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How Differences in IPO and SPAC Regulation Impact Performance

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ABSTRACT

The purpose of this paper is to more deeply understand the broader implications of regulations on the performance of Initial Public Offerings (IPO) and Special Purpose Acquisition Companies (SPAC). The Securities and Exchange Commission (SEC) refers to SPACs as a company "that has: (1) indicated that its business plan is to: (i) conduct a primary offering of securities…(ii) complete a business combination…with one or more target companies within a specified time frame…or (2) represented that it pursues or will pursue a special purpose acquisition company strategy" (Securities and Exchange Commission 2024). This paper focuses on the first definition regarding a business combination (called a de-SPAC transaction, or de-SPAC) and discusses the issuance and performance history of the SPAC market, the subsequent de-SPAC transaction, and the possible impacts that a lack of regulation has on SPACs and de-SPACs relative to IPOs. The data aspect of this paper is centered around using a three-year time frame, beginning on the first trading day of 2021 and ending on the last trading day of 2023, to compare issuance and performance data across the IPO and SPAC markets, and specifically, the IPXO Index, SPAC Index, and De-SPAC Index. Additionally, this paper involves an analysis of the regulatory aspect of IPOs and SPACs, including their differing requirements and the most recent SEC revisions related to SPACs and de-SPACs.

In conclusion, an analysis of the performance data proved that IPOs generally performed better than SPACs and de-SPACs, and overall, IPOs appeared to be a better option for a company's stock in the long-term. An analysis of the regulations suggested that a lack of regulation or less strict regulation surrounding SPACs and de-SPACs causes them to outperform in the short-term but underperform in the long-term.

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Chapter 1

Introduction

One of the best ways a private company can provide value to its shareholders is to go public and list its shares on a stock exchange. Companies choose to go public for several reasons, including greater access to capital markets (additional equity offerings, convertibles, and debt securities), a higher public market valuation that typically reflects an optimistic view on future growth, increased liquidity, prestige and publicity, and compensation to employees and management (Brau 2006). Naturally, becoming a public company also has its considerations, such as the company's financial performance and stability, rationale for going public and use of proceeds, management's readiness and experience, and market conditions. In addition to company-specific considerations, the company must also consider outside factors and external relations, including SEC reporting requirements, control of the company, increased market pressure for short-term results, and ongoing commitment to investor education throughout a lengthy process of going public (Draho 2004).

An Initial Public Offering (IPO) is the traditional method that private companies use to offer equity shares to public investors, or "go public", for the first time. These shares become publicly traded on the stock market, where investors are able to buy and sell the shares. After a company completes an IPO, the firm is governed by a new set of rules: the company must disclose its financials every quarter, management becomes responsible for various shareholders with differing intentions and opinions, and the firm enters a new competitive environment with other publicly traded companies. However, becoming a public company also brings its benefits, including an injection of new capital, increased popularity and publicity, and the creation of a

stronger signal for the true value of the company that can be used for acquisitions and to compensate employees through stock-based compensation (Draho 2004).

The IPO process can be expensive, time-consuming, and risky. The greatest risk of an IPO is the uncertainty surrounding the transaction, and this largely stems from the lack of existing public information about the company before the company goes public and the market environment (Draho 2004). The process involves several steps:

1) The company selects an investment bank (or several investment banks) to advise and underwrite the transaction – selecting an investment bank is dependent on the bank's reputation and relationships with potential investors, its expertise on the company's sector/industry, and its connections with the company's board members or management.
2) The lead investment bank will draft a letter of intent, which consists of a commitment by the underwriters, an agreement by the company to cooperate with due diligence efforts and to make all relevant information available to the underwriters, and a commitment by the company that allows a 15% overallotment option to the underwriter (also known as the greenshoe option).
3) The company files a confidential registration statement called the Form S-1 with the Securities and Exchange Commission (SEC) – the purpose of the statement is to ensure that information received by the public regarding the equity shares is accurate. Underwriters will perform a due diligence process to investigate the company in order to verify the accuracy of the information that is provided to investors.
4) The registration statement is transformed into the preliminary prospectus (also called the "Red Herring") – the SEC reviews the filing and responds with any necessary changes

before approval. After the Red Herring is approved, the marketing process begins, and the Red Herring can be made public and is sent to salespeople and potential investors.

5) The company and the underwriters will engage in a road show – usually, company management and other senior leadership meet and present to institutional investors and retail salespeople over several weeks to gauge interest in the company's IPO. These investors and salespeople will indicate their interest to the underwriter by submitting an order for a certain number of shares.
6) The day before the effective date, after the market closes, the lead underwriter (who handles the initial offering and the potential greenshoe offering) and the company determine the final offer price and the exact number of shares that will be sold.
7) The Underwriting Agreement, which is the final prospectus, is executed – this includes the final price and number of shares for the IPO.
8) The company's shares begin trading in the public market. Three days later, the transaction officially closes – the company delivers the shares to investors, and the underwriter transfers the proceeds from the IPO to the company.

Throughout the IPO process, the company relies heavily on the investment banks it is working with, and although the process is complicated, it ensures that investors receive accurate information to make their investment decisions (Ellis 1999).

In addition to an IPO, companies can use other avenues to go public, such as a Special Purpose Acquisition Company (SPAC). This method involves creating a shell entity with the goal of acquiring a potential operating company within a two-year time frame. The SPAC managers raise the necessary capital to acquire the target company by taking the SPAC through an IPO and keeping the capital that is raised from the IPO in escrow (Datar). First, SPAC

managers follow a regular IPO process for the shell entity, which includes a roadshow, investor presentations and discussions, and SEC registrations. Throughout this process, investors can assess the quality of SPAC managers to help them make investment decisions. After completing the IPO, the shell entity begins the search for a target company. The process of acquiring the target company involves three stages:

1) "No Target" stage: the time between the IPO and the day prior to the announcement of the identified target.
2) "Target Found" stage: the potential target is found and publicized through an 8-K filing. The SPAC stays in this phase until a shareholder meeting is held to vote on the potential target.
3) "Acquisition Completed" or "Acquisition Withdrawn" stage: the shareholders approve or disapprove the acquisition of the target. If it is approved, the acquisition moves forward. If it is disapproved, the SPAC will either return to the "No Target" stage to continue looking for a target or it will liquidate. If the SPAC returns to the "No Target" stage, SPAC managers have a limited amount of time to find a new target and complete the acquisition (generally 18 months to find a target and 6 additional months to complete the acquisition).

If a target is acquired, SPAC managers must register the transaction with the SEC through Form S-4 and compile a prospectus that includes management's investment focus, the relevant evaluation criteria the managers used to determine potential targets, and management's business experience. The combination of the SPAC and the target is called a de-SPAC transaction, or de-SPAC. After the de-SPAC transaction, the target company and the shell company begin trading under one stock ticker (Cumming 2014).

As shown above, the IPO and SPAC processes have several differences. First, the SPAC process and subsequent de-SPAC process involve an IPO followed by an acquisition of a target company. So fundamentally, the complete process of going public via a SPAC requires two separate transactions while the IPO process only requires one. Many companies choose to go public through a SPAC because the de-SPAC process (the only transaction involving the target company) is faster than the alternative IPO process; the SPAC IPO and search for a target usually takes the most time, and the target company avoids this process.

However, there may be additional reasons why companies choose the SPAC route, one of which being the differences between SPAC and IPO regulations. Through this thesis, I hope to analyze the differences in disclosure regulations and identify possible flaws in SPAC regulations that influence SPACs' poor performance relative to its IPO peers.

Chapter 2

Literature Review

Over the years, researchers have compared IPO and SPAC performance, analyzed recent and historical data, and identified waves of issuances. Although IPOs overwhelmingly outperform SPACs in the long-term, companies have opted for SPACs throughout history for various reasons, which are discussed below.

Comparison of IPOs and SPACs

"Going Public through the Back Door: A Comparative Analysis of SPACs and IPOs" (Datar 2012) was the first of many to compare SPACs and traditional IPOs. The authors explained some of the unique characteristic of SPACs, including:

- SPAC shares have a relatively active and liquid trading market, while most traditional shell shares do not. SPAC shares are also publicly traded.
- SPACs have a time limit of 2 years to find a target company to merge with.
- SPACs specialize in an industry or geography, and each SPAC is managed by an expert team in that area.
- SPAC investors receive a unit consisting of a share of common stock and 1 or 2 warrants. If investors do not approve the merger (or de-SPAC) target, they will either receive 92-95% of their original investment within 2 years after the SPAC IPO or they have the option to immediately sell their SPAC share and warrants in the public market.

The authors also explained several advantages for private companies to go public through a SPAC, such as:

- SPACs are quicker, cheaper, and less stressful.
- The funds are already raised, so the target company skips the marketing process and the uncertainty surrounding the initial stock price.
- The SPAC market can be active and healthy even when the general market is not.
- SPACs can be helpful for smaller companies that may not be able to use an IPO to raise money.
- SPAC managers, which usually consist of experts and very experienced individuals, continue to have an active role in the post-merger entity.

The remainder of the paper summarizes the authors' analysis of SPAC timelines, success rate, industry popularity, and geographic popularity. Additionally, the analysis included a comparison of the performance of SPAC targets pre- and post-merger with IPOs. The measure of performance included operating performance, stock returns, and other financial ratios such as Market to Book, Total Leverage, and Asset Turnover.

The article also mentions that previous research done by William K. Sjostrom in 2008 concluded that comparing SPACs and IPOs is more meaningful than comparing reverse mergers and IPOs. Reverse mergers are similar to de-SPAC transactions, but a reverse merger shell company and a SPAC differ in their timelines, assets, and management: reverse mergers do not have to liquidate after a certain amount of time without a target, they typically have little to no assets in escrow, and they do not possess a management team that eventually takes over the combined company. Even though SPACs and reverse mergers vary in several aspects, the

authors stated that their results from comparing SPACs and traditional IPOs were similar to the results from comparing reverse mergers and IPOs.

The research concluded that SPACs were significantly inferior to their IPO competitors in terms of both operational performance and stock returns. The data also showed that SPACs carried more debt, were generally smaller, invested less, and had lower growth opportunities when compared to IPOs in the same year (Datar 2012).

SPAC Waves

"SPAC IPO Waves" (Blomkvist 2020) was written right before the most recent SPAC wave in 2021. But even in 2020, SPACs were 45% of the total IPOs in 2020 as of October 1 of that year. The authors attempted to explain the variation in SPACs, and most of the data compared SPAC issuance volume with several measurements, such as:

- VIX: the market's expectation of volatility.
- VRP: variance risk premium.
- CRSP: average daily excess return during the previous quarter.

The analysis involved several regressions where each measurement was tested as a variable along with several others, including GDP growth, the spread between the 3-month T-Bill Rate and the Federal Funds Rate, and M&A transactions.

The results presented a negative relationship between the VIX and VRP with SPAC issuance in terms of market share and volume, which suggests that investors are more cautious with SPACs during times of uncertainty and high volatility. The authors also stated that investors' risk appetite depends on the opacity of the SPAC, which stems from the non-existent

operational history of SPACs (since they are shell companies). Overall, SPACs are more sensitive to uncertainty and volatility compared to IPOs (Blomkvist 2020).

Recent IPO and SPAC Developments

"IPOs and SPACs: Recent Developments" (Huang 2023) suggests that IPOs and SPACs have also been impacted by the growth of Venture Capital, Private Equity, and Mutual Funds. These types of firms have increased their focus on private companies in recent decades, and more importantly, they provide a new route for companies to get capital—one that doesn't require the company to go public on its own. By using private investments from one or a combination of these firms, smaller companies receive the capital they need and have additional time to mature before considering going public. These firms present new opportunities for private companies and may cause the SPAC route to become less attractive.

This article also discussed direct listings, which is another alternative method for a company to go public. In 2018, audio streaming company Spotify was the first company to go public through a direct listing in the United States. In a direct listing, a private company goes public on its own by listing its common stock with no offer price. Normally, companies would seek an underwriter to help conduct roadshows, facilitate discussions, and gauge investor demand. Instead, companies using a direct listing can conduct "investor education" meetings that are similar to roadshow presentations but do not involve the underwriters trying to identify potential investors since there are no underwriters with pre-determined shares to allocate, which is similar to the SPAC process.

Chapter 3

Recent SPAC Examples

After a period of decline in the SPAC market of roughly 76% during the first half of 2023 (Kroll 2023), SPACs have gained momentum since the beginning of 2024, likely due to improving investor confidence in the market, with the S&P 500 Index returning 9.40% year-to-date and 31.19% over the last year, as of March 25, 2024 (MarketWatch 2024). Below are some recent developments in the SPAC market.

AirAsia and Aetherium Acquisition Corporation

On February 28, 2024, Capital A expressed that it planned to merge its brand-management unit with Aetherium Acquisition Corporation. The unit will include AirAsia, a budget carrier operating under Capital A, which itself specializes in brand development, management, and licensing. The company holds the intellectual property of 15 brands and hundreds of trademarks. Tony Fernandes (CEO of Capital A) stated, that "[t]his listing grants [AirAsia] access to the world's most extensive and liquid capital markets, enhancing the company's international credibility and presence while creating value for our shareholders". The *pro forma* enterprise value of the combined company is estimated to be around $1.15 billion (Wong 2024).

It is clear that AirAsia hopes to gain publicity and access to the capital markets through this transaction, and although an IPO process could also provide the same benefits, this de-SPAC transaction allows AirAsia to be quickly listed on an American stock exchange.

Webull and SK Growth Opportunities

On February 28, 2024, trading platform Webull Corporation (“Webull”) announced that it would be going public through a SPAC merger with SK Growth Opportunities. Webull offers commission-free trading for stocks, equity options, and exchange-traded funds. The company caters towards more experienced retail investors, but similar online brokerages have gained popularity in the past few months as investors regain confidence in the market and the possibility of a “soft landing” (successfully lowering inflation without entering a recession). According to the Reuters article, the SPAC market has been under pressure in recent years due to regulator and investor concerns and has consequently become unfavorable. However, the SPAC process itself is still extremely attractive to private companies due to its quicker timeline. Additionally, Webull’s President believes that “[g]oing public via a SPAC merger would allow the market to dictate the proper valuation of the company instead of it being determined by underwriters”. Webull’s SPAC deal is expected to be completed during the second half of 2024 with a valuation of roughly $7.3 billion, making it a rare billion-dollar deal in the SPAC space (Nishant 2024).

Webull’s President emphasized the lack of underwriters in de-SPAC transactions as an advantage because it allows investors to determine the company’s “proper valuation”. However, existing literature makes it clear that SPACs do not perform well against IPOs in the long-term. Instead, a “proper valuation” may only be a short-term effect.

Starwood Capital Entities and Jaws Mustang Acquisition Corporation

On March 8, 2024, several Starwood Capital Group (“Starwood”) entities signed a letter of intent with Jaws Mustang Acquisition Corporation (“Jaws”) to enter into a “business

combination". The newly formed entity would be a publicly listed, growth-oriented hospitality company comprised of several entities owned by a single person: Barry Sternlicht, a billionaire businessman. Sternlicht founded Jaws and currently serves as the Chairman and CEO of Starwood Capital Group. Starwood will combine some of its properties of 1 Hotel—a luxury lifestyle hotel chain—and the De Vere Portfolio—a collection of historic and ancestral country estates. The combined public company will be owners of the Starwood Capital entities' interests in ten properties, which include two 1 Hotel properties and eight De Vere Portfolio properties (Starwood Capital Group 2024).

This transaction involves one person using the de-SPAC process to combine several of his companies into a single entity. This may open the door for other individual owners or firms with a portfolio of companies to go through similar processes.

Truth Social and Digital World Acquisition

On March 22, 2024, former president and 2024 presidential candidate Donald Trump's social media platform Truth Social, through its parent company Trump Media & Technology Group ("Trump Media"), stated that it planned to go public with a SPAC called Digital World Acquisition. This deal has received a lot of publicity, and there are concerns over Truth Social's historically poor financial performance. However, Trump's followers have been eager to show their support, and many of these smaller investors came together to buy shares of Digital World Acquisition; this drove up the SPAC's stock price, and the Wall Street Journal compared this activity to GameStop's "meme stock" performance during the pandemic. The active purchases of Digital World Acquisition's stock means Truth Social would be worth roughly $5 billion after

the de-SPAC transaction. Additionally, Truth Social is expected to receive around $300 million from the merger, which may help to keep the social media platform alive.

There were several issues with the deal before it was approved by regulators, including an $18 million fine that Digital World paid to the SEC "to settle an investigation into whether the two sides held premature deal talks", three Digital World investors (including one former board member) charged with insider trading, and Truth Social warning investors about its financial disclosure details and its investment risks (Ramkumar 2024).

The combined company went public on March 26, 2024, and the stock peaked at $79 on Trump Media's first day as an independently traded public company. On April 1, 2024, Trump Media revealed its full-year results for 2023, with revenues of $4.1 million and a net loss of $58.2 million. The company's stock dropped 25% in a single day and roughly 40% from its $79 peak a week ago (Saul 2024).

Although Trump Media only recently began trading as a public company, the company is already facing the impacts of lower investor confidence. Truth Social previously had several issues and warned investors about its financials, so this result was almost expected to happen. However, investors were still willing to support the transaction, which justifies the company's "meme stock" title (Saul 2024), but there is a possibility that investors did not understand the risks of their investment or blindly expressed their confidence in the company's owner.

Chapter 4

Performance Comparison

This section contains the chosen sample of data, explains how it was acquired, and describes the specific methodology that was implemented within the analysis. This section will also discuss any special considerations and adjustments made to ensure the empirical results were not biased or skewed.

I hypothesize that IPO issuances perform better in the long term compared to SPAC issuances due to SPAC reliance on market conditions and its volatile nature, which increases their riskiness. Additionally, I hypothesize that completed IPOs outperform completed de-SPAC transactions as a result of unforeseen risks not "priced in" by the market due to flaws in SPAC disclosure regulations.

Data Collection & Methodology

In order to analyze these hypotheses on a deeper level, I collected SPAC, de-SPAC, and IPO data for issuance and performance. The main source for the samples was the Bloomberg Terminal: I used the issuance function on Bloomberg to filter for IPOs and SPACs between January 4, 2021 and December 29, 2023 (no weekends or holidays included). I chose this specific period for a few reasons:

1) The most recent SPAC wave was in 2021 after the COVID-19 pandemic. This was likely due to increased consumer and investor confidence in a fast economic recovery.

Therefore, I wanted to capture data starting from the beginning of the wave in order to identify and understand the change in SPAC issuance.

2) 2023 was the most recent full calendar year, and I believed it was necessary to have full years of data to analyze and compare.
3) I believe that three full years (2021-2023) of data provide a decent sample size to hypothesize IPO and SPAC performance. These years also do not overlap with 2020 when market conditions were skewed due to the COVID-19 pandemic.

Additionally, since SPAC companies must complete an IPO as well, the list of IPO issuances is filtered to not include SPAC issuances in order to fully separate the two types of transactions. I also collected three years of performance data for the IPXO and SPAC indices. IPXO refers to the IPOX 100 U.S. Index, which is a market cap-weighted index portfolio measuring the performance of the top 100 U.S. companies ranked quarterly by market cap in the IPOX U.S. Composite Index, which is a sub-index of the IPOX Global Composite Index. The IPOX 100 U.S. Index has historically captured roughly 85% of total market cap created through U.S. New Listings activity over the past four years. SPAC refers to the IPOX SPAC Index, which is designed to track the aftermarket performance of SPACs that pursued IPOs in the United States. The index is an applied market capitalization-weighted index measuring the performance of the top 50 publicly traded SPACs.

However, purely comparing SPAC performance and IPO performance is not entirely accurate because the SPAC Index includes the performance of shell companies prior to the de-SPAC transaction. Only after the de-SPAC transaction can we actively see how the target company performs because it begins trading with the shell company under the same ticker, and subsequently, investors observe the shell company's stock as the target company. Therefore, I

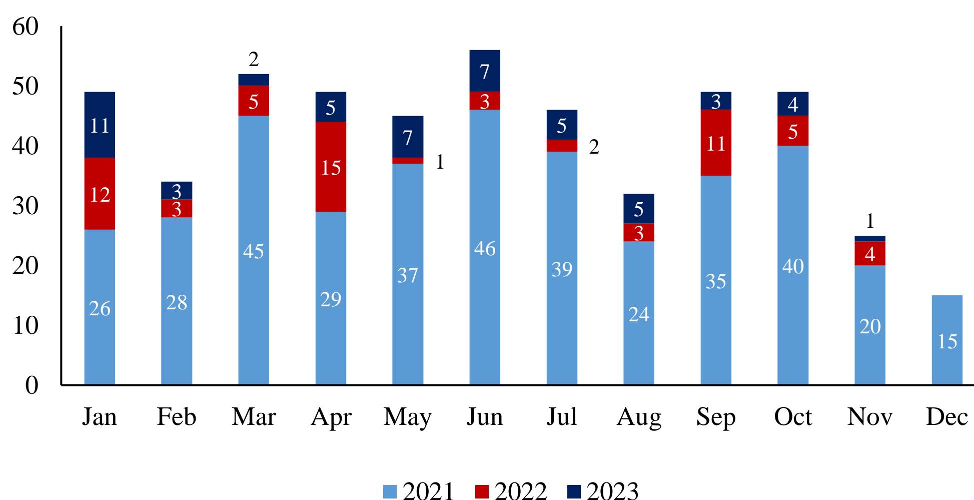
also collected three years of performance data for the De-SPAC Index, which captures a group of 25 companies that went public through a SPAC. Appendix A provides a list of these companies along with their performance and weights in the index.

Data Observations and Analysis

After analyzing the data I collected, I was able to make several observations regarding the discrepancies in performance of the IPO, SPAC, and de-SPAC markets.

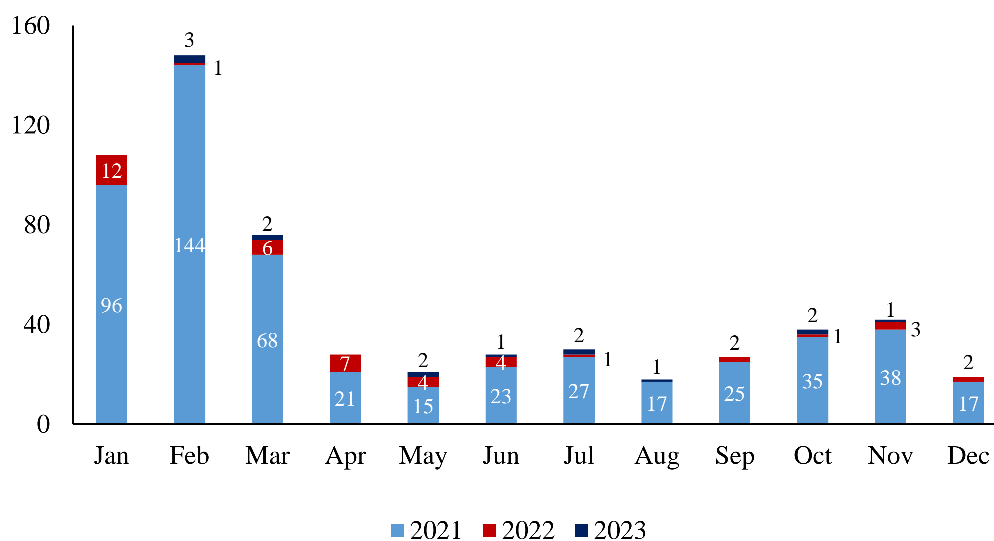
When comparing new IPO and SPAC issuances, I concluded that there were significantly more SPAC issuances in 2021 compared to traditional IPO issuances. This describes the most recent SPAC wave in the market. Additionally, issuance in 2022 dropped drastically in the broader market, with SPAC and IPO issuances decreasing year-over-year by around 92% and 83%, respectively. Appendix B provides more information on IPO and SPAC issuance.

Figure 1. Monthly IPO Issuance (2021-2023)



Source: Bloomberg

Figure 2. Monthly SPAC Issuance (2021-2023)



Source: Bloomberg

I also compared the IPXO Index and the SPAC Index to get a wholistic understanding of both markets. By comparing the standard deviations in performance between 2021 and 2023, it was evident that the IPXO Index generally fluctuated more than the SPAC Index on a daily basis. However, the De-SPAC Index always had the greatest standard deviation, which indicates greater market volatility compared to the other two indices.

Figure 3. Standard Deviations for Daily Index Performance

	IPO	SPAC	De-SPAC
2021	1.55%	1.29%	2.90%
2022	2.03%	1.27%	3.89%
2023	1.34%	1.16%	2.23%
Overall	1.66%	1.24%	3.08%

Source: Bloomberg

Contrastingly, the SPAC Index always had the lowest standard deviation, which does not necessarily align with statements made in existing literature regarding the scrutiny and uncertainty surrounding the SPAC market.

In terms of nominal performance, the IPXO Index had the best performance in the full years of 2021, 2023, and overall (between 2021 and 2023). Appendix C provides visual comparisons of performance.

Figure 4. Index Performance

Note: percentages reflect full years (first trading day to last trading day each year) and "overall" means beginning of 2021 to end of 2023

	IPO	***SPAC***	***De-SPAC***
2021	5.34%	-15.24%	-44.06%
2022	-35.10%	-25.19%	-73.62%
2023	23.55%	23.37%	-15.07%
Overall	-17.12%	-20.94%	-87.12%

Source: Bloomberg

Although SPACs gained popularity in 2021, the SPAC Index performance was consistently positive year-to-date during only the first quarter of the year – the SPAC Index ended the year down 15%, significantly underperforming the IPXO Index, which ended the year up 5%. However, the SPAC Index outperformed the IPXO Index during 2022 by roughly 10%, but the IPXO Index still beat the SPAC Index during 2023 and from 2021 to 2023. I believe that

the IPXO's outperformance is due to a lack of investor confidence in shell companies; there is a lot of uncertainty surrounding SPACs, and before the de-SPAC transaction with a target company, a SPAC itself does not have any operations that investors could bet on; the main idea behind a SPAC is to hope that a SPAC's management can acquire a healthy target company. It is unsurprising that investors cannot have complete faith in management to make a good acquisition. Therefore, in order to make a true comparison, the de-SPAC transaction of a target company and its subsequent performance in the stock market must be considered.

When comparing all three indices, the IPXO Index dominated 2021, 2023, and overall during the period of 2021 to 2023 – I found that the IPXO Index was the only index of the three indices that had positive returns in 2021. As mentioned previously, the SPAC Index was down 15% at the end of 2021, which is surprising given its popularity during the year. However, I believe that there are a couple reasons why this did not happen: first, there could have been too many people trying to take advantage of the SPAC market's popularity, and consequently, there was more supply of SPACs than demand for them. Additionally, because of SPAC popularity, there might have been a limited amount of healthy target companies that also wanted to go public through a SPAC. If a SPAC was unable to find a target company, that might have lowered investor confidence, or the SPAC might have been liquidated after the two-year period. In terms of the De-SPAC Index's performance, the index always significantly underperformed both the IPXO and SPAC indices during the full years of 2021, 2022, 2023, and overall (from the beginning of 2021 to the end of 2023). During 2022, the De-SPAC Index performed the worst, and the SPAC Index performed the best with a difference in performance of almost 50%. Moreover, the De-SPAC Index has never seen positive performance during any full year or collectively between 2021 and 2023. This is interesting because prior to a de-SPAC transaction,

investors receive and review information regarding the target company, and assuming the company was approved, there should be no reason why the return on a de-SPAC transaction should be strongly negative if the investors already had adequate information on the target company. The De-SPAC Index also always underperformed the SPAC Index, which does not make sense because one would assume that a shell company surrounded by investor and market uncertainty would be more unstable than a holding company that completed an approved merger with an operating company and now has assets and operations. This suggests that there could be something deeper in the de-SPAC transaction process that causes these post-merger holding companies to perform poorly.

For example, as mentioned previously, the SPAC market gained popularity in 2021. This popularity definitely helped several companies gain publicity, but the high volume of SPACs in the market might have caused several SPACs to be unable to find a healthy target company. In order to not be forced to liquidate, management of these SPACs may have grown desperate to find a target company to merge with, and in order to find a company, they might have lowered the standards or had fewer requirements for the target company: this could lead to a poor acquisition, which then leads to poor stock performance after the de-SPAC transaction as the flaws of the target company are slowly revealed.

In addition to poor acquisitions, one could argue that the economic slowdown and downturn in 2022 and 2023, respectively, contributed to poor de-SPAC performance. The United States Gross Domestic Product (GDP) declined for two quarters in a row in 2022, which technically meant the United States entered into a recession. Additionally, the Federal Reserve hiked interest rates several times throughout the two years as inflation soared from the aftereffects of the COVID-19 pandemic. However, it is important to point out that all three

indices were negative during 2022 and not just the De-SPAC Index, as shown in Figure 4. This shows that the market situation at the time was impacting all markets. It is evident that the De-SPAC Index is more sensitive to market changes, but it still does not explain why a company with disclosed information is still performing worse than shell companies with no operations.

I believe a key factor contributing to the poor performance of the De-SPAC Index relates to the differences in regulations for SPACs compared to IPOs. Specifically, I believe that a lack of regulation for SPAC financial disclosures has resulted in the long-term deterioration of investor confidence in de-SPAC transactions.

Chapter 5

IPO and SPAC Regulation Comparison

Over the years, there have been several concerns about the SPAC market and specifically the disclosures to investors in SPACs. IPOs have been around much longer than SPACs, so it is not a surprise that IPOs have historically had tighter restrictions and more disclosure requirements than SPACs. In fact, a specific reason why companies may prefer to go public through a SPAC could be related to the looser restrictions and fewer requirements. However, according to the SEC, investing in a SPAC means relying on the SPAC's management team to make decisions and acquire a good target company. Without all the necessary information, having to rely on management teams combined with the lack of restrictions and requirements have harmed several SPAC investors in the past. Consequently, there have been several incidents of investors taking legal action and suing SPACs' management.

In order to avoid similar incidents in the future, the SEC has been revising its regulations to address these concerns. On January 24, 2024, the SEC adopted new rules with the intent to better protect investors in SPAC IPOs and the subsequent de-SPAC transactions. I will be focusing on the revised rules that are related to auditing and financial disclosures.

Auditing

Previously, the SEC advised SPACs to require the target operating company involved in the de-SPAC transaction to be audited under the same standards as a registrant for an IPO because after the de-SPAC transaction, the target operating company's financial statements become the SPAC's financial statements. After the most recent revision, the SEC has enlarged

the scope of the audit requirement to capture SPACs that have not yet gone through a de-SPAC transaction and SPACs that acquire multiple target operating companies. However, even though the target companies are now being audited as a registrant for an IPO, there is still one aspect of the audit for an IPO that SPAC target companies will not have: the auditor's opinion. The prospectus for an IPO requires an auditor's opinion which states their independent opinions of the financial statements in the several pages below; this reflects more liability and responsibility for the auditor.

I believe the previous rules the SEC provided that instructed SPACs to audit target companies based on the same requirements as companies going public through an IPO allow the SPAC and its investors to determine the accuracy of the target company's financial statements, and the audit could suggest whether the target company would be a good acquisition or not: if after the audit, the SPAC determines that the target company does not meet the standards for a good IPO candidate and may not attract investors, the SPAC company may choose to not move forward with the de-SPAC transaction with the target company. Contrastingly, if the SPAC determines that the target company has healthy financial statements and could easily attract investors through an IPO, it might also make a viable candidate for a de-SPAC transaction. In terms of the auditor's opinion, I do not believe this should be overlooked. An independent opinion of a company's financial health is extremely important because it provides more credibility, especially for investors as they are making investment decisions.

Financial Disclosures

Additionally, I believe that loose financial disclosure regulations are among the primary weaknesses of the various other SPAC regulations that contributes to poor performance for de-SPAC transactions. Contrastingly for IPOs, the vast majority of information that is made public as a result of financial disclosure regulations is fully incorporated in its pricing, which is reflected through better IPO performance (Lowry 2004). One particular flaw that the SEC addresses in its most recent revision involves the financial projections of the target company. The SEC requires a SPAC and target company to file a Form S-4 when a planned de-SPAC transaction has been determined. Form S-4 is the registration statement, or prospectus, that companies complete when they intend to enter into a merger transaction. One of the requirements in the prospectus is “Pro Forma Financial Information”, which is related to financial statements and projections for after the de-SPAC transaction. The new regulations state that the target company must disclose any financial projections for after the de-SPAC transaction, including “[a]ll material bases of the disclosed projections, all material assumptions underlying the projections, and any factors that may impact such assumptions (including a discussion of any material growth rates or discount multiples used in preparing the projections, and the reasons for selecting such growth rates or discount multiples)” (Securities and Exchange Commission 2024). Additionally, the SEC now requires a statement from the target company or the SPAC’s management regarding the projections that are provided in the prospectus. Specifically, the target company or the SPAC’s management must disclose whether or not the projections provided in the prospectus are an accurate reflection of the current views of the combined management team. According to the SEC, they “believe the required disclosure

reflects an appropriate balance between the benefits to investors of this disclosure and the costs of compliance with the rule requirements. The required disclosure should help investors better assess the continued reliability of the projections through the current views of the SPAC or target company management or board of directors". The SEC also made a new requirement regarding the number of years of historical financial statements that target companies must provide. The new rule is now in line with IPO regulations, which require three years of financial statements, unless the company is an Emerging Growth Company, which would only be required to disclose two years (Securities and Exchange Commission 2024).

Although the SEC stated that the target company and SPAC do not have an obligation to update the disclosed projections, I believe that this new addition to the regulations is extremely crucial to investor confidence in SPACs. It is reasonable that a company's management would have the best understanding of that company and a much better understanding than any investor or auditor. Therefore, it makes management's statement about their performance much more powerful and impactful for investor decisions. However, I do see a slight flaw with the statement from management: assuming that the target company's management and the SPAC's management both want the combined company's stock to perform well, especially since they will be subject to a lock-up period in which they are restricted from selling shares of the company for a certain amount of time (Cumming 2014), they will naturally affirm the projections in the prospectus because this will improve investor confidence in the de-SPAC transaction. If they do not affirm the projections, uncertainty will cloud investors' judgment, and the de-SPAC transaction may not perform as well. Therefore, I see no reason why management would choose not to affirm the projections unless some kind of legal action could be taken against them for making a statement that was not in investors' best interests.

Chapter 6

Conclusion

As existing literature cites, while Initial Public Offerings (IPOs) are the traditional method of going public, Special Purpose Acquisition Companies (SPACs) have become a popular alternative method for private companies to go public. The most recent SPAC wave in 2022 saw a record high number of SPAC deals and de-SPAC transactions, and although these transactions gained popularity and overwhelmed news outlets, the publicity was not reflected in their performance. The purpose of this paper was to contribute to existing literature regarding key factors that have impacted SPACs and the poor performance of de-SPAC transactions. More specifically, the paper is aimed at finding whether or not the flaws in regulations—or sometimes, the lack there of—for SPACs and de-SPACs are a cause for their historically poor performance relative to IPOs. Within this study, performance data for the full years of 2021 through 2023 were collected for the IPXO, SPAC, and De-SPAC indices in order to determine how each index performed relative to each other; the data was compared based on daily, yearly, and overall (2021-2023) returns. Additionally, regulatory information from the United States Securities and Exchange Commission (SEC) was provided and analyzed to determine whether or not certain regulations were looser for SPACs and therefore made them a riskier investment.

The results of the performance data comparison were mostly unsurprising and affirmed existing literature's findings. IPOs dominated performance in 2021, 2023, and overall, while SPACs dominated 2022; this was only likely due to their popularity throughout the wave. De-SPACs consistently underperformed during each year and overall, but this result was slightly unexpected under the assumption that SPACs chose healthy target companies to complete the de-

SPAC transaction. Based on the discrepancy in the positive publicity SPACs received and its performance, there appears to be something more influential in de-SPAC transactions that drives performance down in the long-term, especially as most publicity is short-term.

Next, the analysis of the regulatory information provided insight into the disclosure requirements for SPACs and de-SPACs. The SEC recently revised its regulations for these transactions and explained the changes from previous versions. The main changes that were highlighted in this paper revolved around auditing and financial disclosures. Overall, it was clear that the SEC intended to protect investors by improving the disclosure requirements – the latest changes were meant to make SPAC requirements more similar to IPO disclosure requirements, and they will likely ensure additional certainty for investors as they make investment decisions.

Altogether, these results offer meaningful contributions to existing literature regarding the performance of IPOs, SPACs, and de-SPACs, and they offer new areas of interest regarding the differences in regulation between the two methods and how these differences contribute to discrepancies in market performance.

Additional Research Areas

Although this paper was unable to fully determine whether these regulatory differences directly contributed towards SPAC and de-SPAC performance, I believe that the differences in regulations do contribute towards the likelihood of a de-SPAC transaction, and subsequently, its success in the market; investor confidence is a key driver in the completion of a de-SPAC transaction, and now that the SEC requires the target company and SPAC management to provide additional information that could significantly alter investor confidence, I believe that

investors will be better protected and can be more certain towards SPAC investments after the new regulations are in effect, which can result in overall better performance in the long-term.

While I believe this hypothesis is reasonable, I was unable to prove its impact in the SPAC market through this paper. I did not include any data from 2024 in my data collection process because I only wanted to collect full years of data, and I did not believe that having three months of data in 2024 was sufficient to prove real change as a result of the SEC's revisions. Additionally, the new SEC regulations mentioned above do not go into effect until July 1, 2024, so even if I collected data for 2024, I would be unable to see the real impact of these regulations in my data collection until later this year. However, it is very clear that the SPAC market has had an increase in activity in 2024 given the recent developments mentioned above, and I believe that future research in this area should focus on SPAC and de-SPAC activity after the regulations become effective and allow for at least a year of data after this effective date to show long-term changes and erase publicity-related performance.

One main aspect of the de-SPAC process that private companies see as an advantage is the shortened timeline. The IPO process requires several months for due diligence and investor education, and it is arguably one of the most important parts of an IPO (Brau 2006). I am now wondering if the SPAC and de-SPAC processes lack the due diligence aspect or do not provide a reasonable amount of time for due diligence and investor education. While I did not do much analysis in this area, it is possible that the majority of investor education is done after the combined company is already public. As shown with the Trump Media example, the company's stock plummeted after it released financials for the year. It is possible that investors were not given the proper amount of time to analyze the company or the accurate information to do so. Consequently, most of their due diligence revolved around the most recent financials that the

company provided, and only then did the investors realize that the company was not as strong as anticipated. In addition to Trump Media, Webull's CEO also suggested that the de-SPAC process allows the company to massage its own valuation and create blurry lines to arrive at a "proper valuation" (Nishant 2024), which may confuse investors and send inaccurate signals of robust performance. Based on the data that I analyzed, in addition to existing literature, I concluded that SPACs and de-SPACs tend to underperform their IPO counterparts in the long-term. This could be because IPOs have a longer, more detailed due diligence process that allows investors to better understand the company. The flaws surrounding SPAC financial disclosures could also contribute to a lack of investor education that causes de-SPACs to perform poorly.

In addition to more years of data collection in future research, I believe that another index and another type of transaction should be considered in the future analysis of de-SPAC transactions. Through this paper, I have determined that a de-SPAC transaction, while similar to an IPO in terms of taking a company public, are very similar to merger and acquisition (M&A) transactions on a fundamental basis because they both involve the combination of companies and require the completion of the Form S-4. The main purpose of a SPAC is to go public in order to gain the capital to acquire a target company, but a large public company with those existing resources could theoretically acquire the same target company, and possibly for a greater amount of money if the target company is a competitor or can provide revenue or cost synergies. I also did not choose to compare the SPAC IPO process to a regular IPO process because the SPAC IPO is an earlier part of the complete de-SPAC process of taking a company public. I wanted to focus specifically on the process of taking a company public, which meant comparing a regular IPO process and a de-SPAC transaction, but I did not dive into how M&A transactions can also

take private companies public. Therefore, I believe future research should also include a comparison of M&A transactions with de-SPAC transactions.

Other alternatives for going public were not discussed in-depth and analyzed in this paper. Existing literature above mentioned reverse mergers, which are similar to de-SPACs and are often used synonymously, but these two types of transactions also have several differences (Datar 2012). I believe another comparison between de-SPACs and reverse mergers should also be made to identify the impacts of management's role and the shorter SPAC timeline in the performance of the combined company. In addition to reverse mergers, direct listings were also mentioned above as a method that does not require underwriters and allows investors to determine a company's valuation through market demand. These alternatives have many differences, but they all allow a company to go public without underwriters. I believe that more research can be done to determine whether there is a need for underwriters by comparing IPO performance data with reverse mergers and direct listings as well.

Private Equity (PE), Venture Capital (VC), and Mutual Funds (MF) have also found their way into the IPO market in the past decade, as briefly discussed in my literature review. In 2016, 39% of VC-backed IPOs received mutual fund financing prior to going public (Huang 2023). This may incentivize private companies to go public through an IPO instead of the several alternatives explained above, which may cause them to lose popularity over time. Moreover, the additional capital that PE, VC, and MF firms provide to private companies may enhance their performance after going public. I think future research can be done to identify the differences in performance between regular IPOs and PE, VC, or MF-backed IPOs.

Appendix A

De-SPAC Index Current Members

The table below shows the current members of the De-SPAC Index, which captures the performance of 25 companies that went public through a SPAC.

De-SPAC Index Members: Weight and Performance

Data as of 3/19/2024

	Current Members	Weight	Shares	Price	Performance YTD
1	Lifezone Metal Ltd	5.83%	1.09	7.53	-16.70%
2	Net Power Inc	5.25%	0.75	9.90	-1.98%
3	Granite Ridge Resources Inc	5.17%	1.16	6.29	6.35%
4	AlTi Global Inc	5.03%	1.12	6.35	-27.51%
5	FiscalNote Holdings Inc	4.96%	4.24	1.65	44.74%
6	Newamsterdam Pharma Co NV	4.80%	0.31	22.05	97.40%
7	Greenfire Resources Ltd	4.66%	1.14	5.76	18.52%
8	Abacus Life Inc	4.49%	0.52	12.18	0.00%
9	Perfect Corp	4.40%	2.60	2.38	-23.23%
10	OmniAb Inc	4.31%	1.15	5.27	-14.59%
11	SunCar Technology Group Inc	4.23%	0.87	6.88	-16.61%
12	Bitdeer Technologies Group	4.19%	0.79	7.43	-24.65%
13	Oculis Holding AG	4.14%	0.49	11.84	5.43%
14	Vinfast Auto Ltd	4.01%	1.19	4.73	-43.49%
15	TH International Ltd	3.82%	4.56	1.18	-32.57%
16	Better Home & Finance Holding Co	3.81%	11.38	0.47	-42.18%
17	Scilex Holding Co	3.67%	3.82	1.35	-33.82%
18	Lanvin Group Holdings Ltd	3.64%	2.93	1.75	-40.68%
19	Zura Bio Ltd	3.43%	1.57	3.08	-34.05%
20	LanzaTech Global Inc	3.35%	1.75	2.69	-46.52%
21	Orchestra BioMed Holdings Inc	3.31%	0.88	5.30	-41.95%
22	Lavoro Ltd	2.96%	0.76	5.45	-38.17%
23	Amprius Technologies Inc	2.90%	1.51	2.70	0.00%
24	Livewire Group Inc	2.69%	0.59	6.48	-42.71%
25	Beneficient	0.92%	21.19	0.06	-87.37%

Source: Bloomberg

Appendix B

IPO and SPAC Issuances

The table below reflects the number of IPO and SPAC issuances between 2021 and 2023, separated by month.

Monthly and Total IPO and SPAC Issuances (1/4/2021-12/29/2023)

	IPO				SPAC			
	2021	**2022**	**2023**	**Total**	**2021**	**2022**	**2023**	**Total**
Jan	26	12	11	49	96	12	0	**108**
Feb	28	3	3	34	144	1	3	**148**
Mar	45	5	2	52	68	6	2	**76**
Apr	29	15	5	49	21	7	0	**28**
May	37	1	7	45	15	4	2	**21**
Jun	46	3	7	56	23	4	1	**28**
Jul	39	2	5	46	27	1	2	**30**
Aug	24	3	5	32	17	0	1	**18**
Sep	35	11	3	49	25	2	0	**27**
Oct	40	5	4	49	35	1	2	**38**
Nov	20	4	1	25	38	3	1	**42**
Dec	15	0	0	15	17	2	0	**19**
Total	**384**	**64**	**53**	**501**	**526**	**43**	**14**	**583**

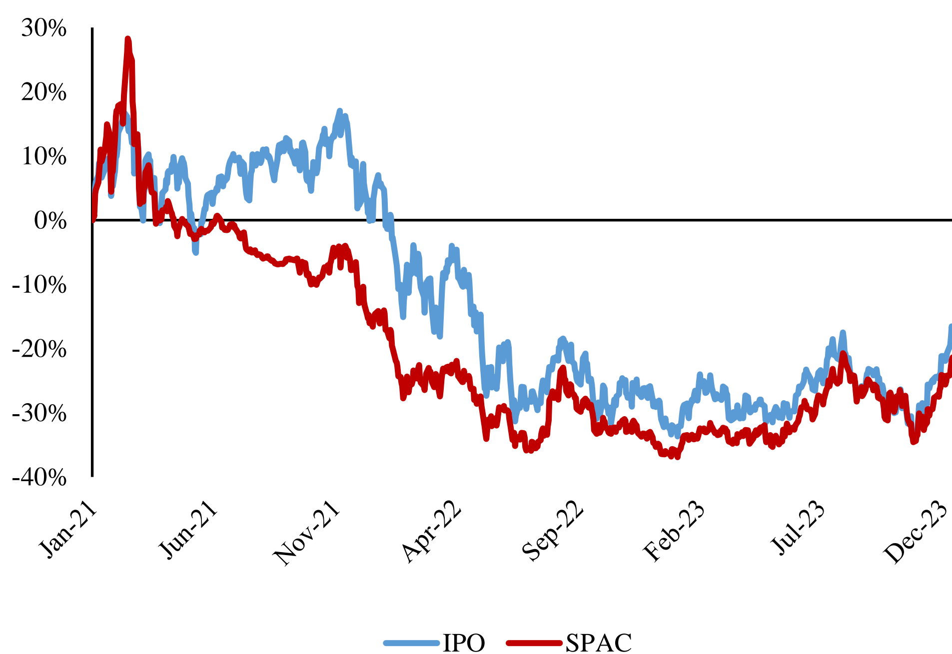
Source: Bloomberg

Appendix C

Overall Index Performance

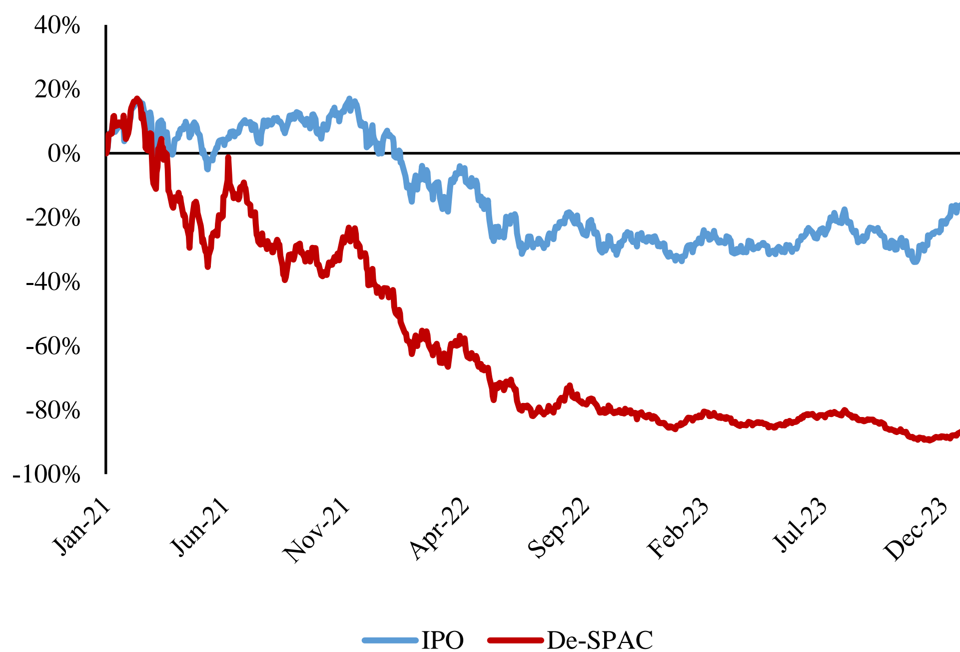
The graphs below depict overall performance (for the time period between 2021 and 2023) and compare the IPXO Index with the SPAC Index and De-SPAC Index.

IPXO Index and SPAC Index Performance (1/4/2021-12/29/2023)



Source: Bloomberg

IPXO Index and De-SPAC Index Performance (1/4/2021-12/29/2023)



Source: Bloomberg

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EDUCATION

The Pennsylvania State University | Schreyer Honors College | Paterno Fellows Program — **University Park, PA**
Smeal College of Business | B.S. Finance — Class of May 2024
College of the Liberal Arts | B.S. Economics, Minor in German

RELEVANT EXPERIENCE

Lazard Frères & Co. — **Chicago, IL**
Incoming Investment Banking Analyst | Restructuring & Liability Management — *Jul 2024*
Investment Banking Summer Analyst | Restructuring & Liability Management — *Summer 2023*

- Analyzed distressed companies' capital structures, trading performance, and debtholders by compiling relevant research reports, news, financials, and transactions to identify 10+ potential clients in the consumer, industrials, and real estate sectors
- Proposed a liability management transaction for a multi-billion-dollar telecommunications company that involved an analysis of 5 possible solutions including an uptier exchange, an amend & extend, a drop-down, a refinancing, and a bankruptcy

Bank of America — **New York, NY**
Global Capital Markets Summer Analyst | Equity Capital Markets — *Summer 2022*

- Assisted with the pricing of several convertible bonds and compiled presentation slides, pricing models, and profit analyses for the Strategic Equity Solutions Group (SESG)
- Performed extensive research on companies and investor targeting within the Financial Institutions Group (FIG)
- Created a pitch for the Consumer & Retail Group involving the timeline, pricing, and roadshow for an IPO

Leveraged Lion Capital — **University Park, PA**
Chief Investment Officer — *Jan 2023 – Dec 2023*

- Monitored the high yield debt capital markets in order to provide insight into trends surrounding topics such as spreads, transaction types and structures, leverage, and covenants in the organization's monthly reports
- Directed 4 teams of portfolio managers as the organization's first participants in an external credit pitch competition hosted by T. Rowe Price and created an original research report template
- Determined and reevaluated portfolio allocations for the organization's 8 sectors by assisting lead analysts in picking and analyzing potential investments
- Instituted and spearheaded the LLC Women's Program to strengthen relationships between female members and recruit strong female candidates for the organization through female-only social events and interview preparation sessions

Director of Outreach — *Jul 2022 – Dec 2022*

- Established and supervised the New Associate Training Program to help new members of the organization become familiar with fixed income, sector pitches, attention to detail, formatting, and networking
- Recruited and introduced the organization to prospective members by leading outreach events and the Involvement Fair
- Facilitated communication between the organization and prospective members by sending weekly emails
- Managed the organization's website and social media pages for announcements and other important updates

Director of Education — *Jan 2022 – Jun 2022*

- Presented bi-weekly presentations to the organization about a variety of topics including bankruptcies, covenants, fixed income, and valuation in order to prepare members for interviews and Wall Street careers

Analyst | Consumer & Retail, Healthcare — *Jan 2021 – Dec 2021*

- Pitched Traeger's 2028 Term Loan B, Energizer's 2029 Sr Unsecured Notes, and Party City's 2026 1L Secured Notes
- Interviewed and selected for the nation's first student-run syndicated paper loan and high yield bond portfolio partnered with Bank of America Merrill Lynch, the Loan Syndications and Trading Association, and S&P Global

OTHER INVOLVEMENT

Penn State Finance Society — **University Park, PA**
President — *Jan 2022 – Dec 2022*

- Managed the organization's executive board by delegating work for weekly meetings, involvement fairs, recruiting events, resume and LinkedIn workshops, and speaker sessions
- Directed the general operations of the organization by planning new projects, including the addition of weekly newsletters and partnerships with other organizations

ADDITIONAL INFORMATION

Skills: Mandarin Chinese (proficient in speaking), German (proficient), Microsoft Office, Bloomberg
Interests: bubble tea, chess, Formula 1, *Harry Potter*, learning new languages, mahjong, piano, soccer, *Suits*