potential companies before taking them public. However, in most deSPAC transactions, underwriters only receive their full fees if a merger is completed. For instance, in US deSPAC deals, underwriters typically receive a 5.5% fee based on the initial offering proceeds, regardless of any subsequent share redemptions (Klausner, Ohlrogge and Ruan, 2022).[14] Moreover, many SPAC's financial backers (banks and other financial institutions) receive not only the underwriter's fee, but also a capital markets advisory fee, a PIPE placement agent fee and/or a financial advisor fee.

5.3 Share redemptions and "risk-free" warrants for hedge funds

Early SPAC IPO investors, largely hedge funds and other institutional investors, can profit through warrants even if they redeem their shares. Warrant rights are exercisable, that is, have value, only if the SPAC acquires a target company, while the redemption rights allow them to receive their investment back upon the completion of the merger. Therefore, they provide downside protection and serve to attract institutional investors to set up SPACs as public companies (Klausner, Ohlrogge and Ruan, 2022). Hedge funds, which are often also sponsors of the SPAC, face little risk if the post-deal company does not perform as expected. This is because they can make significant returns resulting from the split of the SPAC units into shares and warrants, potentially profiting from a "hot" merger even if they redeemed their initial shares in the SPAC and limited their share exposure.

As a result, redemptions by shareholders before a merger is completed have been structurally high in SPACs. Klausner, Ohlrogge and Ruan (2022) find that more than 92% of the SPAC period (e.g., period between the SPAC IPO and the deSPAC event) investors exit before the completion of a business combination. For the initial investors that do not redeem, they frequently sell their shares in the market prior to the close of a business combination (Gahng, Ritter and Zhang, 2023). This is surprising, because the goal of the SPAC process is to get innovative and promising start-up companies a listing at the stock exchange which they at their own strength cannot achieve. In the SPAC market prior to 2020, warrants were considered to play a positive role by providing incentives for sponsors to select target companies with comparatively lower risks (Chatterjee, Chidambaran and Goswami, 2016). However, this was not observed to be the case during the boom years of 2020-2021.

5.4 Empty voting

Notably, another risk is that SPACs allow their shareholders to vote for an acquisition target company while simultaneously pulling their money out (i.e., redeeming their shares). A kind

14 While sponsors and underwriters can agree to reduce their compensation to salvage a struggling merger, studies show this often entails transferring a portion of their promised fees to other investors (Gahng, Ritter and Zhang, 2023; Klausner, Ohlrogge and Ruan, 2022). While this might appear altruistic, it essentially reduces their potentially immense returns to appease other stakeholders and push through questionable deals.

of “empty” voting, where control rights and cash flow rights are separated, decoupling voting and economic interests. At the stage of the deSPAC, empty voting is unprecedentedly high (see Klausner, Ohlrogge and Ruan, 2022; Rodrigues and Stegemoller, 2021b). Moreover, retail investors fail to show up in sufficient numbers for shareholder votes on the deals, such as on the deSPAC transaction (Aliaj and Kruppa, 2021). “Empty” voting is quite problematic in corporate law, as the power to vote is the linchpin of shareholder power. Shareholders have the vote because they, as the residual claimants on the company, are last in line and thus should be the most motivated to maximize the value of the firm (Rodrigues and Stegemoller, 2021b).

5.5 Information asymmetry and cash dilution for final investors

Limited transparency, including concerns about pre-merger valuation assumptions about the future deal and complex structures inherent in SPACs can obscure the risks involved and disadvantage some investors. Consequently, while sponsors and hedge funds push forward with deals, individual investors may lack complete information about SPACs’ risks and complexity. This asymmetry allows unprepared companies to gain access to the public market, potentially exposing them to less-informed retail investors, whose participation has significantly grown (reaching 40% on Bank of America’s platform in 2021, Warren, 2022). In addition, the SPAC unit structure inherently leads to cash dilution for several reasons: compensations and fees paid to sponsors and underwriters, redemptions by SPAC IPO shareholders, and warrant exercises by early investors. These costs collectively diminish the cash available to the resulting company after the merger (Klausner and Ohlrogge, 2023; Kiesel, Klingelhöfer, Schiereck and Vismara, 2023; Tuch, 2023).

5.6 Limited market liquidity

The SPAC market can exhibit near-stagnant trading activity, with some days witnessing zero share exchanges. This adds another layer of difficulty for individual investors. Pre- and post-merger, the limited ability to buy or sell shares restricts their exit opportunities. Various studies highlight this concern, pointing towards an illiquid market often dominated by hedge funds (Rodrigues and Stegemoller, 2021b).

As a result, research suggests the risk of a potentially under-performing deal where the costs of the merger are not borne by the founders, but by the (often unsophisticated retail) SPAC investors, who did not redeem their shares in advance and hold a stake in the merged company.

6 Unveiling Returns

The rapid rise and subsequent decline of SPACs raise questions about the benefits for the stakeholders involved. Building on the risk analysis of Section 5, we now examine the performance across different stakeholder groups throughout the SPAC lifecycle, with a particular focus on their impact on deSPAC investor returns. Driven by factors like regulatory arbitrage and misaligned incentives, SPACs present a complex landscape where returns vary drastically depending on the stakeholder and the phase of the deal process.

6.1 Returns across stakeholders and periods: a comparative analysis of literature

While sponsors and early investors often see significant returns, the final investors holding shares in the merged company face a challenging environment often bearing the most risk and costs associated with the merger. Research highlights this stark disparity, revealing negative long-term performance for final common shareholders in the deSPAC company, contrasting sharply with the high returns earned by sponsors and SPAC IPO investors through various means like the "promote", redemption rights and warrants (Goldman Sachs, 2021a; Gahng, Ritter and Zhang, 2023; Kiesel, Klingelhöfer, Schiereck and Vismara, 2023; Klausner, Ohlrogge and Ruan, 2022).

Sponsors and SPAC IPO investors, including hedge funds, typically enjoy substantial gains. Klausner, Ohlrogge and Ruan (2022) report an average sponsor 12-month payoff of over $100 million (market-adjusted: $66 million) on risk capital of approximately $10 million for SPACs merging between 2019 and 2020 (pre-SPAC boom). This translates to an average market-adjusted return of 512% (median value of 198%) for sponsors over their initial investment. Similar findings are obtained by Gahng et al. (2023), showing a total sponsor return of 619%-748% (that is, the percentage return of the sponsor at-risk capital) and an average annualized return of 113%-134% from the IPO date to one year after the deSPAC event. Sponsors benefit from the "promote", essentially free shares and warrants upon merger success, and carried interest in the initial trust account (compensation even if the deal fails).

SPAC IPO investors generally enjoy positive returns during the pre-merger period (i.e., SPAC period). Studies by Gahng, Ritter and Zhang (2023) and Klausner, Ohlrogge and Ruan (2022) show average annualized returns of 23.9% and 11.6%, respectively. This benefit stems from interest earned on funds held in trust accounts and the existence of guaranteed redemption rights. An important share of positive returns for SPAC IPO investors during the SPAC period stems from the deal announcement effect. Kiesel, Klingelhöfer, Schiereck and Vismara (2023) report an average short-term return of 7.4% within five days of the target announcement. Akdogu, Simsir and Yilmaz (2022) further demonstrate that including warrants in SPAC units positively impacts announcement returns.

However, the post-merger period paints a different picture for public investors. While common share investors often experience significant losses (Gahng, Ritter and Zhang, 2023, report a negative 11.3% average annualized return in the first year, underperforming the

market by 30.7%), hedge funds and other sophisticated investors can strategically redeem their shares while retaining warrants, securing potential upside without downside risk.[15] According to Gahng, Ritter and Zhang (2023), warrants returned on average 72.2% over the same period, substantially outperforming common shares and the market. The authors argue that the increased volatility during their sample period (2019-2021) could be one of the possible reasons behind this disparity. Klausner, Ohlrogge and Ruan (2022) also found poor post-merger returns for non-redeeming shareholders, underperforming the market by 17.9% a year after the merger.[16] Nohel, Tian, Wang and Wu (2023) attribute the substantial disparity in expected returns to the significant agency costs that incentivize the pursuit of lower-quality deals, ultimately benefiting the sponsor and target at the expense of public/retail shareholders.

Moreover, PIPE investors often reap higher returns than public market shareholders. Gahng, Ritter and Zhang (2023) show that PIPE investors earned an average one-year return of 9.3%, compared to -19.8% for public shareholders of the same sample of deSPACs. This advantage may stem from several factors. PIPE investors have the power to negotiate better terms than public shareholders, potentially including discounts and warrants (Rodrigues and Stegemoller, 2021b). At the same time, PIPE investors often have access to material non-public information about the target company, allowing them to make informed investment decisions (Levine, 2023). Although outperforming public shareholders in the deSPAC period, PIPE returns often fall short of general market performance.

Beyond the observed disparity in returns, there are additional factors influencing performance. Notably, research suggests that SPACs led by reputable sponsors attract more PIPE investment than others and tend to deliver stronger post-merger returns (Klausner, Ohlrogge and Ruan, 2022). Similarly, larger target companies, exceeding $100 million in sales, outperform smaller ones, and target companies with a positive net income in the year preceding their listing experience higher returns compared to those with negative net income (Gahng, Ritter and Zhang, 2023).

6.2 Performance of US SPAC indexes (2018-2023)

Now, we analyze the performance of US SPACs during the boom-and-bust period (2018-2023) using the Citi and IPOX SPAC indices. These indices track the largest and most traded SPACs, often sponsored by established firms and high-quality firms, and include also selective deSPACs. We compare their performance to broader markets like the Nasdaq 100 and S&P 500. Given the composition of the SPAC indices, results could be potentially skewed by the presence of higher-quality deals.

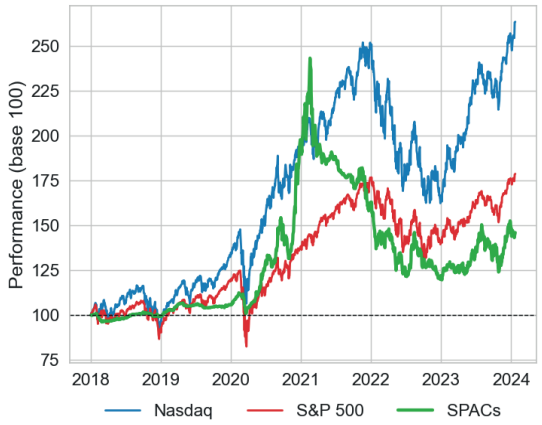
As highlighted by other studies, chart 9 reveals a stark contrast in returns. From 2020 to Q1 2021, SPACs significantly outperformed major market indices, with cumulative

15 Thus, SPAC period investment for hedge funds could be compared to investing in default-free Treasury Bills, along with an option to convert into the common stock of a company going public, as highlighted by Gahng, Ohlrogge and Ruan (2023).

16 The negative long-run return during the pre-boom period is supported in other studies as well, see, for instance, Jenkinson and Sousa (2011); Lakicevic and Vulanovic (2013); Dimitrova (2017); Kolb and Tykvova (2016).

Chart 9

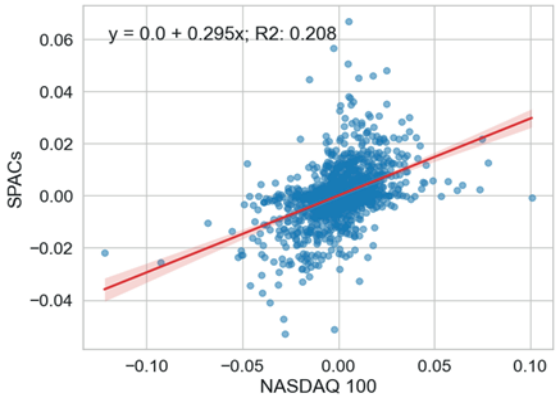
Performance of SPACs, deSPACs, and market indexes in the US

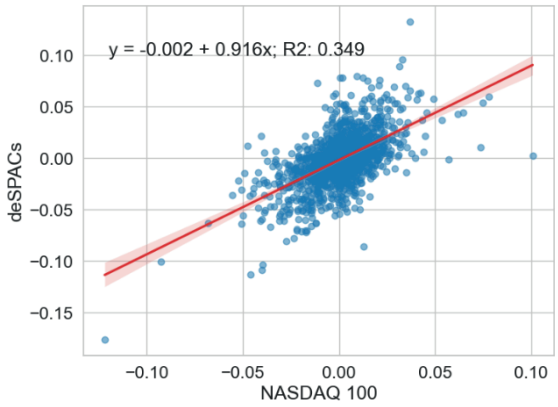


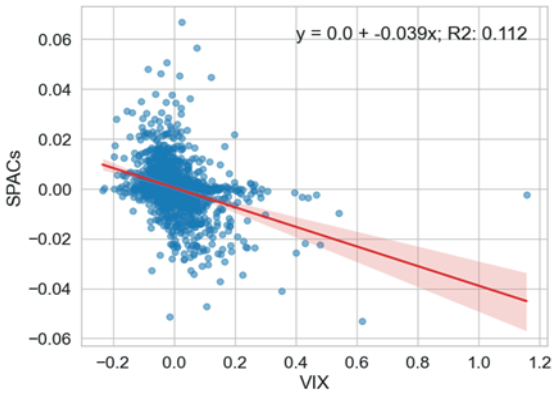
SOURCES: Citi, IPOX, Bloomberg, and devised by authors.

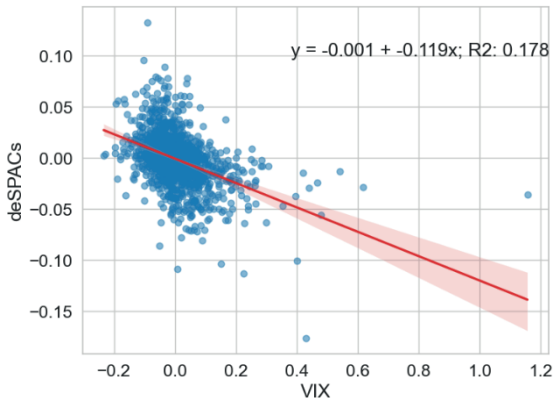
Chart 10

Correlation of SPACs and deSPACs vs. market and volatility indexes









SOURCES: Citi, IPOX, Bloomberg, and devised by authors.

returns exceeding 150%. However, this trend reversed dramatically starting in Q1 2021, with negative SPAC returns while the markets saw strong positive returns. Since 2022, with the Federal Reserve tightening monetary policy, all indices experienced negative returns, and while the correlation between SPACs and the broader markets became positive again, SPACs continued to lag considerably.

Comparing SPACs to deSPACs, we observed significantly lower cumulative returns for post-merger companies (chart 9). As highlighted by Kiesel, Klingelhöfer, Schiereck and Vismara (2023), part of the positive returns during the SPAC period could stem from the deal announcement effect. Moreover, deSPACs did not benefit from the late 2023 market rally and the pause in interest rate hikes. Additionally, chart 10 shows that deSPACs are more sensitive to fluctuations in the Nasdaq 100 and implied volatility (VIX) compared to pre-merger SPACs during our full sample period.

6.3 Global deSPACs return analysis for 2016-2023

Building upon earlier research, we extend our analysis to examine the performance of global deSPACs, considering companies from both the US and non-US markets. We calculate individual returns over 3-, 12-, and 36-month horizons following the business completion date. This expanded scope allows us to explore deSPAC performance beyond the SPAC boom and incorporate the recent period of monetary policy tightening. We leverage granular data from Bloomberg for each deSPACed company between 2016 and 2024, including post-merger prices, deal completion dates, country of incorporation and deal size.[17] Additionally, we supplement this data with information from Goldman Sachs' SPAC Almanac. Working with this data to calculate post-merger returns presents a key challenge: properly linking SPAC IPO data with the corresponding merger and acquisition activity involving the SPAC, the target company, and any relevant post-deal information.

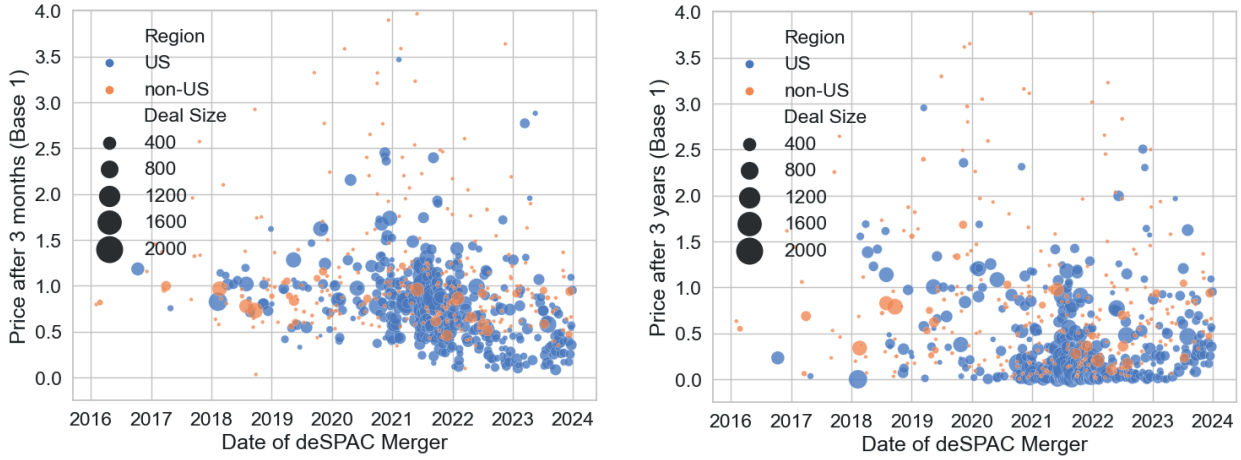
Chart 11 shows the performance of deSPAC mergers over three months and three years after completion (normalized to a base price of 1), where the x-axis represents the merger date. We observe dispersion in performance across individual deSPACs for mergers completed between 2017 and 2020, particularly for the 3-year horizon. However, for mergers completed from mid-2020 onwards, returns tend to deteriorate regardless of deal size. Notably, 3-year performance exhibits a strong downward bias (prices below 1) and falls considerably compared to the shorter 3-month horizon.

Chart 12 presents a box plot depicting the distribution of deSPAC performance by region and year of merger, for both 1- and 3-year horizons. For comparison, we include the US deSPACs' 1-year and 3-year average returns reported by Ritter (2023), based on the methodology outlined in Gahng, Ohlrogge and Ruan (2023). This figure highlights variations in deSPAC performance across regions and vintages (year of merger). US and non-US deSPACs consistently underperform across most vintages, especially

17 The sample size consists of 453 deSPACs for US companies and 292 deSPACs for non-US companies.

Chart 11

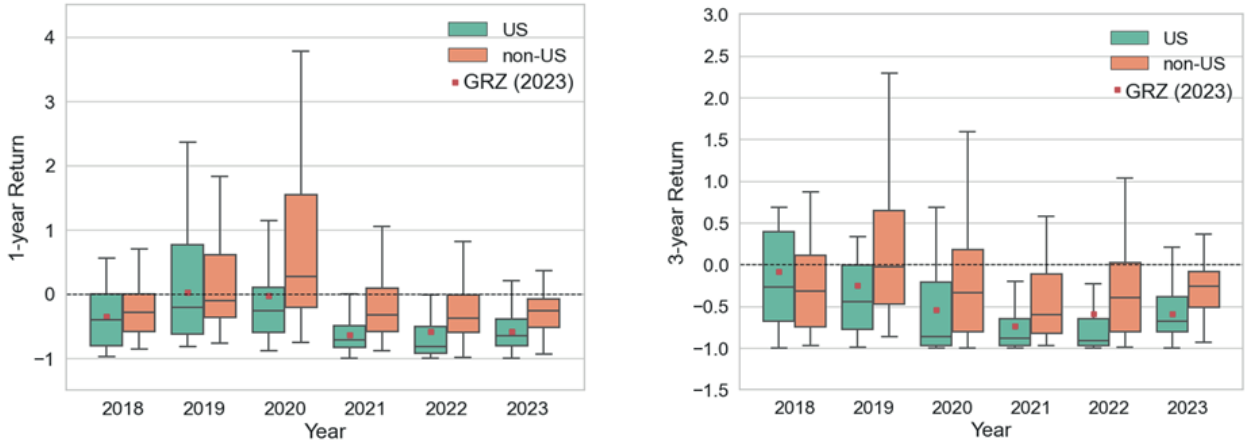
Performance of individual deSPACs over different time horizons



SOURCES: Bloomberg, Goldman Sachs, and devised by authors.
NOTE: Deal Size in USD millions.

Chart 12

Distribution of deSPAC's performance by region and merger year



SOURCES: Bloomberg, Goldman Sachs, and devised by authors.
NOTE: GRZ (2023) refers to Gahng, Ritter and Zhang (2023).

since 2021, with performance declining further as the horizon after the merger lengthens. Like shown in Ritter (2023), this declining performance over time suggests a continuous downward adjustment in the market's valuation of post-merger SPACs.

Interestingly, non-US deSPACs, though fewer in number and with smaller average deal sizes, tend to outperform their US counterparts across most vintages. While the uneven

regional distribution limits broader conclusions, these findings align with other research suggesting regional variations, with positive long-term performance for European and Asian SPACs, contrasting with negative values in North America (Adami, Mathew and Sivaprasad, 2022).

Our findings align with prior research, consistently revealing a significant disparity in returns within the SPAC ecosystem. DeSPACed companies completed since 2018, on average, have experienced severe negative returns across various horizons. Sponsors, with their potential for obtaining high returns, likely contributed to the substantial rise in new SPAC IPOs observed during 2020 and 2021. None of this implies that sponsors purposely lead SPAC shareholders into bad deals, but that their ex-post experience is consistent with their ex-ante incentives, as highlighted by Klausner, Ohlrogge and Ruan (2022).

7 SPAC Scrutiny and Regulatory Response

SPACs have ignited debate regarding the adequacy of existing legal frameworks and regulations governing their operations, particularly compared to stricter rules surrounding traditional IPOs. Several factors have spurred regulatory and political action, including a stream of research highlighting various SPAC shortcomings and calls for increased investor protection from several market organizations. For instance, Coates (2022) suggested that the Securities and Exchange Commission (SEC) could decide to consider the merger between a target company and a SPAC in an IPO, with all the consequences that would entail; and the CFA Institute through its SPAC Working Group contributed to the ongoing discussion by publishing a report with recommendations for improving the SPAC process (CFA Institute, 2022).[18]

Given the primarily US-centric nature of SPACs, most regulatory responses and political actions have originated from the SEC and the House of Representatives. Both entities have actively addressed concerns surrounding SPACs since 2021.[19] In Europe, the European Securities and Markets Authority (ESMA) published on July 2021 a public statement with prospectus disclosure and investor protection considerations for European SPACs (ESMA, 2021).

7.1 SEC Response

In March 2021, the SEC took a significant initial step by issuing staff statements that addressed certain accounting, financial reporting and governance issues that SPACs and potential SPAC acquisition targets should take into account (SEC, 2021a; 2021b). These statements, though not legally binding, was a significant step paving the way for further regulations (Akdogu, Simsir and Yilmaz, 2022). While some market participants, particularly SPAC sponsors and backers, attribute the subsequent decline in SPAC activity to this action, Coates (2022) argues otherwise. Coates suggests that the slowdown was more likely caused by a limited pool of suitable target companies and increased redemptions by investors.

Further SEC actions included the publication of an Investor Bulletin (SEC, 2021c), where the SEC's Office of Investor Education and Advocacy (OIEA) explained SPACs and issued warnings about potential conflicts of interest between SPAC stakeholders, emphasizing the disproportionate risks faced by retail investors under the "Safe Harbour" provision (Dambra, Even-Tov and George, 2022).[20] Consequently, in March 2022, the SEC announced a comprehensive proposal aimed to enhance transparency and accountability through increased disclosure requirements on various aspects, including conflicts of interest,

18 Their key suggestions included: levelling the "Safe Harbour" treatment, equating IPOs and deSPACs for forward-looking statements; clarifying underwriter liability and improving information disclosure; introducing investor protection measures like warning labels; and addressing insider trading, marketing practices, and conflicts of interest.

19 On SPACs and related legal reforms, see also: FINRA (2008), Bai, Ma and Zheng (2021), Coates (2021), Deane (2021), Investor Advisory Committee (2021), Kupor (2021), Rodrigues (2021c), Meyer (2022), Corrigan (2023), Tuch (2022), Fagan and Levmore (2023), and Rose (2023).

20 For example, it warned for more positive conditions of sponsors in the SPAC process: "… investors should be aware that although most of the SPAC's capital has been provided by IPO investors, the sponsors and potentially other initial investors will benefit more than investors from the SPAC's completion of an initial business combination and may have an incentive to complete a transaction on terms that may be less favourable to you" (SEC, 2021c).

potential dilution, and sponsor roles. Additionally, the proposal sought to: increase liability for SPAC sponsors and target companies, make SPAC advisory and underwriting services less attractive by exposing banks to increased liability too, facilitate lawsuits against investment banks for misleading information, redefine what is a blank-check company and prevent "Safe Harbour" abuse by limiting financial forecasts, and align SPAC reporting requirements with those of traditional IPOs (Crenshaw, 2022).[21]

According to Warren (2022), these steps bring SPACs closer to the requirements of a conventional IPO. Thus, the SEC regulations limited the use of financial forecasts and improved complex and ambiguous reporting requirements, the objective was to assign liability on the deSPACed business in the same way as a conventional IPO (Singer and Hays, 2023). Coates (2022) suggests that the SEC's stance might have contributed to the decline in SPAC activity. Market participants reacted strongly to the March 2022 announcement, with White and Case (2023) describing it as sending "ripples through the market". Despite these proposals, calls for greater clarity, investor protection, alternative structures, and regulatory uniformity remained (Lynch, 2023, p. 179).

Following a public consultation, the SEC adopted final rules on January 24, 2024. Key features include stricter disclosure requirements for sponsors (to avoid agency conflicts and dilution), holding business combination with operating companies to the same standards as regular IPOs, and removing liability shield for projections.[22]

7.2 US legislative response

From the political world, various institutions in the US have voiced concerns and acted regarding SPACs too. The House of Representatives have taken initiatives and passed legislation directed at SPACs to protect investors, especially retail participants. Initially, the Investor Protection, Entrepreneurship, and Capital Markets Subcommittee of the US House Committee on Financial Services held a hearing in May 2021 to discuss investor protection needs related to SPACs.[23] Additionally, the Office of Senator Elizabeth Warren released a critical report calling for reforms, including increased disclosure on dilution, redemption rights and warrants, and sponsor compensation. Following these initiatives, in November 2021, the Committee on Financial Services considered legislation to exclude certain SPACs from the "Safe Harbour" exemption for forward-looking statements, increasing liability for misleading information; protect investors addressing potential fee structures; and propose stricter disclosure requirements regarding dilution, warrants, and post-merger information, echoing many of the recommendations of Sen. Warren's report.[24]

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21 For detailed information on the SEC's proposed rule changes, refer to SEC (2022a, 2022b). See Gensler (2022) which explains that the SEC proposal would improve disclosure on various aspects of the SPAC/deSPAC processes. Pinedo (2022) provides a more detailed analysis of these proposals.

22 See SEC (2024).

23 On the topic "Going Public: SPACs, Direct Listings. Public Offerings and the Need for Investor Protections".

24 The Committee introduced two bills aimed at regulating the SPAC market: the "Protecting Investors from Excessive SPACs Fees Act of 2021" and the "Holding SPACs Accountable Act of 2021". See Congress (2021a), (2021b) and (2021c); Congressional Budget Office (2022).

Stricter regulatory scrutiny from the SEC, legislative actions, and the disappointing performance of many deSPACed companies significantly eroded investor confidence in the SPAC model. This likely has deterred both the issuance of new SPACs and the completion of deSPAC transactions since 2022. Following the SEC's proposals, SPAC activity significantly decreased, with only 35 SPAC IPOs occurring until Q1 2023, raising a combined total of $3.5 billion. Major investment banks became wary of the reputational risk and pulled back, further halting the market. Goldman Sachs, JP Morgan, Deutsche Bank and (former) Credit Suisse (formerly the top SPAC underwriter in 2020) have reportedly ceased underwriting SPAC IPOs altogether (Lacey, 2023).

8 Conclusions and further research

The recent surge and subsequent decline of the SPAC market offer valuable insights into the complex interplay between financial innovation, investor risk appetite, and regulatory response. Throughout 2020 and 2021, an unprecedented number of SPACs was launched, emerging as a potentially faster and more flexible path to public markets for companies, particularly those in emerging and disruptive sectors. This rapid rise in issuance was accompanied by increased scrutiny from various stakeholders, including investors, regulators, and academics. By 2022, both SPAC IPOs and deSPAC transactions declined significantly. Disappointing investor returns, negative publicity, rising redemptions, and proposed regulations all contributed to this decline.

Despite remaining uncertainties about their long-term viability, various takeaways emerge from examining this complex SPAC ecosystem. The model raises significant investor concerns due to inherent information asymmetry and potential conflicts of interest. The SPAC structure incentivizes sponsors to complete a business combination to secure a substantial equity stake and involves often "hidden" costs borne by final shareholders. Additionally, the separation of warrants and shares allows some investors, primarily hedge funds, to strategically minimize risk (i.e., redeeming their shares) while maximizing potential gains (i.e., keeping their warrant rights). This creates a situation where sponsors and hedge funds may benefit disproportionately compared to retail investors.

Consequently, factors such as lifecycle stage (pre-merger SPAC or post-merger deSPAC), investor type (sponsors, SPAC IPO investors, public shareholders,…), and specific investment instruments (common shares or warrants) all play a role in explaining returns on SPAC investments. Sponsors and hedge funds often achieve significantly positive returns, while non-redeeming shareholders and retail investors in deSPACs typically experience negative returns. The poor long-term performance of deSPACs underscores the importance of thorough due diligence and a clear understanding of SPAC's unique risks and varying returns across stakeholders. Moreover, despite sharing a common structure, individual SPACs can exhibit distinct features. Investors must examine the specific details of each SPAC, including target industry focus, management team expertise, and the financial terms of potential mergers, before making any investment decisions. In addition, further research in the SPAC market, such as the creation of more accurate and comprehensive valuation models for their shares and warrants, can provide a better understanding of their unique characteristics and embedded optionality and help to increase transparency in the market.

With the excesses in the SPAC market during the past few years well-documented and researched, private investors still need to regain greater confidence in the credibility of the SPAC and deSPAC processes before stepping back in greater numbers into this market, with especially the vaguely disclosed and dispersed interests of the various shareholders requiring greater transparency. The SPAC landscape is likely to experience adjustment, particularly, with ongoing regulatory scrutiny fuelled by concerns about investor protection

and market integrity. These may include stricter disclosure requirements, enhanced sponsor accountability, and limitations on certain practices like redemption structures.

These challenges raise questions about the future of SPACs. While the market correction and concerns raised by some regulators have undoubtedly dampened enthusiasm, the potential role of SPACs cannot be entirely dismissed (Passador, 2022). Proponents of SPACs continue to emphasize their potential advantages as an alternative pathway to public markets. They point to successful precedents and advocate for best practices to create a more robust SPAC model (Shukla, 2023).

SPACs long-term viability depends on several factors, including ongoing regulatory developments, adaptation to a more challenging market environment with tighter financial conditions, and a continued focus on responsible practices by all participants. As the market and regulatory frameworks continue to evolve, SPACs would need to probe they represent a sustainable innovation rather than an untested phenomenon that flourished in a period of elevated risk appetite. Will stricter regulations and increased competition continue to impact deal completion rates and SPAC issuance? Can SPACs adapt to a changing market landscape? Further research is needed to fully understand the long-term implications of these trends and evaluate if they remain an attractive option for companies and investors alike.

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