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Course of Financial Statement Analysis

Quotation through SPACs: impact on returns in the capital market

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INDEX

Annex and a summary are provided at the end of the paper.

1. INTRODUCTION

1.1. Overview and Background

Special Purpose Acquisition Companies are shell companies constituting an element for different financial purposes since they can be defined as investment vehicles, particular kinds of funds or alternative methods for quotation. The work focuses on the third perspective among the ones cited above, going deeply in detail of SPACs' lifecycle, analysing the process of research of a target company to be acquired and the quotation of it.

A Special Purpose Acquisition Company is a company created by a group of investors with the aim to put together resources to acquire another company, to which is common to refer as "target company". After the constitution, the SPAC will in fact become a company listed on the stock exchange market through a common IPO, in order to raise capital in the public market with the aim to finalize its business plan. At this stage, the SPAC starts to implement its strategy to compute its business plan, which is aimed at the finalization of a so called "business combination".

SPACs were born in the '90s in the United States as an evolution of blank check companies, after the promulgation of Sec Rule 419, issued in order to limit the frauds and manipulation that were happening due to blank check companies. SPACs have been a legitimate and positive evolution of that financial instrument, complying with all market regulations. During the history, two waves of SPACs can be defined: the first one, belonging to the last years of the 20th century and the second one, starting at the beginning of the 21st Century, when EarlyBirdCapital, the investment bank of David Naussbaum, launched a second generation of Special purpose acquisition companies in the market. From that moment onward, SPACs became more and more popular among the public, private and institutional investors, becoming an alternative tool for companies to raise capital and to enter in the public market, and for investors to gain returns. More precisely, since 2003, in the US market, more and more SPACs are demonstrating to be successful, given that most of them have finalized or disclosed an acquisition. In Italy, SPACs started to be present only ten years later, in 2011, when the shell company Italy 1 investment was founded and listed on the market, in order to acquire an operating target firm. From that moment, around 30 SPACs have been created in the past years, 11 of which have completed a business combination within 31/12/2018.

1.2 Analysis presentation and objective

The proposed analysis is divided in two parts: a first, qualitative approach will introduce SPACs, while a second quantitative part will focus on the performances of this kind of companies in the capital markets. In particular, in the first part, a clear definition of Special Purpose Acquisition Companies will be introduced, preceded by an overview on how companies can obtain access to the capital markets. Later, the financial characteristics of SPACs will be analysed in detail, followed by the presentation of their way to operate over their entire lifecycle. Later, the development of this kind of companies will be analysed deeply in detail, looking at the connection between history and legislation, both in the United States and in Italy.

The quantitative part, instead, will involve Italian SPACs and it will mostly focus on share prices and shareholder returns, analysing the impact of SPACs as a tool for listing operating companies in the capital market, in the short-term and in the middle-long term. Many periods and events will be taken into consideration, such as the day of the IPO of the special purpose acquisition companies, the business combination with the target one and the overall period from their business combination to the predetermined date 31/12/2018. In addition, the analysis considers cumulative abnormal returns, which will be defined and analysed in the latest part of this paper. The aim is to understand whether SPACs can be considered alternatives to IPO and to detect their performance against the market and against other companies listed through common initial public offerings.

2. HOW TO BECOME A LISTED COMPANY

Companies that want to grow expanding their operations or simply to develop their strategies, need to raise capital to be able to meet all the costs presented by their business plans. To do so, they can gain access to the public capital markets, both debt and equity ones, where firms can obtain a contact with a broad range of investors. There is a fundamental prerequisite for a company to raise capital through the public capital market: being public. A company has different possibilities through which to become listed on a market.

2.1. Traditional procedures

The traditional way to become a public company and to have access to the public capital market is the Initial Public Offering (IPO), with which the company is, for the first time, exposed to

the public market. This means that from that moment onward, every investor can buy its shares, that are traded on a so-called “Stock exchange market”, or on the so-called “Over the counter market (OTC)” or in other less popular markets, such as the third and the fourth markets. Needless to say, to implement an IPO process, a company has to satisfy some requisites according to the regulations under which the market in which it desires to enter operates. The IPO is the most common way for a company to go public.

A similar procedure to the traditional IPO process is the so-called “Direct Listing Process (DLP)”. The procedure adopted by the company to get listed is very similar in an IPO and in a DLP, but there is an important difference: on one hand, in the IPO process, the shares of the company are managed by some underwriters, which are in charge of the success of the operation by ensuring that the shares will be placed in the market in exchange of some commissions; on the other hand, the DLP does not imply this passage. For this reason, small companies, which do not have the resources to face the costs of the underwriting, typically go public through the DLP procedure. This is the case, in fact, of small companies like small-medium enterprises or start-ups, typical, for example, of the Italian economy.

There exist several kinds of different IPOs, like for example the book building offering, the fixed price offering and so on. They are all similar among each other.

2.2. Alternative procedures

The two methods described above can be thought of as two of the very common ways for a company to gain access to the capital markets. They are common, but they are not the only options available for a company to get public. In fact, despite the Initial Public Offerings are the most used approach to become a public company, there are other different processes to become listed. Several ways to go public, which differ substantially from the IPO and its several forms, require some kinds of M&A transactions.

Among all the other M&A alternatives, an interesting method is represented by the “Reverse Mergers”. A reverse merger is a merger which has as a consequence the quotation of a private company. More specifically, the private company is acquired by the publicly traded company, which is called “shell company”; in reality, the opposite can also happen: the private company can buy the shell one and be listed in the market through this operation. The shell company is usually constituted by some investors who make it listed through an ordinary IPO. Later, this

company will merge with an operating private one, called “target company”, with the implication to make the target company listed, even without a dedicated IPO.

In this category of alternatives for becoming listed can be classified the main topic of this work: the “Special Purpose Acquisition Companies”, commonly known as “SPACs”, which will be introduced in the next chapter.

2.3. Reverse mergers’ characteristics

To understand the reverse merger procedure, it is useful to describe the characteristics of the shell company, first of all. The nature of the shell can be voluntary, when investors create it with the aim to identify a target company and to merge with it; another reason why a shell company exists is as a consequence of the liquidation of all the assets and operations of an already public company, which keeps being traded on a public market and, since it has no longer any activity, it is transformed in a shell company. In both the cases, the main financial characteristic that needs to be underlined is the fact that the balance sheet of the shell company is simple. In the balance sheet, in fact, most of the assets are constituted by cash and cash equivalents, since the company does not have any operating activity.

To be defined as a reverse merger, the procedure has to follow some requisites. First, the acquisition of the operating company must be at least of the 80% of the shares. This means that the operating company is almost under the total control of the shareholders of the shell company. Another requisite is that the merger needs the approval of the shell’s shareholders meeting, happening prior the operation (Sjostrom K., 2008, pp. 743 – 757).

In the merger, what effectively happens is that the shareholders of the target company receive a majority position in the shell company, becoming the controllers of it, while the founders of the shell receive shares of the target. Because of the merger, usually, assets and liabilities of the target belong to the shell company and managers of the neo-public company substitute the ones of the shell company, (Sjostrom K., 2008, pp. 743 – 757). In simpler words, the overall result of the merger is that the target company has been incorporated by the shell company becoming now public, but its core business and activities do not change after access to the public capital market. From the moment of the acquisition onward, the name of the new public company is usually the one of the target, and the name of the shell company expires. Moreover, the shareholders of the shell company become shareholders of the target company.

Reverse mergers present some advantages in comparison to the traditional IPOs: they are faster since they are not subject to the review made by the commission of the competent market, they imply less legal costs and transaction costs, they are less subject to fluctuations due to market's conditions and they require less effort to the managers of the private company to complete the process of quotation. Despite the advantages, reverse mergers also present some disadvantages for acquirers, who may have to deal with asymmetry information, risks and uncertainty (Cumming, D., Haß L. and Schweizer, D, 2012).

3. AN ALTERNATIVE QUOTATION METHOD: THE SPAC

As anticipated in the previous chapter, the SPAC is an instrument useful to implement an alternative quotation method that can be incorporated in the category of the reverse mergers. The procedure to make a company listed by a SPAC, can be defined as a kind of reverse merger because of most of its characteristics. In fact, it entails the constitution of a shell company in order to merge with a target one. The special purpose acquisition company can be indeed seen as a shell company and its way of operating is in line with the reverse mergers' procedure. These characteristics will be deeply described in the next paragraphs.

3.1 Definition of SPAC: why they are tools for a reverse merger

A Special Purpose Acquisition Company is a company created by a group of investors called "Sponsors" with the aim to put together resources to acquire another company, to which is common to refer as "target company". After the constitution, the SPAC will in fact become a company listed on the stock exchange market through a common IPO, in order to raise capital in the public market with the aim to finalize its business plan. The business plan of the SPAC, indeed, is to use the raised resources to purchase a private company (the target) and make it listed (Riemer, D. S., 2007). This process is called "business combination".

From the definition, it is possible to individuate a first element that allows to categorize the SPACs as a tool for a reverse merger. In fact, the aim of the investors who create a SPAC is the same as the aim of a reverse merger: the acquisition of a private company.

SPACs are commonly known as shell companies, since they are investment vehicles more than actual companies with an operating plan. A financial characteristic that allows to categorize SPACs as shell companies derives from the analysis of their financial statements, since they have mostly cash and liquidity in their balance sheets and, as already said, they do not have any

operating activity. Again, being shell companies underlies the fact that the SPACs are one of those companies created to complete a reverse merger. Another common way to look at the shell companies, given that they have no business plans other than investing in an operating company, is to refer to these shell companies calling them “blank check companies”.

Once the SPAC is listed on a stock exchange through an IPO, the shareholders who own fractions of the company will amount at a number greater than the one that originally composed the initial investors. Despite this fact, the original investors, even keeping being shareholders, are also managers of the company. After the quotation, managers have 18 to 24 months to identify a target company and to merge with it; in the merger, the acquisition is usually of at least the 80% of the target company. The period within which the merger has to be finalized is defined by the managers themselves in order to protect their investors, rather than by some legislations or rules under which SPACs operate. If the self-requirement is not met, the shell company will be liquidated (Hale L. M., 2007, pp. 67 - 74). Again, from its way of operating, it is possible to classify a SPAC as a tool for a reverse merger.

3.2. SPACs’ characteristics

In the previous paragraph, one of the most relevant characteristics of the SPACs has already been anticipated: the absence of operating activities. This means that the only analysis that should be run to understand the structure of the shell companies is about their financial side.

First, it is useful to describe the IPO’s characteristics. Usually, at the moment of the SPAC’s IPO, the offered unit involves one or more shares and one or more warrants for share. This implies that the public acquirer immediately buys a number of units composed by a small number of shares and the right to purchase in the future other shares of the SPAC at a fixed price within a predetermined period. Usually, the offering is settled at a price between $6 and $10 per unit. The shares and the warrants are sold together for a period of 3 months; after that, they start to trade separately in the stock exchange market (Boehm, S. and Friedberg, H., 2008). In the case of the SPACs, the warrant is not exercisable until the moment of the business combination or one year after the effective date of the IPO. The exercise period, instead, usually ends after 3 to 5 years from the IPO. Another characteristic of the warrant is that it is callable by the company within the exercise period at a predetermined price (Hale L. M., 2007, pp. 67 - 74).

Usually, the IPO process is preceded by a sales session addressed to the executives of the SPAC, who are allowed to purchase up to the 20% of the company's equity. The other 80% is offered to public investors in the equity capital market. Moreover, the founders of the SPAC have some price advantages in buying shares and warrants at the moment of the IPO; as a consequence, they are expected to own a relevant part of the equity of the SPAC. These two characteristics represent a sort of managerial incentives since on one hand, the executives, being also shareholders of the SPAC, have interests in finding the best business combination to finalize; on the other hand, the founders, having in their hands the warrants from which they can obtain high returns, will be incentivized in effectively find the best target company. As a consequence, the agency problem between public shareholders and founders and executives is minimized (Lewellen, S., 2009).

After the IPO, the company should have raised the needed capital to finalize the business combination. For this reason, at least the 90% of the proceeds derived from the IPO is kept in a deposit institution account from which the financial resources will be taken to acquire or to merge with the target company at the moment of the business combination. The collected resources constituting this account are usually invested in short-term government securities until the moment of the combination. The interests gain from these investments, together with the other 10% of the proceeds from the IPO, is used to pay the expenses that arise during the life of the SPAC, such as legal expenses, cost for building (mostly offices), employees' salaries and so on (K. Sjostrom, 2008, p.757).

3.3. Example of a SPAC's financial statement: comments

The conclusion that can be derived from the characteristics of the special purpose acquisition companies described above is that their balance sheets are mainly composed by the financial side, leaving a very small space for the operating side. More precisely, the majority of the financial side of the balance sheets of these shell companies is composed by liquidity and short-term investments, since approximately the 90%-95% of it is dedicated to investment in government short-term securities.

The income statements of SPACs, moreover, are mostly affected by costs related to the main activity of the company, that is, the research of an opportunity of investment; the other item that influences the SPACs' income statement are financial incomes and expenses derived from the short-term investment described in the previous paragraph and from other operations needed to comply with the regulations about the blank check companies.

Comments of a practice example regarding the financial statement of a SPAC are presented below. The company taken as example is SPACE 1, an Italian vehicle constituted in October 2013 by Italian investors (such as Gianni Mion, Roberto Italia and others). The company has been listed trough an IPO on the 13th December 2013, distributing 13.000.000 shares for a price of 10€ per share. Together with the shares, warrants have been distributed to shareholders with a ratio 2:3 (2 warrants every 3 shares). Moreover, 435.000 special shares have been issued to private shareholders with the same price. The SPAC identified as target company an international leader in the production of instruments used in graphic activities, such as pens, pencils, colours and so on: FILA. The business combination took place in January 2015.

SPACE 1 BALANCE SHEET FOR YEARS 2013 AND 2014: COMMENTS[1]

As anticipated above, it can be stated that the majority of the total of both the sides is determined by financial elements, leaving less relevance to the operating ones.

To better understand this concept, considering the liability side of the balance sheet of the company, it is noticeable how it has deposited in an escrow account the 99% of the resources collected by the IPO, equal to an amount close to 129.000.000€ in 2013. In the balance sheet, this value is represented by the items "cash and cash equivalents" and "short-term investments". In year 2014, this amount increased thanks to the interests gained from the short-term investments. The other 1% represents the available resources to the research for a target company and for the expenses related to the SPAC's business plan.

To complete the explanation of the net financial position of the SPAC, in the balance sheet there is the item "fair value for options", which represents the value of the shares that can be sold from the shareholders before the business combination with the target company. The maximum shares that can be sold is the 33% of the total and if this percentage is overcome, the SPAC could be liquidated.

The other part of the liabilities side of the balance sheet is the Equity part, which is simply derived by difference between the total assets and the net financial position.

Considering the asset side of the balance sheet, it is important to stress that the item "Other current assets (net)" of SPACE 1, which represents the majority of the asset side of the balance sheet (91% in 2014 and 96% in 2013), is almost entirely composed by the outstanding warrants of the firm, which are financial instruments. In 2013 warrants composed 5.300.000€ while the

[1] *Table providing the Balance Sheet of SPACE 1 is provided in the ANNEX.*

other 2.600.000€ represented the highest possible value of the commissions owned to banks. The commissions' value decreased in 2014 as a consequence of changes in the agreement with the banks.

Another element that can reflect the irrelevance of the operating activities of the SPAC can be derived looking at the other operating items: accounts receivable, accounts payable and other long-term assets. These values, which derive from the operating activity of the company, are very low compared to the total asset.

SPACE 1 INCOME STATEMENT FOR YEAR 2013 AND 2014: COMMENTS[2]

The income statement of SPACE 1 is useful to understand from which activities the expenses or gains of SPACs before the business combination come from. Considering the income statement of SPACE 1, it can be stated that, since the company has been constituted in October 2013, during that year there have been few operations.

In the case of SPACE 1, the revenues of the SPAC derive from the fact that it leaves to a third part the faculty of using a portion of its physical space in exchange of money.

The item "costs", which generally in financial statements refers to the cost of the core activity of the company, is composed in 2013 by expenses related to the IPO process, happened on the 13th December 2013; in 2014, it is related to the main activity of the SPAC, which is the research for a target company to merge with. Other costs that constitute this item are labour costs, which are related to the key objective of the company as well. Labour costs, in the case of SPACE 1, are almost irrelevant.

Revenues and costs are the items that impact the Gross Operating Margin. Consequently, in the case of SPACs, it can be stated that the Gross Operating Margin is influenced by costs related to the main activity of the company, that is, the research for a business combination.

After the Gross Operating Margin, Amortization and Depreciation are usually taken into consideration to derive the Earnings Before Interests and Taxes. In year 2013, amortization of SPACE 1 have been zero, while in 2014, they are related to the research for a business combination and, since their values are low, they are almost irrelevant for the calculation of the Earnings Before Interests and Taxes.

[2] *Table providing the Income Statement of SPACE 1 is provided in the ANNEX.*

After computing the Operating Profit, the interests paid or gained are considered in order to compute the Earnings Before Taxes. In the case of SPACE 1, the net financial incomes are related to the fair value of the market warrants and to the interests gained from short-term investments.

Later, the only adjustment that needs to be made to derive the net income is the subtraction of taxes, which is zero in case of SPACE 1.

The conclusion that can be derived from this practical example is that the main expenses or gains of investment vehicles are financial income or expenses and the expenses needed for the implementation of the business plan, that is, the research of the most attractive business combination. The provided example is useful to give a practice match to the financial characteristics of the special purpose acquisition companies presented in the previous paragraphs.

3.4. Lifecycle of the SPACs

As previously anticipated, the SPAC is an investment vehicle more than a company. Despite this, from the point of view of the physical characteristics, the SPAC is constituted like it were a normal firm. A difference between SPACs and ordinary companies arises in the subject of legislation, which will be discussed later in a dedicated chapter. The lifecycle of a SPAC can be easily divided into 3 main phases after the constitution: No target, Target found and Acquisition completed (or Withdrawn and Liquidation).

The constitution is thought and implemented by some individuals or organizations, the so-called sponsors, whose aim is to create an investment opportunity to generate attractive returns for investors (Berger, R., 2008, p. 68 - 75). During the constitution, sponsors will put together the resources needed to face with the IPO expenses, which is the next step of a SPAC lifecycle. In the period between the constitution and the IPO, the main activity of SPAC's managers is the preparation for entering in the market. A key determinant of the success of the IPO is the reputation of the managers, since, being the SPAC a company made only by cash, the only asset that can be evaluated by investors is the management team. Based on the analysis and information on managers, in fact, investors decide whether to invest in that SPAC or not (Avery, H., 2006).

An important fact is that, even though the final aim is to merge with an operating company, SPAC's managers do not know the target company at the moment of the constitution.

1. NO TARGET

   The main steps in this phase, after the constitution, are:

   - the quotation in the market;
   - the research of a target company, including the due diligence;
   - the negotiation of the transaction;
   - the agreement with the target company.

   Once the SPAC has been constituted, it will undertake the process of quotation trough a traditional IPO, in order to raise the needed capital to finalize the business combination. From this moment onward, managers usually have a period lasting between 18 and 24 months to individuate a target company and to conclude the merger with it. If the business combination does not happen, the consequence will be the liquidation of the SPAC.

   During the period following the IPO and preceding the acquisition (or liquidation), managers will implement a research for an investment opportunity, making use of all the techniques characterizing a M&A strategy, such as the due diligence. After the individuation of the target company, managers will negotiate with it in matter of transaction until they find an agreement with managers of the target company.

2. TARGET FOUND

   The main steps in this phase are:

   - the sending of the letter of intent;
   - the announcement of the business combination;
   - the shareholder meeting for the approval of the business combination.

   In phase 2, when an agreement between the managers of the SPAC and the ones of the target company has been found, the letter of intent will be sent to the shareholders of the target. After that, the announcement for the business combination will be disclosed. In the period between the announcement and the acquisition, in order to finalize the business combination, the approval of the shareholders is needed; for this reason, a meeting between managers and shareholders will take place before the eventual merger. During the meeting, shareholders can vote for the combination or against it. To be approved, the acquisition needs to reach the majority of the votes (50%) and that the fraction of shareholders that exercised the right of

withdrawal must not exceed a threshold defined by the prospectus of the SPAC, usually between 20% and 40% (Cumming, D., Haß L. and Schweizer, D, 2012).

3. ACQUISITION COMPLETED OR WITHDRAWN AND LIQUIDATION

If the shareholder meeting approves the acquisition, the main steps in this phase are:

- the finalization of the business combination with all the consequences (change of SPAC's name, the adoption of the activities of the target and so on);
- the liquidation of shareholders who voted against the business combination;

If the shareholder meeting does not approve the acquisition:

- if the available time is enough, repeat step 2;
- otherwise, the liquidation of all the shareholders will take place.

In phase 3, there may be two scenarios: the approval for the business combination or the disapproval for it. In the first case, the acquisition will take place and, consequently, shareholders who voted against the combination are liquidated with the resources the SPAC was keeping in the deposit institution account and will no longer be part of the shareholders of the SPAC. The other part of the shareholders, instead, will become stockholders of the target company, since from this moment onward, the original SPAC will usually adopt the name and the activities of the target company, which become a public firm. The conclusion is that from this moment the SPAC is an operating company and not only an investment vehicle as it was at the origin.

In the second scenario, instead, two evolutions of the situation can happen, depending on how much time has passed since the moment of the SPAC's initial public offering. In other words, if 24 months from the IPO are not passed yet, and if there is still enough time, the managers will repeat all the procedure to individuate a new target company and another business combination is still possible. If, instead, the time for the managers to implement a new combination is over, the liquidation of the SPAC will take place. In this case, all the collected resources and the interests earned by investing in short-term government securities are distributed among SPAC's shareholders and the warrants owned by them become worthless (Cumming, D., Haß L. and Schweizer, D., 2012).

3.5. SPAC as an alternative tool for private equity

Thanks to the description of the SPAC and its lifecycle, and after stating that a SPAC is a tool for a reverse merger, it is deductible how it can be also considered a tool for M&A activities. More specifically, SPAC can be viewed as an alternative tool for private equity. Private equity, in fact, is an activity started in the 19th century that entails investing resources in a firm that is not listed on a stock exchange with the aim to contribute to the development of the firm in a time horizon of, in most of the cases, 5 years. Usually, institutional investors, private equity funds, hedge funds, banks, high-net-worth-individuals (individuals with a huge amount of capital) are the main players of private equity.

Several activities of private equity could be explained, but, since the focus of the thesis is SPAC rather than private equity, only the relationship between them will be stressed, focusing on the similarities and differences among them.

The main similarities between SPAC and a private equity fund are:

- the investment goal
- the target
- the reputation of the managers
- the limited time of their life
- the active participation of the managers in the investment.
- compensation to managers

From the definition of private equity, it is possible to identify a first similarity between SPAC and private equity: they both invest in private company. So, the investment goal of both is definable as the same goal.

The target company for SPACs and private equity funds has similar characteristics. In particular, to be attractive, a target company has to present, among other things, a strong management team: SPACs and funds decide the company in which invest also analysing the reputation of the managers of that company. The target company for a private equity investment should have, together with other characteristics, a strong management team. In fact, significant due diligence effort is spent in evaluating the management of the target company. Important are also the potential growth of the company and the market position, that has to be strong.

As anticipated previously, the reputation of the managers plays an important role in the successfulness of the SPAC's IPO, since investors are only interested in their skills, given that they're the only asset of the company until they reach a business combination. The same can be stated for private equity funds: investors decide whether to put resources into a fund rather

than in another one based on the results of the fund, which reflects the ability of the managers in creating advantages returns.

Despite private equity funds' and SPACs' lives are different in terms of length, they are similar in terms of their construction. From the moment of its constitution, a SPAC can last for 18 months and another period of 6 months can be added. After this period, if the business combination has not been finalized, the liquidation will take place. Similarly, a private equity fund usually lasts for 10 years with the possibility to be extended for 3 more years (Rodrigues, U., 2011).

Managers of SPAC and of private equity funds are required to invest part of their own resources in the target company, to limit the conflict of interests between investors and managers. Managers, in fact, are also investors. This means that they are involved in the operation and they are incentivized to behave in the most profitable way for the investor.

The managers' compensation in SPACs and private equity funds are similar, despite some differences. Despite managers of both receive, on average, the 20% of the gain received from the operation, there are some differences regarding the way this 20% is given to them. In the case of private equity funds, managers receive their compensation after the realization of the gain. In other words, private equity managers are paid once they sell the target company to other public investors. In the case of SPACs, instead, managers are allowed to buy 20% of the SPACs shares before the IPO. This means that they will gain from the investment only if they find a worthy business combination. In both cases, the way to compensate managers is important to reduce conflict of interests. In fact, managers of private equity funds are incentivized in increasing the value of the target company as much as possible to gain more money; SPAC's managers are incentivized to obtain the approval of the other public SPAC's shareholders for the business combination (Rodrigues, U., 2011).

On the other hand, SPACs and private equity funds present some differences in their way of operating and nature, such as:

- the way to collect money
- the portfolio of the institutions
- the time horizon for the investment
- investors' rights

The way in which SPACs and private equity funds collect money is different simply because, while a private equity fund obtains resources by private investments, a SPAC, once it has been

listed on a stock exchange, gains access to the capital by selling its shares. In other words, if an investor wants to invest her money in a fund, it must do it through a private placement, while if her wants to put her money in a SPAC, she has to buy SPAC's shares.

The portfolios of SPACs and private equity funds differ since on one hand a SPAC only merge with one target, committing a large part of its resources in it; on the other hand, a private equity fund is more used to diversify its investments, acquiring more than one target firm. This is because a SPAC has to invest in the identified acquisition at least the 80% of its shares, leading to an impossibility to take part of another investment.

The time horizon of SPACs and private equity funds are different. A self-requisite of SPACs, in fact, is to identify and to finalize a business combination within 24 months, that is, a very short period. Regarding the private equity activity, the average length of an investment is 5 years, in the sense that, after individuating a target company and putting resources in it, once 5 years has gone, the private equity firm decides to sell it to the public (through an IPO).

Investors' rights are different between private equity funds and SPACs, especially in terms of voice and exit. The former can be explained thinking at an investor who puts some resources in a private equity fund; after she gives some money to the fund, she cannot decide whether to approve or not an investment made by the firm, she only has to trust the managers of the fund and hope they will act in the most profitable way. If she had bought shares of a SPAC, instead, the investor would be able to give her opinion at the moment of the acquisition. As previously anticipated, in fact, in order to finalize a business combination, an approval of the majority of the shareholders is needed. Moreover, even if the threshold for the approval has been reached, investors who voted against it can be liquidated. In other words, once an investor gives money to a SPAC, she can have her money back if she does not like the SPAC's investment strategy (Rodrigues, U., 2011). Regarding exit, which refer to the capacity to get out from an investment, private equity fund does not provide much alternatives. In fact, if an investor wants to not continue with an investment, she might face some costs to get out of it. In the case of SPAC, instead, since the business combination entails that an investor becomes shareholder of the target company, she can easily sell the shares on the market if she wants to, at any moment.

After the analysis of the main similarities and differences between SPACs and private equity funds, it is possible to define SPACs as an alternative tool for private equity, in addition to being an alternative tool for IPOs. Moreover, a SPAC can be an exit strategy for a private equity operation, in the sense that if a company in which a private equity fund invested is not allowed

to become a listed company because it does not meet some requisites, the fund can think about investing in a SPAC and then use it to merge with the target company with the aim to make the target listed, avoiding all the requirements of the legislation and sell all the shares on the public market. Despite this strategy is possible, it is still not simple since, as repeated frequently, the acquisition needs the shareholders' meeting approval.

4. SPACS ORIGINS AND DEVELOPMENT

4.1. The early origins: blank check companies

Historically, literature tends to identify as the original environment of SPACs the United States of America in the 1980s. In reality, SPACs are thought as the evolution of the blank check companies, investment vehicles that have their origins in the South Sea Bubble, in England during the 18th century, and they have been imported in the US in 1920s as "investment trusts" (Graham, B. and Dodd, D., 1934). Not really far from that period, the crisis of 1929 hit the US economy, leading to a decrease in the use of the blank check companies among other financial disasters. Later, in 1980s, in the United States, the investment trusts started to gain relevance again, with the blank check companies listed on the penny stock market, which is a market characterized by stock that trade for less than $5, where fraud and manipulation had a great influence in the prices of the shares (Castelli, T., 2009).

4.2. From 1980 to the new millennium

From year 1980 to year 1898, blank check companies have been the main drivers of frauds and manipulations. During this decade, the size of the security market increased without limits since the number of securities firms almost doubled, the number of investment companies increased by 1½, the number of advisers increased a lot and the number of tender offers increased by 670% (Riemer, D. S., 2007).

Due to the frauds and manipulations that took place thanks to the frequent use of the blank check companies, also claims on frauds increased since more and more investors started to suffer losses of billions of dollars due to illegal transactions, most of them derived from the penny stock market, so that in 1989 the NASAA (North America Securities Administrators

Association) identified in the penny stock the most dangerous frauds vehicle among the securities (Riemer, D. S., 2007).

Therefore, the SEC (Securities and Exchange Commission) decided to create some measures in order to avoid other negative events affecting the financial markets. To do so, it promulgated the rule 419, with which it defined a blank check company a company that:

- "is a development stage company that has no specific business plan or purpose or has indicated that its business plan is to engage in a merger or acquisition with an unidentified company or companies, or other entity or person; and
- Is issuing "penny stock," as defined in Rule 3a51-1 under the Securities Exchange Act of 1934 ("Exchange Act")" (Cornell Law School, 2014).

The promulgation of this law, which will be explained in detail in a following chapter entirely dedicated to the legislation of SPACs, gave a very strong restriction to the use of blank check companies in the US market. For this reason, they were less and less popular until their disappearance.

During the '90s, several attempts to create an instrument similar to blank check companies took place in American markets, without success. The reason of the unsuccessful has probably been the attractiveness of the IPOs is that period (Heyman, D., 2007, pp. 531 - 552). Despite the several failures, between 1993 and 1994, David Nussbaum, who was the chairman of GKN Securities, had the idea to create a new kind of blank check company, and he named it Special Purpose Acquisition Company. Thanks to Nussbaum, SPACs started to develop in the USA as a tool for quotation; when he launched 13 new SPACs, 12 completed an acquisition. His idea of hybrid blank check company was constructed on the fundaments of complying in part with the rule 419, in order to attract investors, and avoiding the same rule for the size of the SPACs, which are much larger than blank check companies, since their assets are in total above 5 million, leading to a price per share higher than the threshold of the penny stock market, where are traded only securities with a price of at most $5 per unit (Riemer, D. S., 2007).

4.3. The second generation

In the 21st century, a new generation of SPACs has been launched on the market. More precisely, in 2003 the second wave of special purpose acquisition companies started. From that moment

onward, in fact, SPACs have started to become more and more popular among public, private and institutional investors, becoming an alternative tool for companies to raise capital and to enter in the public market, and for investors to gain returns. Since 2003, in the US market, more and more SPACs are demonstrating to be successful, given that most of them have finalized or disclosed an acquisition. A proof of the success in given by the fact that, from 2003 to the third quarter of 2007, 59 out of 118 SPACs have announced an acquisition and some of them already finalized it (Boehm, S. and Friedberg, H., 2008). Coming back to the inventor of SPACs, David Nussbaum, an example of one of his successful SPAC can be given referring to "Millstream Acquisition Corporation", a SPAC launched from the Nussbaum's investment bank EarlyBirdCapital. Millstream belongs to this second generation of SPACs since it went public in 2003; it announced a business combination with NationsHelth LCC less than one year later (Rodrigues, U., 2011).

year	Number of IPOs	Average IPO Size ($ million)	Raised capital ($ million)
2018	46	232	10.682
2017	34	295	10.048
2016	13	269	3.499
2015	20	195	3.902
2014	12	146	1.75
2013	10	145	1.447
2012	9	55	491
2011	16	69	1.11
2010	7	72	503
2009	1	36	36
2008	17	226	3.842
2007	66	183	12.093
2006	37	92	3.384
2005	28	76	2.113
2004	12	40	485
2003	1	24	24
Total	**329**	**168**	**55.41**

Table 1. SPACs' data in US from 2003 (spacanalytics.com – 2019).

Table 1. shows that the number of special purpose acquisition companies from 2003 to the earliest days increased exponentially in the US, since 12 SPACs have been listed through IPOs

in 2004, 28 did in 2005, 37 in 2006 and 66 in 2007, which has been the year with the highest number of SPACs' IPOs.

A fact reflecting the success of these investment vehicles is represented by the name of some investors, among the others, such as global investment banks like Merrill Lynch, Deutsche Bank, Lazard Capital Markets and Citigruop (Riemer, D. S., 2007). Up to year 2005, SPACs' shares were traded only on the Over-The-Counter Bulletin Board (OTC-BB) market, but then, the American Stock Exchange (AMEX) and the New York Stock Exchange (NYSE) started to accept SPACs' securities as well. After 2007, the financial crisis had a shattering impact on the international economy, without leaving SPACs as a survivor. Aside from the financial crisis' bracket, SPACs are very popular in the market, in fact, in the US, from 2003, 329 SPACs have been listed, representing a high fraction of the IPOs. Of these 329, as shown in Table 2., on the 14th December 2018 (data when the table has been built), 173 SPACs already completed an acquisition, 15 announced the business combination while 58 were looking for it; 83 SPACs had been liquidated. So, almost 60% of SPAC in the US from 2003 to 2018 completed or were about to finalize a business combination, percentage that underlies the effectiveness of this kind of investment vehicle.

Status	Number	Raised capital ($ million)
Looking for acquisition	58	13.818
Acquisition completed	173	27.043
Acquisition announced	15	3.831
Liquidated	83	10.757
Total	**329**	**55.41**

Table 2. SPACs' situation in US from 2003 to Dec. 2018 (spacanalytics.com – 2019).

4.4. The Italian framework

Needless to say, the development and growth of SPACs have not been a merely characteristic of the American market. Indeed, SPACs diffused their popularity also in Europe. More precisely, the first SPAC that has been listed in Europe is International Metal Enterprises Incorporated, traded from 2005 on the London Stock Exchange AIM Market. In Italy, the first two SPACs have been listed in January and June 2011 and they were respectively Italy 1 investments Sa and Made in Italy 1; the former raised resources for 150.000.000€ and finalized a business

combination with IVS Group in June 2013; the latter raised capital for 50.000.000€ and finalized a business combination with Se.Sa S.p.A. (Ferrando, M. and Galvagni, L., 2018).

Italy has been one of the international powers after the World War Two, but it has suffered and it is suffering an important slowdown after the financial crisis of 2008. A number that should worry Italian people is the decrease of the GDP by almost 9% after 2007 (Codogno, L. and Galli, G., 2018). Italian economy is mostly characterized by small-medium enterprises and, nowadays, start-ups are becoming more and more frequent. Historically, Italian economy is affected by the concept of "familiar firm", which does not allow companies to expand more than certain limits. In Italy, in fact, in most of the cases, the founder of an enterprise wants to keep the control of it, without the risk that outside investors and outside managers might take over the company. Despite this fundament of Italian economy, in order to break the slowdown and to come back as one of the major power in the world, many Italian companies understood that something need to be changed. In fact, from 2011 to 2014, after the crisis though, the structural component of Italian firms started to change, leading to the recovery of economic levels in 2015-2016, even though the number of firms it Italy decrease of 4.6%, 194.000 firms less than the 4 million that were established in Italy prior the changing process. Moreover, as a consequence of the increasingly foreign demand and the decreasingly home demand, more and more Italian firms, started in that period to adopt measures for the internationalization (Istat, 2017).

In this framework characterized by a necessity of grow, SPACs developed also in the Italian economy, since 2011 when the first SPAC has been listed on the Alternative Investments Market (AIM). Up to 2018, in Italy SPACs became frequent given that 27 of them have been listed in the AIM or MIV (Market of Investment Vehicles), for a total of 3 billion of euros raised. The most contribute to this amount derives from a company named Space Holding, which promoted four SPACs that, in total, attracted more than 100 investors for an amount of almost 1 billion of euros (Ferrando, M. and Galvagni, L., 2018).

Most of the SPACs are traded in Italy on the MIV, which has been created by Borsa Italiana and the London Stock Exchange with the aim to provide capital, liquidity and visibility to investment vehicles. In the MIV, other than SPACs, alternative investments funds are traded (both Italians and foreign). In this market, in fact, are traded those investment vehicles that need more flexibility in the investment policy and simpler requisites to be listed. Among the investors, instead, the advantages found in the MIV are the presence of liquidity, transparency and the possibility to invest in a regulated market (Paletta, A., 2018).

Despite this remarkable success, in Italy SPACs are now suffering a kind of crisis, in the sense that they collected probably too much resources and they are finding difficulties in finalizing a business combination. Among the 27 SPACs present in the Italian market, in fact, 15 are still looking for a business combination. The difficulties in finding a target company could be due to the size of the target, which is not large enough to be acquired by a SPAC (given that a SPAC has to put at least 80% of its shares in the acquisition). In fact, it Italy, after an analysis conducted on 200 companies, the average equity is between 80 and 150 million, which may not be enough for a business combination (Ferrando, M. and Galvagni, L., 2018).

As a conclusion, despite Italian framework is characterized mostly by small-medium enterprises and start-ups, the government is trying to promulgate some rules in order to increase the incentives to the development of Italian economy, trying to favour the growth of start-ups and to make the process of quotation simpler, thanks also to SPACs, that are thought an innovative instrument to gain access to the public capital market. In fact, they raised more than 3 billion of euros during these years. From 2011 to 2018, despite there are SPACs that are still looking for a target company, the ones that concluded a business combination have been 12, as shown in Table 3. below (Paletta, A., 2018).

SPAC name	IPO date	Raised capital	Combination date	Target
Italy 1 investment	27/01/2011	150 mn	03/06/2013	IVS Group
SPACE 1	18/12/2013	130 mn	12/11/2015	FILA
SPACE 2	31/07/2015	300 mn	10/04/2017	Avio
Made in Italy 1	27/06/2011	50 mn	22/10/2013	SeSa
Industrial stars of Italy 1	22/07/2013	50 mn	09/07/2015	LU-VE Group
GreenItaly 1	27/12/2013	35 mn	23/12/2015	Prima Vera
Capital for progress 1	04/08/2015	51 mn	29/12/2016	GPI Group
Glenalta Food	10/11/2015	80 mn	13/02/2017	Orsero
Industrial Star of Italy 2	27/05/2016	50.5 mn	20/07/2017	SIT
SPACE 3	05/04/2017	150 mn	04/12/2017	Acquafil
EPS Equita PEP	01/08/2017	150 mn	14/05/2018	ICF Group
Crescita	15/03/2017	130 mn	04/06/2018	Cellularline

Table 3. SPACs that finalized a business combination in Italy

5. THE REGULATION

As anticipated in the previous chapter, the main rule that must be examined is the SEC rule 419, which has been established in 1990 because of the thought that blank check companies were drivers of fraud and manipulation. In reality, the rule has been designated for penny stocks and

not for SPACs, even though it indirectly influenced the latter. In fact, a SPAC, being a shell company, might be a very risky investment if there were no laws for it; in order to avoid risks for shareholders and to provide protection to them, the SPAC's structure complies in part with the rule 419. Before describing in detail rule 419, it is suggested to go through other regulations in the field of blank check companies and penny stocks.

5.1. Definition of Blank check companies and penny stocks

The first rule to examine is the Security Act of 1933 promulgated by the PRSA (Public Relation Society of America), which gives a definition of blank check companies. The rule states that:

> *"the term 'black check company' means any development stage company that is issuing a penny stock and that has no specific business plan or purpose or has indicated that its business plan is to merge with an unidentified company or companies"* (Cornell Law School, 2014).

From the text of this law, it is easy to individuate a link in the nature of SPACs with the nature of blank check companies, since both of them have no operating business plans but the only purpose is to complete a business combination. On the other hand, instead, SPACs can easily avoid being categorized as blank check companies since they only need to issue shares that are not defined as penny stocks to avoid this categorization.

Given the definition of blank check company, is now needed to deeply understand what a penny stock is and which all its regulations are. A definition of penny stock is provided by the PRSA, which in the Security Act of 1934 defined a penny stock as follow:

> *"The term penny stock means any equity security other than a security that is:*
>
> *(i) registered or approved for registration and traded on a national securities exchange that meets such criteria as the Commission shall prescribe by rule or regulation for purposes of this paragraph;*
>
> *(ii) authorized for quotation on an automated quotation system sponsored by a registered securities association, if such system (I) was established and in operation before January 1, 1990, and (II) meets such criteria as the Commission shall prescribe by rule or regulation for purposes of this paragraph;*

(iii) issued by an investment company registered under the Investment Company Act of 1940;

(iv) excluded, on the basis of exceeding a minimum price, net tangible assets of the issuer, or other relevant criteria, from the definition of such term by rule or regulation which the Commission shall prescribe for purposes of this paragraph; or

(v) exempted, in whole or in part, conditionally or unconditionally, from the definition of such term by rule, regulation, or order prescribed by the Commission" (Cornell Law School – 2012).

Among all the commas of the definition given by the PRSA, to the aim of SPACs regulation, the comma (iv) is the most important, since it contains the way with which a SPAC can avoid issuing penny stocks. In fact, a penny stock is traded at maximum of $5 or the maximum value of the net assets of the company that issue the shares is $5 million, if the company is born less than 3 years before the issuing, while the threshold is $2 million in case the company is older than 3 years. Of course, the case of the SPAC is the former since it is listed as soon as the company is constituted, and all the documents are prepared and it only needs to issue shares at more than $5; in fact, usually, SPACs' shares are issued at a price between $6 and $10.

The PRSA, after giving a definition of penny stock, also limited their trading by adding another requisite to the investors: they have to sign a document in which all the risks of investing in penny stocks are described (Murray, J. S., 2011).

5.2. SEC Rule 419

As the history teaches, while before the PRSA regulation blank check companies could trade without strict restrictions, after the regulation a new kind of shell companies was needed, though SPACs have been created. As anticipated at the beginning of the paragraph, SPACs are related to the rule 419 of SEC. In reality, the life of the SPACs is also related to the rules of the market in which they trade; in the US, in addition to the OTC markets, SPACs' securities trade in AMEX, NYSE and NASDAQ, and their characteristics tend to adapt to all the requirements of these regulations.

SEC rule 419 was thought with the aim to reduce fraud and manipulation by adopting some restrictions in the use of the IPO's proceeds and to the acquisition of the target company. More precisely, SEC rule 419 recalls the definition of blank check companies and the one of penny

stocks and then gives some restrictions and limitations to blank check companies. Rule 419 is explained in the next lines.

- 90% of the IPO's proceeds must be kept in an escrow account until the finalization of the business combination. In addition, also resources raised after the IPO must be kept in this account. The escrow account can be an insured depository institution or a separate bank account.
- Two amendments are required prior the business combination: one as soon as the shell company identifies a target for a business combination and one when the shell executes the acquisition agreement. The former must contain the financial statements of the target and pro forma financial information. The latter must contain the prospectus of the acquisition. At this point, investors have from 20 to 45 days to decide whether keep being investors or not. At this stage, the investor who decides not to be a shareholder anymore has the right to receive the value of the initial investment adjusted for interests gained and some expenses (Heyman, D., 2007, pp 531 - 552).
- Regarding the business combination, it has some structural requisites such as the shareholder approval and a minimum size limit. The shareholder's approval derives from the single shareholder who has to explicitly manifest her disapproval for the business combination within 45 business days from the announcement of the business combination. With minimum size limit, instead, rule 419 wants to underlie the fact that, in order to comply with the SEC rule, a business combination has to imply the acquisition of at least 80% of the proceeds derived from the IPO, at the moment of the IPO (Cornell Law School, 2012).
- The shell company has at most 18 months to complete a business combination or to start with the liquidation process.

As anticipated at the beginning of the chapter, SPACs are not the subject to the SEC rule 419, since they avoid being categorized as blank check companies, but for certain aspects they comply with it. SPACs, in fact, still have to keep a certain fraction of the IPO's proceed in an escrow account, still need the shareholder approval regarding the business combination, still have a time limit to complete the combination and still have a minimum size limit.

Despite the part for which they comply with the rule, there are some part for which SPACs avoid it; in some cases, SPACs' characteristics provide even more protection to investors. Most of the SPACs, in fact, after the IPO, keep an amount equal to 95% of the proceeds in an escrow account and not only the 90%. Moreover, SPACs' proceeds must be invested in short-term

government securities. Another difference between SPACs' behaviour and the rule 419 regards the shareholder approval for the business combination. In the case of the SPAC, in fact, is not that every single investor has 45 business days to manifest her disapproval for the combination, but there is an actual shareholder meeting where at most 20% of the investors can say "no" to the acquisition, otherwise it will not take place. Again, prior the shareholder meeting, investors have the redemption right, and it the case they exercise it, they are going to be liquidated. Another difference between shareholders of companies operating entirely under rule 419 and SPACs is that the warrants of the former can be exercised also prior the business combination, while warrants of the latter can only be exercised once the acquisition is completed (Murray, J. S., 2011).

- The last difference between companies operating under the rule 419 and SPACs is about the time limit for the existence of the shell company and the calculation of the minimum size limit to complete a business combination. On one hand, blank check companies, as described by the rule, have 18 months to finalize an acquisition and the size limit, that is 80%, is calculated on the proceeds derived from the IPO; on the other hand, in the case of a SPAC, the time limit is only given as a self-requirement and it is between 18 and 24 months, and the 80% as a minimum limit for the acquisition is computed on the SPAC's net asset at the moment of the acquisition (Heyman, D., 2007, pp 531 - 552).

5.3. Adoption of the SPACs by the market

In the American framework, the markets did not need much time to understand the potential benefits that SPACs could have provide to the economy, thus they adopted some rules aimed at helping the integration of SPACs in the market. Originally, in fact, special purpose acquisition companies were only traded in OTC markets, given that they are less regulated; soon, they started to trade also on exchange, where more quantitative requirements have to be met by the company.

The first market to accept SPACs has been the AMEX, which in 2005 adopted some innovations in its regulation. More precisely, section 101 includes four alternatives for being listed. The first and the second cannot be met by SPACs' characteristics since they are about requirements on income history and operational history, two aspects that SPACs cannot provide since they are almost immediately listed after the constitution, so no history is present. The

other two alternatives are not about history, rather, they regard a minimum size to be listed, and SPACs can easily meet this requirement (Murray, J. S., 2011).

Year 2008 was the round of the NYSE, when it modified its listing rules. Until 2008, in fact, the NYSE had listing rules focused on operating history, as well as the AMEX. From that year, its listing rules changed in order to allow SPACs to be part of the market. In particular, the changes that have been accepted by the SEC were the necessity of a shareholder approval for the business combination and the time limit of 3 years to complete it, otherwise the liquidation would take place. Needless to say, the NYSE adopted some requisites already described in rule 419, so that the integration process of SPACs would have been easier to complete (Murray, J. S., 2011).

In the same year, also NASDAQ modified its listing requirements according to rule 419 and to self-imposed requirements contained in SPACs' statutes. For example, from 2008 onward, a requirement that has to be satisfied to be part of the NASDAQ has become for SPACs the obligation to keep in an escrow account at least the 90% of the proceeds for the IPO. Moreover, another requirement is that at the moment of the business combination, the 80% of the escrow account has to be involved and the time limit for an acquisition is 3 years (Murray, J. S., 2011). It is noticeable how, also in the case of NASDAQ, the new requirements have been studied in a way that allows SPACs to be part of the market without so many complications.

Important to remember is also that, other than the requirements written above, a SPAC that wants to be listed on a market has to comply with the other rules of that market, such as the disclosure of the financial statement.

5.4. The Italian legislation

First of all, it is important to stress the fact that the several Italian markets, which will be introduced later, have some common rules; in Italy, in fact, public companies are under the legislation of the TUF (translated in English "Unique Text of Finance"). One of the most curious fact about the Italian legislation is that a definition of SPAC is not provided. Initially, a problem about compliance of SPACs with the Italian regulation arose. In fact, there are some characteristics of the shell companies that are not in line with the Italian civil code. More precisely, nowadays, one of the discussed points regards the redemption right of shareholders. According to the Italian civil law, art. 2437 comma 1, shareholders of a company (private or public) can exercise the redemption right only in the cases when some events predetermined by

the law take place. These predetermined events are the change in the company's activity derived from a modification of the corporate object, the transformation of the company, the transfer of the registered office abroad, the revocation of the state of liquidation, the elimination of one or more causes of withdrawal, the change in the criteria for determining the value of the share in case of withdrawal and amendments to the bylaws concerning voting or participation rights. Remembering that shareholders of a SPAC can exercise the redemption right whenever they want during the life of the shell company prior the business combination and given that the failure in an acquisition is not categorized as an event predetermined by the law, a discrepancy between the nature of the SPACs and the Italian regulation is noticeable. Another discrepancy between the SPACs' nature and the Italian regulation regards those SPACs that are listed on the MIV, which is the regulated Italian market and will be described later. In fact, a SPAC's shareholder has the right to receive the entire value of her investment if she decides to exercise the redemption right. According to the art 2437 ter of the Italian civil code, instead, there is a specific method to compute the value of the shares which will be given back to the shareholders, that is the arithmetic average of the share price during the previous six months (D'Alvia, D., 2017).

From the two discrepancies discussed above, it is noticeable how the Italian legislation is not completely able to regulate the SPACs. In fact, the lack of a definition for SPACs is the starting point of a lack in a dedicated regulation. In truth, is not only Italy that does not have a legislation for SPACs, but a dedicated legislation does not exist in the whole Europe yet. Despite these difficulties for the Italian legislation to regulate SPACs, some rules under which Italian Special Purpose Acquisition Companies operate derive from the markets in which their securities are traded.

5.5. The Italian market and the relationship with SPACs

The Italian market Borsa Italiana is divided in three main sectors: the Italian Stock Exchange (MTA), the Alternative Investments Market (AIM) and the Market of Investment vehicles (MIV). SPACs are used to be listed in MIV and AIM, for the nature and flexibility of these two markets. For this reason, the paragraph will only analyse the characteristics and requirements of MIV and AIM.

Most of the SPACs, in Italy, are traded on the AIM since it is less strict with the regulation. AIM is a non-regulated market dedicated to small-medium enterprises that are looking for resources to expand their operations. The market demands very simple requisites to a company that wants to be part of it, for this reason it is very attractive for Italian firms, such as SPACs. In December 2018, the listed companies were 114 for a total of raised capital equal to 3.5 million of euros and a total capitalization of more than 7 million (BorsaItaliana.it, n.d.).

Specifically, Table 4. below provides the requisites at the moment of the IPO.

Requirements to be listed on AIM	
Floating	10%
Certified financial statements	1
Capitalization	No requirements
Accounting standards	IAS, ISRF or Italian principles
Investors	Mainly institutional
Documents	Admission document
Website	Mandatory
Advisor	NOMAD

Table 4. Requisites for AIM (BorsaItaliana.it, n.d.)

As Table 4. allows to understand, for a company it is simple to enter in the AIM since a size limit is not required and the needed documentation is really basic, there are no special requirements. Moreover, regarding the accounting standards, the choice for the managers is very broad, since they can choose among three different kinds of principles. The only characteristic that deserves a particular attention is the NOMAD, which is an advisor with the role to support the company during the quotation process and the permanence in the market.

The other market where SPACs' shares are traded is the MIV, which has been created in 2010 as a new segment of Borsa Italiana. MIV is a regulated market mainly dedicated to the Special Investment Vehicles (SIV), among which SPACs can be categorized. In this market, several kinds of investment vehicles are traded, like private equity funds, multi-strategy funds and other investment companies. The MIV represents the first regulated market where securities of special investment vehicles can trade.

Table 5. describes the requisites for a company to be listed on the MIV.

Requirements to be listed on MIV	
Floating	35% for SIVs
Certified financial statements	3
Capitalization	40 million of euros
Accounting standards	IAS
Investors	Institutional
Documents	All the prospectus
Website	Mandatory
Advisor	Sponsor

Table 5. Requisites for MIV (BorsaItaliana.it, n.d.)

As noticeable from a comparison between Table 4. and Table 5., the requirements for a company to enter in the MIV are stricter since the demanded floating is higher, there is a formal requirement for the capitalization and there is no choice for accounting standards. Moreover, the needed documents are more than the ones required by the AIM.

In addition to the requisites cited above, a special investment vehicle (such as SPACs) that wants to be listed on the MIV market has to satisfy also the following:

- The maximum length of the SIV can be 36 months and within that period it has to complete one significant investment, in the sense that the investment has to involve at least the 50% of the firm's assets. Moreover, the period of life of the SIV can be extended only in the case that after 36 months from the constitution, some negotiations for an acquisition are happening.
- Investments' policy of the SIV have to be clear and detailed, in order to be transparent and easily understandable by investors. Moreover, a SIV cannot invest more than 20% of its assets in a hedge fund.
- The proceeds derived from the IPO and other collected resources must be kept into an escrow account.
- At least three components of the management team of a SIV must have matured a three years' experience in the field of investments.
- The SIV has to adopt every measure needed to avoid problems deriving from conflict of interests between shareholders and managers.
- The financial history of the SIV has to exist by at least one year, even though there may be some exemptions conceded by Borsa Italiana under request of the SIV (Gianni, Origoni, Grippo & Partners, 2010).

5.6. Summarizing

Summarizing, the American and the Italian framework present some differences in terms of legislation for the SPACs. On one hand, American rules faced an innovation derived from problems regarding blank check companies. From a necessity of limitation of blank check companies in the American markets, SEC rule 419 borne, with the aim to protect investors. Later, after the more and more popular thought that SPACs are an innovative tool for quotation and for investments, American markets like AMEX, NYSE and NASDAQ, started to change their requirements in order to adopt SPACs, which are more and more popular as alternatives for IPOs. On the other hand, the Italian framework is characterized by a limited ability in giving a definition to SPACs in order to regulate them. Despite this limit, Italy presents two markets where securities of special purpose acquisition companies can trade, allowing them to be present in the Italian market as a tool for quotation.

6. PROS AND CONS FOR THE PLAYERS

From a description of the characteristics, the history and the regulation of SPACs in different frameworks, it is possible to derive advantages and disadvantages for the different players of this world, such as investors, target companies and sponsors. This chapter will describe in detail all these pros and cons in order to understand the effective usefulness of SPACs.

6.1. Pros and cons for investors

From the already discussed characteristics of SPACs, readers already know what the advantages for the investors are. First of all, they are entirely reimbursed in the case that the shell company is not able to finalize a business combination within the length of its life, that is, 24 months (Lenzi, P., 2017). This means that the resources that an investor uses to finance a SPAC are available again for the shareholder after a short period, if the business combination fails.

This is an important advantage since thanks to this mechanism, the shareholder's investment in a SPAC can be considered like a risk-free one, since she will get back the entire value of its investment adjusted for some expenses and interests gained on the short-term investment in government securities made by SPAC's managers. In fact, thanks to the mandatory escrow account where IPO's proceeds have to be kept, the downside risk for an investor is eliminated.

Another advantage for the investors regards the redemption right. Shareholders, in fact, can exercise it at any time, in the case they do not agree with the proposed acquisition made by managers or whether they simply change their mind and want to close their position in the SPAC. Moreover, if they exercise the redemption right, they do not have any cost, but they are fully reimbursed (Lenzi, P. – 2017). The redemption right represents an advantage with respect to investing in a private equity fund; in fact, investing in a SPAC implies having the possibility to manifest a voice against the acquisition, while once an investor has decided to put her money in a fund, she cannot decide to manifest an opposition regarding the way of use of her money.

The investment in a SPAC presents also advantages in terms of performance. In fact, at the moment of the IPO, shares are sold together with warrants, which can be converted in other shares within the period that goes from the business combination to 5 years later (Lenzi, P., 2017). For this reason, the performance of an investor who buy SPACs' shares can be improved.

In terms of goals, instead, it can be stated that the objective of the sponsors and the one of the investors are in line, since for both the parties the priority is to maximize the SPAC's performance. As a consequence, a conflict of interests between managers and investors does not exist or is limited. The lack of agency problem derives from the fact that sponsors invest in the SPACs as well, as anticipated in chapter 3. Furthermore, managers will only be compensated in the case that an acquisition take place and the compensation depends on the performance.

Needless to say, a SPAC does not represent the perfect financial instrument to invest in, since it also carries some disadvantages. First of all, to invest in SPACs' securities a minimum amount of money is needed, and this amount, being not irrelevant (50.000€ in Italy), does not allow all the kinds of investors to be part of it. As a consequence, private investors are almost always excluded by SPACs' securities, which are instead accessible to institutional, expert and wealthy investors.

Other disadvantages are in truth related to a couple of advantages. In order words, for example, if on one hand the fact that managers of a SPAC have a time limit to finalize a business combination is an advantage, on the other hand it can be an obstacle to the individuation of the best target company. In fact, managers, who have the fear to not being able to conclude an acquisition, may be pushed to acquire a target that is not the best one. The acquisition of a target company different than the best one, may reflect in a loss of value for the investors, who are in fact exposed to this risk.

Another disadvantage derives from the fact that it is true that an investor put her resources in a SPAC because it is a riskless investment and she hopes for a business combination which provides high performance, but at the same time, if the business combination is not finalized, the investor earns really low or zero interests. As a consequence, the investor may have earned more interests investing those money into another investment.

6.2. Pros and cons for sponsors

The advantages of the sponsors are very straightforward, in the sense that they can convert in money their experience in the financial fields. In fact, sponsors, being usually experts in subject of finance, can monetize their knowledge by investing a limited amount of money for the SPAC's constitution. The only requisite they have in order to be remunerated is to finalize the business combination. The way in which they earn money, other than the remuneration, is the conversion of their shares. In fact, prior the IPO, managers can buy preferred shares that can be converted into ordinary shares after the business combination, with a ratio of 6:1; in other words, for each special share, six ordinary shares are converted. In reality, the business combination alone is not enough for the managers to convert the shares. In fact, three subsequent increments of the quotation of the target company are needed, in the measure respectively of 10%, 20% and 30% (Lenzi, P., 2017).

The disadvantages for the sponsors can manifest in the case they are not able to identify a target and to merge with it, since in this case, they are not going to be remunerated and they may lose the value of the expenses needed for the process of quotation of the SPAC.

6.3. Pros and cons for targets

As already anticipated, SPACs can be viewed as an alternative tool for the quotation. If in one hand most of the companies decide to gain access to the public capital market through IPOs, on the other hand this alternative instrument is gaining popularity over the years. Needless to say, if SPACs are becoming popular, it means that they must provide advantages for the target company, otherwise a business combination would never happen.

In first place, as already discusses, it can be possible to state that for a private company that wants to become public, implementing the listing process using a SPAC is easier and faster, since it does not need to satisfy markets requisites and forms required by markets' regulations.

As analyzed in chapter 3, a quotation through SPACs can be considered as a reverse merger. Chapter 2 presents some advantages of the reverse mergers with respect to the traditional IPOs: in addition to be not subject to the commissions' reviews, they imply less legal costs and transaction costs and they require less effort to the managers of the private company to complete the process of quotation (Cumming, D., Haß L. and Schweizer, D., 2012).

In addition, adopting this way to become a listed company, allows target's shareholders to negotiate privately the price of the company, without being influenced by financial markets volatility (Lenzi, P., 2017). In fact, SPACs transactions avoid the target being subject to the so called "IPO window"[3].

Moreover, SPACs provide another important advantage for a private company with respect to private equity funds; when managers of a private equity fund decide to invest into a target company, in fact, they usually want to be aggressive against the governance of the target, since they are used to impose their voice and their financial power, which reflects itself into a managerial power due basically to the voting rights. In the case that a SPAC identifies a target company and decides to acquire it, instead, the aggression against the target's governance is irrelevant (Lenzi, P., 2017).

Finally, a target company which decides to finalize a business combination with a SPAC is sure that it will gain important cash resources, given that the SPAC's IPO proceeds must be kept into an escrow account. Again, if the SPAC's IPO obtained success is because of the reputation of the managers, so target's owners know they are going to do business with experienced people.

Of course, the target company will also have some disadvantages. For example, owners of the target company must accept a dilution in their position in the company due to the conversion of warrants and special shares. Moreover, usually, the increase in the value of the target when is listed through a SPAC process is lower than the one reached by an IPO process (Lenzi, P., 2017).

The conclusion of this chapter is that SPACs are an alternative tool for investors and for quotation, and they provide advantages and disadvantages to all the players of SPACs' market.

[3] *IPO window is a period around the IPO process that can be subject to market fluctuations. In fact, in an IPO the timing is very important and choosing the wrong time can make the difference between a successful IPO and a failing one due to market's conditions.*

7. EMPIRICAL ANALYSIS

The aim of the implemented analysis is to compare SPACs returns with market return and to understand if SPACs can be considered as an alternative to IPOs in terms of shares performance. The framework for which the analysis has been finalized is the Italian one.

To discuss the performance of SPACs, the analysis focuses on different periods and key moments from the IPO to 31/12/2018.

The key periods and moments analysed are:

- the first trading day (each SPAC vs sample of 85 IPOs and vs the market)
- the business combination day (each SPAC vs the market)
- the period from the business combination to 31/12/2018 (SPAC vs market return and SPAC vs industry return)
- year 2016
- year 2017
- year 2018

In the first 2 steps, the analysis will focus on the performance of SPACs during one single, significant, day (IPO and Business Combination).

In the last 4 steps, the analysis will define SPAC shareholders' return over the period, comparing it with market return over the period and industry return over the period. In the last 4 periods, a more and more detailed analysis will be implemented. At the beginning, in fact, SPACs will be considered into a unique portfolio that will be compared to the market. Later, the portfolio will be divided according to different industries and finally each SPAC will be evaluated individually.

The final step of the analysis will be to compute the Cumulative Abnormal Return (CAR) for each SPAC, comparing it with the market return and with other companies listed through normal IPO.

Where useful, T-tests will be run to detect if the returns are significantly different.

7.1. Data collection

Data have been mainly collected by the online platform Thomson Reuter Eikon, from which daily returns of SPACs, of the index of the market (FTSE ALL SHARE) and of the industries have been downloaded. Other instruments utilized in order to obtain data are the website of Borsa Italiana, on which the name of all the companies listed through IPO from 2013 to 2018

(needed for the CAR calculation), is accessible. Once all this information has been available, the analysis could have been implemented with personal elaboration.

7.2. Performance analysis

The analysis will provide a comparison between SPACs returns and market returns in different deep levels. It starts comparing SPACs return as an entire security (as they were an index) with the Italian market return in the periods and key moments previously presented. After analysing this, it will focus more on different industries according to the nature of the operating activity of the target company acquire by the SPAC. Finally, a detailed analysis for each SPAC will be provided.

7.3. First day underpricing

The first discussion regards the day of the SPACs' IPO. The analysis focuses on an interesting aspect of the IPO in general. In fact, a common aspect of the quotation of a company through IPO is the so called "IPO under-pricing". The IPO under-pricing is an effect that leads to abnormal returns on the first day of trading of a specific share. More precisely, in Italy, the IPO under-pricing influences the share price of 8.41%, according to an analysis based on a sample of 85 companies listed on the Italian market (Bozzolan, S. and Ipino, E., 2007). This means that at the end of the first day of trading, a buyer would make a profit of 8.17%, on average.

It is natural to expect that SPACs do not differ in this characteristic, given the fact that they are initially listed through a common IPO. Table 6. here below shows the IPO under-pricing for the 11 Italian SPACs analysed in this work.

Spac	Target	Date	IPO day return	Market return in the same day
Italy 1 investment	IVS Group	27/01/2011	-0.20%	1.24%
SPACE 1	FILA	18/12/2013	-1.28%	1.05%
Industrial stars of Italy	LU-VE Group	22/07/2013	-0.30%	0.65%
Made in Italy 1	SeSa	27/06/2011	4.26%	0.61%
SPACE 2	Avio	31/07/2015	0.00%	0.61%
Crescita	Cellularline	15/03/2017	-3.11%	1.10%
SPACE 3	Acquafil	05/04/2017	-0.49%	0.00%
Capital for progress 1	GPI Group	04/08/2015	-1.28%	-0.98%
EPS Equita PEP	ICF Group	01/08/2017	0.39%	0.55%
Glenalta Food	Orsero	10/11/2015	-1.81%	1.38%
Industrial stars of Italy 2	SIT	27/05/2016	-0.20%	-0.08%
AVERAGE			-0.37%	0.56%
MEDIAN			-0.30%	0.61%
MAX			4.26%	1.38%
MIN			-3.11%	-0.98%

Table 6. First day of trading performance

Table 6. provides the result of the first step of the analysis. On average, the first day of trading of SPACs in Italy provides a return of -0.37%, with a median of -0.30%. The maximum return is given by SES (4.26%) while the minimum is given by CELL (-3.11%). It is curios how the 11 SPACs seem not to follow the same behaviour of ordinary firms listed via IPO, as shown in Table 6. A conclusion that can be derived is that, during the first day of trading, SPACs underperform other ordinary companies on the IPO day.

T-Test	
t Stat	-1.565882
P(T<=t) one-tail	0.0706928
P(T<=t) two-tail	0.1413857

Table 7. T-test for IPO day

Table 7. provides the t-test that allows to understand if the returns of SPACs on their IPO day and the return of the market on the same day are statistically different. Since the "t Stat" (-1.57) is not bigger than the absolute term of the "t Critical two-tail", it can be concluded that the two means are not statistically different.

In reality, the fact that ordinary IPOs lead to an under-pricing of 8.17% in Italy while SPACs have a close to zero return, is related to SPACs' characteristics. A question that should arise, in fact, is why SPACs do not provide abnormal returns during the first day of trading, given that they are listed through a common IPO. A possible answer is related to asymmetry information. The under-pricing seems to be related to the fact that investors are not equally informed and the effect of adverse selection takes place (Rock, K., 1896, pp. 187 - 212). Probably, SPACs' IPOs do not lead to such asymmetry information, since there are no investors who can obtain more information than others, given that the target company for a business combination, which is the only business plan of a SPAC, is not disclosed at the IPO moment. The only information available is in fact basic information accessible by each investor, such as the names of the sponsors.

7.4. Business combination day

A second moment that should be interesting to look at is the day when the business combination takes place. On this day, in fact, the merger can influence the share price positively or negatively according to the reputation investors assign to the target company, or to their thoughts about successfulness of the merger. Moreover, the business combination day can be considered as the day in which the access into the market of the target, the operating company, happens.

Table 8. shows the return on the day of the business combination with the appropriate summary statistics. On average, the acquisition of the target company leads to a positive return of 2.12%. The median is 2.06%. Despite the average of the business combination effect does not seem to provide abnormal returns, looking individually at each SPAC, 9 out of 11 overcome the market on the business combination day. More precisely, IVS, FILA, AVIO, CELL, ECNL, ICF, ORS, SIT, GPI have performed better than the market on the day of the business combination, while LU.VE and SES have performed worst. The maximum is given by AVIO (6.60%) and the minimum is given by LU.VE (-1.96%).

SPAC	Date	Business combination day return	Market return in the same day
IVS	03/06/2013	0.15%	-0.86%
FILA	12/11/2015	2.06%	-2.19%
LU.VE	09/07/2015	-1.96%	3.43%
SES	22/10/2013	-1.81%	0.57%
AVIO	10/04/2017	6.60%	-0.40%
CELL	04/06/2018	3.41%	-0.33%
ECNL	04/12/2017	3.68%	1.12%
GPI	29/12/2016	1.46%	-0.17%
ICF	14/05/2018	1.52%	0.22%
ORS	13/02/2017	5.78%	0.99%
SIT	20/07/2017	2.47%	-0.17%
AVERAGE		2.12%	0.20%
MEDIAN		2.06%	-0.17%
MAX		6.60%	3.43%
MIN		-1.96%	-2.19%

Table 8. Business combination statistic

Comparing the quotation of the Special Purpose Acquisition Company and the respectively business combination with the target company, it can be stated that the highest positive effect on the share price is given by the business combination. In fact, an investor who decides to buy shares of SPACs on the business combination day, would obtain a return higher than the market one, differing from it by 200 basis points in a single day.

Table 9. here below presents a t-test in order to understand whether the difference between the mean of the returns of SPACs' target companies and of the market on the day of the business combination is statistically significant. The t-test will both considered a one-tail critical value and a two-tail critical value.

T-Test	
t Stat	2.0742293
P(T<=t) one-tail	0.0278429
P(T<=t) two-tail	0.0556859

Table 9. T-test for business combination' day return

As it is possible to notice, given that the "t Stat" is 2.07, higher than the "t Critical one-tail" (1.75), the test rejects the null hypothesis, resulting in a p-value of 0.02. Consequently, it can be derived that the average return of the target companies is significantly higher than the one of the market. Looking at the p-value of the two-tails test, instead, it is noticeable that it is a

few basis points greater than 0.05. Consequently, if the analysis were using a two-tail test, it would fail to reject the hull hypothesis, leading to the conclusion that the two means are not significantly different.

Since no clear evidence of better performance provided by accessing the market through SPACs has been took into consideration as starting point of this analysis, it is more appropriate to look at the two-tail test. Therefore, it can be concluded that the returns of the target companies on the business combination day is not significantly different than the return of the market in the same day, even though it is higher.

7.5. Over time return

After discussing the return on the IPO day and on the business combination day of each SPAC[4] and concluding that no relevant differences with the market return arise, the analysis proposes to focus on the return of SPACs over the all period following the business combination, considering different periods of time.

As anticipated at the beginning of the chapter, this step of the analysis is composed by three main phases:

- Computation of SPACs' shareholders return from the business combination to 31/12/2018
- Computation of the market return for the same period
- T-test analysis to understand if the differences are significant, where useful.

Moreover, this will be repeated for each industry for which a SPAC is presented in the Italian market, before being repeated for each SPAC individually. Furthermore, the analysis will be divided in the description of years 2016, 2017 and 2018 separately.

7.6. SPACs as a unique entity versus Market: from business combination to 31/12/2018

In order to provide a comparison between SPACs as a unique security and market returns, the analysis propose to evaluate the return of a continuously rebalanced portfolio. In other words, a portfolio created by rebalancing its value at the quotation of each SPAC has been created.

[4] *For simplicity, from now onward, the word "SPAC" refers to the Target company that has been acquired by a special purpose acquisition company.*

After the creation of the portfolio, named "AVERAGE", a comparison with a portfolio constitute by the FTSE ALL SHARE index will be analysed.

This step is the solution to the fact that SPACs do not access the market all on the same date. Because SPACs have not been listed on the same day all together, it would be not the right approach to simply compute the return of each SPAC and calculating the average of the returns. In fact, if this procedure were approached, it would be possible to take into account returns of SPACs that are not listed yet, leading to a distortion of the result[5].

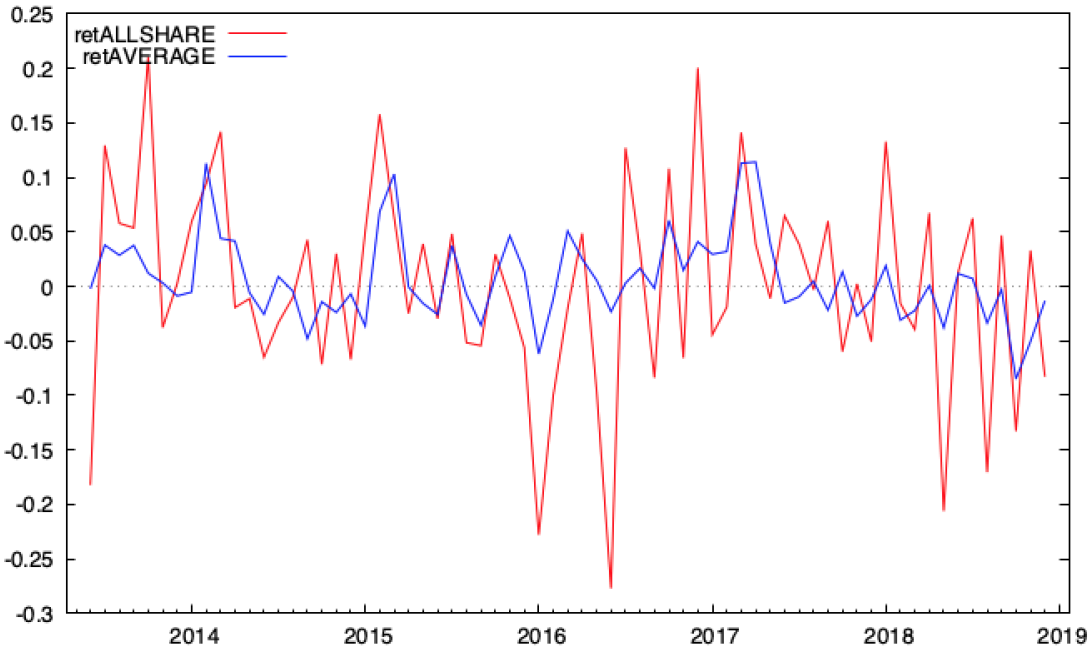

Figure 1. Average return of SPACs versus return of FTSE ALL SHARE (monthly based frequency)

Figure 1. presents a chart that describes a comparison between the returns of the SPACs and the entire market. The line correspondent to retAVERAGE has been created by taking the average of the returns of all the 11 SPACs that completed a business combination in the Italian market, while the line correspondent to retALLSHARE is simply the market return over the period.

[5] *Consider for example that SPAC 1 accesses the market on the 01/01/2018 and SPAC 2 enters into the market on 01/06/2018. In this case, to compute the average return of the two SPACs during the year, it is not the right approach to simply take the average of the returns of the two.*

One of the main observations that it is possible to notice regards the oscillation of the returns is that SPACs return seems to be less volatile than the market ones. In fact, SPACs presents a lower maximum value of return and a higher minimum value. Therefore, it can be confirmed that SPACs are less volatile than the entire market, on average. In fact, the standard deviation derived using the data based on a daily frequency is 0.85% for SPACs and 2.22% for FTSE ALL SHARE, in the period considered.

Creation of the AVERAGE portfolio

It is supposed that an investor has 100€ to invest and she wants to create a continuously rebalanced portfolio made entirely by SPACs.

This means that on 03/06/2013, she invested 100€ in IVS until the 22/10/2013, when she rebalanced the value of her portfolio between IVS and SES, given that SES has been listed on that day. The investor will continue to rebalance her portfolio until the last business combination (CELL), happened on 04/06/2018.

Table 10. shows the rebalancing of the portfolio at each step compared to the market return over the same period, where the market return is represented by the FTSE ALL SHARE index.

Return of a continuously rebalanced portfolio from 03/06/2013 to 31/12/2018													Market value
Date	IVS	SES	FILA	LU.VE	GPI	ORS	AVIO	SIT	ECNL	ICF	CELL	**total value**	
03/06/2013	100.00											100.00	100.00
22/10/2013	56.06	56.06										112.12	111.89
12/11/2015	41.43	41.43	41.43									124.29	130.51
09/07/2015	31.13	31.13	31.13	31.13								124.51	132.46
29/12/2016	28.79	28.79	28.79	28.79	28.79							143.93	114.74
13/02/2017	24.82	24.82	24.82	24.82	24.82	24.82						148.93	113.37
10/04/2017	24.59	24.59	24.59	24.59	24.59	24.59	24.59					172.16	123.11
20/07/2017	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31				186.46	129.99
04/12/2017	20.19	20.19	20.19	20.19	20.19	20.19	20.19	20.19	20.19			181.70	134.26
14/05/2018	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83		178.32	145.50
04/06/2018	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	169.59	131.44
31/12/2018												**141.34**	**111.63**
Total return												**41.34%**	**11.63%**
Annualized return												**9.33%**	**2.88%**

Table 10. Return of a continuously rebalanced portfolio SPAC based vs Market

Comparison between SPACs as a unique entity and the market

Looking at Table 10., it is possible to notice that a continuously rebalanced portfolio composed by purchasing SPACs securities as soon as they gain access to the capital market over performed the FTSE ALL SHARE. In fact, from the period that goes from 03/06/2013 to 31/12/2018, the "AVERAGE" portfolio provides a return of 41.34%, which, in annualized

term, amount at 9.33% per year. On the other hand, investing in the FTSE ALL SHARE INDEX would have provide a return of 11.63% for the entire period, resulting in a 2.88% annualized return. The assumption that need to be made is that no costs for the rebalancing of the AVERAGE portfolio are needed, in terms of transaction costs, taxes or other frictions.

Figure 2. Comparison between AVERAGE and FTSEALL values over time

Figure 2. allows to have a graphical description of Table 10.. From the chart, it is possible to notice that the values of the two securities move together during the period considered. The difference in their value started to become greater from year 2016, when the continuously rebalanced portfolio started to gain more value than the market. In the middle of 2017, the portfolio's value slowly decreased while the ones of the market started to decrease at the beginning of 2018, about six month later. Despite this difference, the continuously rebalanced portfolio over performed the market over the all period considered.

Analysis for years 2016, 2017, 2018

In order to define the returns of SPACs as a unique security over each year (2016, 2017, 2018), the same methodology is applied.

Return of a continuously rebalanced portfolio from 01/01/2016 to 31/12/2016							Market return
Date	IVS	SES	FILA	LU.VE	GPI	total value	
01/01/2016	25.00	25.00	25.00	25.00		100.00	
29/12/2016	22.11	22.11	22.11	22.11	22.11	110.56	
31/12/2016						**111.51**	
Total return						**11.51%**	**-7.10%**

Return of a continuously rebalanced portfolio from 01/01/2017 to 31/12/2017												Market return
Date	IVS	SES	FILA	LU.VE	GPI	ORS	AVIO	SIT	ECNL	ICF	CELL	total value	
01/01/2017	20.00	20.00	20.00	20.00	20.00							100.00	
13/02/2017	17.10	17.10	17.10	17.10	17.10	17.10						102.61	
10/04/2017	16.94	16.94	16.94	16.94	16.94	16.94	16.94					118.61	
20/07/2017	16.06	16.06	16.06	16.06	16.06	16.06	16.06	16.06				128.45	
04/12/2017	13.91	13.91	13.91	13.91	13.91	13.91	13.91	13.91	13.91			125.19	
31/12/2017												**124.35**	
Total return												**24.35%**	**13.62%**

Return of a continuously rebalanced portfolio from 01/01/2018 to 31/12/2018												Market return
Date	IVS	SES	FILA	LU.VE	GPI	ORS	AVIO	SIT	ECNL	ICF	CELL	total value	
01/01/2018	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11			100.00	
14/05/2018	9.87	9.87	9.87	9.87	9.87	9.87	9.87	9.87	9.87	9.87		98.71	
04/06/2018	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.53	8.53	93.88	
31/12/2018												**78.24**	
Total return												**-21.76%**	**-16.69%**

Table 11. Return of "AVERAGE" in 2016, 2017 and 2018 versus Market

Table 11. explains the return of a continuously rebalanced portfolio SPAC based for three different periods: year 2016, year 2017 and year 2018. Regarding the first period, IVS, SES, FILA and LU.VE were listed prior the beginning of the year, while GPI has been listed during 2016 (29/12/2016). These five SPACs constitute the continuously rebalanced portfolio in year 2016. Prior 2017, instead, IVS, SES, FILA, LU.VE and GPI were already listed, while ORS, AVIO, SIT and ECNL, have been quoted during 2017. The portfolio in 2017 is composed by nine SPACs. Lastly, in 2018 ICF and CELL have been listed, composing the portfolio for that period together with all the other SPACs already in the market.

Table 11. also shows the market return over years 2016, 2017 and 2018. The value is simply computed by looking at the FTSE ALL SHARE value at the beginning and at the end of each year.

From Table 11., it is possible to notice that SPACs over performed the market in 2016, since investing in SPACs would have provided a return of 11.51% against the -7.10% obtainable by investing in FTSE ALL SHARE index. The over performance of SPACs manifests also in 2017, given that they provided a return of 24.35%, against the 13.62% of the market. In 2018, instead, despite the downward trending for both the variables analysed, the market lost less value that the continuously rebalanced portfolio. The FTSE ALL SHARE return in 2018, in fact, is -16.69%, while SPACs return is -21.76%.

Summary

Concluding the first step of the analysis, which compares SPACs as a unique entity with the market, it is possible to derive that SPACs over performed the market if the considered period is the one that starts at the moment of the first business combination in Italy and ends at the end of 2018. Moreover, SPACs provide a higher return even investing exclusively in year 2016 or 2017. The only period analysed in which SPACs underperformed the market is from 01/01/2018 to 31/12/2018. More precisely, it can be concluded that in periods of growth of the market, SPACs seem to absorb more positive effect than the market, as reflected from the period that goes from 2013 to 2016. On the other hand, instead, SPACs seem to suffer more than the market in the periods of negative return of the entire market. In year 2018, in fact, the market lost less value than the SPACs.

Consequently, SPACs would seem to be a better investment than investing in the FTSE ALL SHARE if an investor had bought all the possible SPACs in Italian market, keeping rebalancing her portfolio from the quotation of the target company, or in year 2016 or 2017.

7.7. SPACs' (as a single entity) performance versus industry index

This step of the analysis focuses on the performance of SPACs in the industry where they can be categorized. Again, SPACs will be evaluated as a conglomerate and not individually. The individual evaluation of SPACs is scheduled for the next chapter. Given that only 11 SPACs are analysed, since up to 31/12/2018 just 11 business combinations took place, some comparisons between SPACs and industry can be presented only individually, given that for some industries, no more than one SPAC is nowadays trading on the market. For this reason, not all the 11 SPACs will be taken into consideration in this step of the analysis. Similarly, not all the industries where SPACs trade will be considered in this chapter.

Industry	INDEX	SPACs
Retail	FTIT5300	IVS CELL
Personal & Household Goods	FTIT3700	FILA
Industrial Goods & Services	FTIT2700	LU.VE AVIO
Technology	FTIT9500	SES
Chemicals	FTIT1300	ECNL ICF
Health care system	FTIT4500	GPI
Food & Beverage	FTIT3500	ORS
Construction & Materials	FTIT2300	SIT

Table 12. SPACs divided by industry

Table 12. presents the categorization of SPACs among the industries of the Italian market. As Table 12. allows to notice, only three industries will be compared with SPACs return: Retail, Industrial Goods & Services and Chemicals, given that more than one SPAC trade only in the just mentioned industries. IVS Group and Cellularline belong to Retail industry, LU.VE and SES belong to Industrial goods & Services and ECNL and ICF are part of Chemicals industry. All the other sectors only have one or zero SPAC in their list.

The methodology applied to evaluate the performance of SPACs against the performance of the industry they belong to is the same applied to compare SPACs performance versus the entire Italian market: the creation of a continuously rebalanced portfolio.

The analysis of the returns of the SPAC in their industry focuses again in four different periods:

- From the business combination to 31/12/2018
- From 01/01/2016 to 31/12/2016
- From 01/01/2017 to 31/12/2017
- From 01/01/2018 to 31/12/2018

SPAC return in Retail industry

As anticipated above, the two SPACs that belong to the Retail sector are IVS group and Cellularline, listed respectively on 03/06/2013 and 04/06/2018. The index of the competent

sector is FTIT5300. Here below a chart allows a visual description of the performances of the two securities.

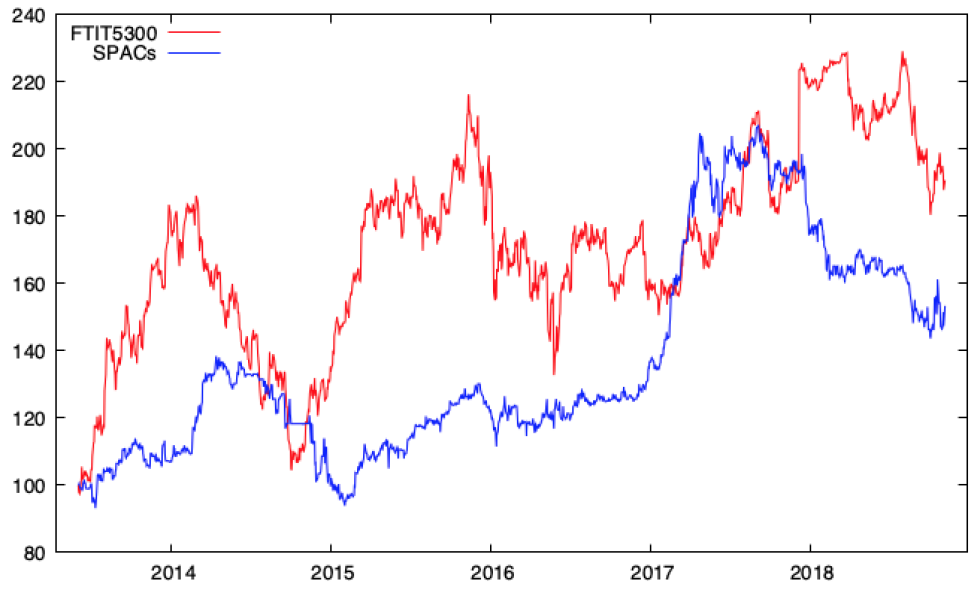

FIGURE 2. SPACs vs FTIT5300

As is it possible to notice from Table 13. below, considering year 2018 and the overall period of the analysis, the continuously rebalanced portfolio is composed initially only by IVS and later it is also influenced by the return of CELL. In 2016 and in 2017, the return of the continuously rebalanced portfolio corresponds to the return of IVS. Table 13. also shows the return of the FTIT5300.

The derivation from the table here below is that, despite in the overall period SPACs provide a high return (53.36%), they did not over perform the industry they belong to. The FTIT5300, in fact, performing 94.34%, provided a better return, with a difference of about 30%. Analyzing each year separately, it is possible to notice that in 2016 SPACs limited their loss to -3.41%, against the -13.59% of the overall industry; in 2017, SPACs provided a 53.88% return, beating the FTIT5300 that performed only 7.71%; finally, in 2018, SPACs lost 20.65% of their value, against the 116 basis points gained by the sector.

Consequently, it can be concluded that the behavior derived in the previous step of the analysis, that is, the fact that in periods of positive growth SPACs over perform the market and underperform it in periods of negative growth seems not to be consistent when comparing SPACs to the index of the industry they belong to. This derivation can also be derived looking at figure 2. In the case of the retail industry, it can be hypothesized that the index does not suffer the same loss suffered by the FTSE ALL SHARE in 2018, but the downward trend is instead followed by the portfolio constituted by SPACs listed in this sector. Similarly, SPACs in the

retail industry over perform the competent index in 2016, year in which the FTIT5300 reverted the pattern followed by the market obtaining a positive return, but only performing 7% and not 54% as SPACs did. Comparing the return of the overall period of the FTIT5300 and the years analyzed (2016, 2017 and 2018), the results are not consistent. In fact, in the overall period the index performed much more than the three years alone. This is probably due to the fact that the high return of the FTIT5300 is provided by years prior 2016. The same cannot be stated by SPACs in the retail industry, given that it seems that the overall result is driven also by the last three years considered.

From Business Combination to 31/12/2018						
Continuously rebalanced portfolio				**Return of the retail index**		
Date	IVS	CELL	**total value**	Date	FTIT5300	**tal value**
03/06/2013	100		100	03/06/2013	100	100
04/06/2018	82.45	82.45	164.89			
31/12/2018			**153.36**	**31/12/2018**		**194.34**
Total return			**53.36%**	**Total return**		**94.34%**

2016						
Continuously rebalanced portfolio				**Return of the retail index**		
Date	IVS		**total value**	Date	FTIT5300	**tal value**
01/01/2016	100		100	01/01/2016	100	100
31/12/2016			**96.59**	**31/12/2016**		**86.41**
Total return			**-3.41%**	**Total return**		**-13.59%**

2017						
Continuously rebalanced portfolio				**Return of the retail index**		
Date	IVS		**total value**	Date	FTIT5300	**tal value**
01/01/2017	100		100	01/01/2017	100	100
31/12/2017			**153.88**	**31/12/2017**		**107.71**
Total return			**53.88%**	**Total return**		**7.71%**

2018						
Continuously rebalanced portfolio				**Return of the retail index**		
Date	IVS	CELL	**total value**	Date	FTIT5300	**tal value**
01/01/2018	100		100	01/01/2018	100	100
04/06/2018	42.66	42.66	85.32			
31/12/2018			**79.35**	**31/12/2018**		**101.16**
Total return			**-20.65%**	**Total return**		**1.16%**

Table 13. SPAC return vs FTIT5300

SPAC return in Industrial Goods & Services industry

The two SPACs that belong to the Industrial Goods & Services industry are LU.VE and AVIO, listed respectively on 10/07/2015 and 10/04/2017. Also in this case, the continuously rebalanced portfolio is influenced by both the SPACs only for a partial period. In particular, for the analysis of 2016, only LU.VE is considered, since AVIO has been listed during 2017. Figure 3. allows a primary detection of the performance of SPACs against the index of the industry.

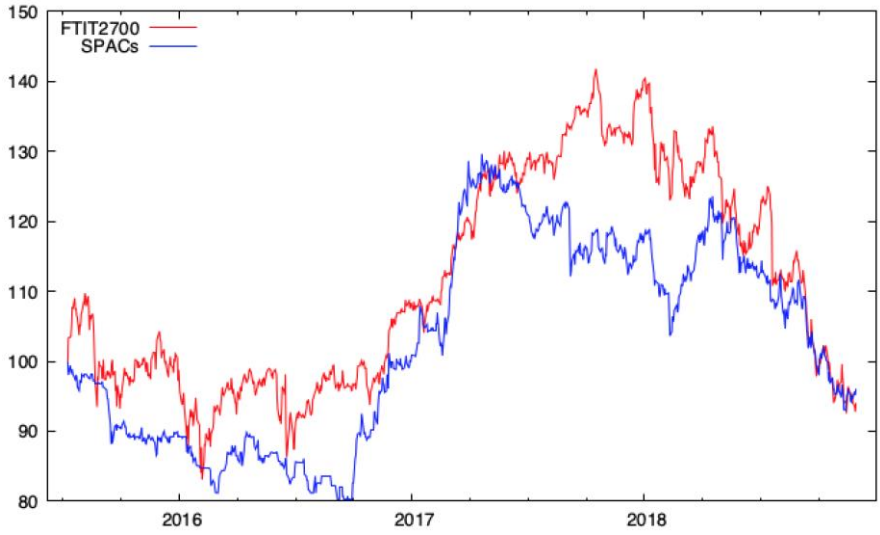

Figure 3. SPACs vs FTIT2700

Looking at Figure 3., it seems that SPACs and the index are almost perfectly correlated, especially in the late 2016 and the first half of 2017 and again in the second half of 2018. In fact, the pattern followed by the two securities has been the same: a slow decrease from 2015 to the half of 2017, an explosion in the value that started at the end of 2017 and goes up to the middle of the year and then a decrease again, which started earlier for the SPACs based portfolio and later (October-November 2017) for the index. From the figure, it is possible to notice that in the overall period, only in very few cases the value of the SPAC based portfolio has been greater than the index's one, even though at the end of 2018 it is a little higher, as it is demonstrated by results.

Looking at Table 14., it is possible to confirm that in the overall period (from 10/07/2015 to 31/12/2018), SPACs limited their loss with respect to the overall sector. In fact, the SPACs return is -3.95% against the -5.96%. Looking at each year separately, it can be derived that in 2016 the difference between the return of the two entities is similar, given that SPACs return has been 11.50% while FTIT2700 return has been 10.11%. In 2017, instead, investing in the overall index would have provide a better result, since the return has been 20.40% for the sector,

against the 13.96% of SPACs. Again, in 2018 SPACs limited their loss, since they lost around half the value lost by the index (-14.89% against -28.22%).

From business combination to 31/12/2018						
Continuously rebalanced portfolio				**Industrial Goods & Services index**		
Date	LU.VE	AVIO	**total value**	Date	FTIT2700	**total value**
10/07/2015	100		100	03/06/2013	100	100
10/04/2017	61.06	61.06	122.12			
31/12/2018			**96.05**	**31/12/2018**		**94.04**
Total return			**-3.95%**	**Total return**		**-5.96%**

2016						
Continuously rebalanced portfolio in 2016				**Industrial Goods & Services index**		
Date	LU.VE		**total value**	Date	FTIT2700	**total value**
01/01/2016	100		100	01/01/2016	100	100
31/12/2016			**111.50**	**31/12/2016**		**110.11**
Total return			**11.50%**	**Total return**		**10.11%**

2017						
Continuously rebalanced portfolio in 2017				**Industrial Goods & Services index**		
Date	LU.VE	AVIO	**total value**	Date	FTIT2700	**total value**
01/01/2017	100		100	01/01/2017	100	100
10/04/2017	61.39	61.39	122.78			
31/12/2017			**113.96**	**31/12/2017**		**120.40**
Total return			**13.96%**	**Total return**		**20.40%**

2018						
Continuously rebalanced portfolio in 2018				**Industrial Goods & Services index**		
Date	LU.VE	AVIO	**total value**	Date	FTIT2700	**total value**
01/01/2018	50	50	100	01/01/2018	100	100
31/12/2018			**85.11**	**31/12/2018**		**71.78**
Total return			**-14.89%**	**Total return**		**-28.22%**

Table 14. SPACs vs FTIT2700

As a conclusion, it can be derived that considering the Industrial Goods & Services industry, SPACs provided a better result rather than the industry. More precisely, in 2016 the returns have been similar. Also considering this industry, it cannot be stated that the same relationship between SPACs and index is presented. In fact, in this case, SPACs in 2017 provide a return lower than the one of the index, while in 2018 the opposite happens. In the Industrial Goods & Services industry, it seems that SPACs are more conservative than the entire index.

SPAC return in Chemicals Industry

In the Chemicals industry, up to 2018 two SPACs were trading: ECNL and ICF. They both have been listed after 2016, since ECNL accessed the market in December 2017 while ICF in May 2018. For this reason, the joint analysis of these two SPACs is limited to year 2018, other than considering the overall period. In both the cases, SPACs has underperformed the FTIT1300.

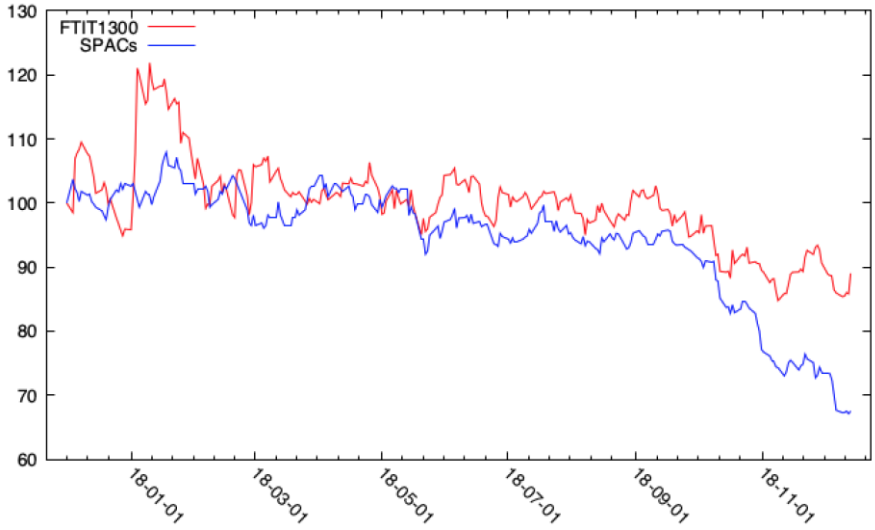

Figure 4. SPACs vs FTIT1300

In the overall period, in fact, the Chemicals index lost 9.61% of its value, while ECNL and ICF englobed into a portfolio lost 32.48% of their value. Looking at Figure 3., it can be stated that the value lost by the SPACs based portfolio has been mainly lost from October 2018. Up to that date, in fact, index and SPACs performed more or less the same, with a difference in favour of the index. Considering only year 2018, the same can be stated, since FTIT1300 lost 6.16% while SPACs lost 28.10% of their value. All these observations can be derived from Table 15. here below, showing the results of the analysis.

From Business Combination to 31/12/2018						
Continuously rebalanced portfolio				**Chemicals index**		
Date	ECNL	ICF	**total value**	Date	FTIT1300	**total value**
01/12/2017	100		100	03/06/2013	100	100
11/05/2018	50.08	50.08	100.16			
31/12/2018			**67.52**	**31/12/2018**		**90.39**
Total return			**-32.48%**	**Total return**		**-9.61%**

2018						
Continuously rebalanced portfolio				**Chemicals index**		
Date	ECNL		**total value**	Date	FTIT1300	**total value**
01/01/2018	50		100	01/01/2018	100	100
31/12/2018			**71.90**	**31/12/2018**		**93.84**
Total return			**-28.10%**	**Total return**		**-6.16%**

Table 15. SPACs versus FITI1300

Summary

Concluding the second step of the analysis, which compares SPACs as a unique entity with the competent industry, it is possible to derive that SPACs have over performed the market if the considered period is the one that starts at the moment of the first business combination in Italy and ends at the end of 2018 only in the industry of Industrial Goods & Services. In Retail and Chemicals industries, instead, investing into the indexes rather than investing in SPACs would have provide a better result.

SPACs in the retail industry provided a higher return investing exclusively in year 2016 or 2017. The only period analysed in which SPACs in the retail industry underperformed the index is from 01/01/2018 to 31/12/2018. SPACs in the Industrial Goods & Services industry provide a higher return than the industry in 2016 and limited its loss in 2018, while underperformed the index in 2017. In Chemicals industry, SPACs never beat the market, neither considering the overall period after the business combination nor considering only year 2018.

Consequently, SPACs would seem to be a worse investment than investing in the index of the sector they belong to, with the exemption of investing for the overall period in the Industrial Goods & Services industry.

7.8. SPACs versus the market: individual analysis

After discussing the return of the SPACs as englobed into a portfolio, the following step is to analyse SPACs performance individually. At the beginning, each SPAC will be compared to the FTSE ALL SHARE for the overall period of their trading, dividing then the return for each year as it has been done for the previous steps (2016, 2017 and 2018).

SPAC	SPAC return	Market return
IVS	63.37%	11.63%
FILA	35.51%	-14.57%
LU.VE	-16.32%	-15.20%
SES	94.47%	-1.65%
AVIO	-16.72%	-9.74%
CELL	-15.96%	-16.81%
ECNL	-29.18%	-18.48%
GPI	-24.47%	-3.55%
ICF	-39.39%	-24.10%
ORS	-30.63%	-3.34%
SIT	-24.36%	-14.86%
AVERAGE	-0.33%	-10.06%
MEDIAN	-16.72%	-14.57%
MAX	94.47%	11.63%
MIN	-39.39%	-24.10%

Table 16. Individually SPAC return versus market return (overall period)

Table 16. provides the return of each SPAC against the market return from the day of the business combination to 31/12/2018. In the table, the market return does not have always the same value because SPACs have been listed in different days, as noticeable in Table 3., so different periods are taken into consideration. Among the 11 SPACs that are listed in the Italian market, IVS, FILA, SES and CELL provided a better return than the market. All the others performed worse than it. In particular, looking at those scenarios in which SPACs over performed the market, the main differences between market and SPAC return can be noticed in the cases of IVS, where the SPAC performed 63.37% against the 11.63% of the market, FILA (35.51% against -14.57% of the market), SES (94.47% against -1.65% of the market). In the scenarios where the SPACs provided a worse result than the market, instead, the greatest differences can be found in the cases of ORS (-30.63% vs -3.34%), GPI (-24.47% vs -3.55%) and SIT (-24.36% vs -14.86%).

From Table 16., it is possible to notice that SPACs, on average, performed better than the market for the period from the business combination to the 31/12/2018. In fact, even if the

SPACs' return is below zero, it can be stated that they performed almost 10% better, given that the market obtains a return of -10.06% while SPACs -0.33%.

Despite the above derivation, it is important to notice that this result may be influenced by some abnormal returns of SPACs. In fact, looking at the median, FTSE ALL SHARE loses less value than SPACs. The abnormal return may be related to IVS and SES, which from the business combination gained respectively 63.37% and 94.47%.

T-test	
t Stat	0.7116988
P(T<=t) one-tail	0.2457347
P(T<=t) two-tail	0.4914694

Table 17. T-test for the Average return of SPAC vs the Market return over the entire period analysed.

Once the returns of the two classes of shares have been described, a t-test should be provided in order to understand if the returns are significantly different. The t-test is presented in Table 17.

The t-test in Table 17. explains that there is no significant difference between SPACs returns analysed individually and market return measured on a daily base. In fact, Table 17. shows that the "t Stat" is 0.71, lower than both the "t Critical one-tail" (1.79) and the "t-Critical two-tail" (2.20). The test fails to reject the null hypothesis, resulting in a p-value of 0.26 for the one-tail test and 0.49 for the two-tail test. Therefore, it can be concluded that the returns of the SPACs, on average, during the period from the business combination to 31/12/2018 is not significantly different than the return of the market in the same period, even though it is higher.

Analysis for 2016, 2017 and 2018

SPAC	SPAC return			Market return		
	2016	2017	2018	2016	2017	2018
IVS	-3.41%	53.88%	-16.15%	-7.10%	13.62%	-16.69%
FILA	26.92%	43.54%	-29.00%	-7.10%	13.62%	-16.69%
LU.VE	11.50%	-4.29%	-13.15%	-7.10%	13.62%	-16.69%
SES	14.13%	37.96%	-10.77%	-7.10%	13.62%	-16.69%
AVIO	N.A.	N.A.	-17.27%	-	-	-16.69%
CELL	N.A.	N.A.	N.A.	-	-	-
ECNL	N.A.	N.A.	-28.10%	-	-	-16.69%
GPI	N.A.	1.64%	-26.60%	-	13.62%	-16.69%
ICF	N.A.	N.A.	N.A.	-	-	-
ORS	N.A.	N.A.	-18.98%	-	-	-16.69%
SIT	N.A.	N.A.	-28.67%	-	-	-16.69%
AVERAGE	12.28%	26.55%	-20.97%	-7.10%	13.62%	-16.69%
MEDIAN	12.81%	37.96%	-18.98%	-7.10%	13.62%	-16.69%
MAX	26.92%	53.88%	-10.77%	-7.10%	13.62%	-16.69%
MIN	-3.41%	-4.29%	-29.00%	-7.10%	13.62%	-16.69%

Table 18. SPACs (individually) versus market in 2016, 2017 and 2018

Table 18. provides statistics for each SPAC in each 2016, 2017 and 2018 year[6].

- In 2016, when the market lost 7.10% of its value, IVS lost only 3.41%, while FILA, LU.VE and SES provide a positive return, respectively of 26.92%, 11.50% and 14.13%. All the other SPACs were not listed yet. On average, in 2016, SPACs over performed the market. In fact, the average return of SPACs listed in 2016 has been 12.28%, against the -7.10% of the market, recording only a negative return (IVS). The maximum return is given by FILA. And the minimum by IVS. The median of the returns of SPACs is even higher. As a consequence, it can be stated that investing in SPACs at the beginning of 2016 and holding it over the whole year would have provide better results than investing in the index FTSE ALL SHARE.
- In 2017, SPACs beat the market as well, providing an average return of 26.55%, 10% more than the market, which gained 13.62%. In particular, only LU.VE return has been below zero (-4.29%), while all the others have been positive. Extraordinary returns have been provided by IVS, FILA and SES (53.88%, 43.54% and 37.96%, respectively), while GPI, listed during 2016, provided a return of 1.64%, underperforming the market. Consequently, the same conclusion

[6] *The symbol "N.A." (not applicable) stands for those SPACs for which the computation of the return for the entire year is not possible, given that they accessed the market after the 1st January of the year.*

derived for year 2016 can be drawn: investing in SPACs rather than invest in the FTSE ALL SHARE in 2017 would have provide higher gains.

- At the beginning of 2018, all the SPACs with the exemptions of ICF and CELL were listed on the Italian market. 2018 has been a year with a downward trend for the market, given the fact that it lost 16.69% of its value. Despite the big loss the market suffered, SPACs had to face with an even more severe downward trend, and not even one SPAC provided a positive return from 01/01/2018 to 31/12/2018. In fact, on average, they lost 20.97% of their value, with a median of -18.98%. The highest loss has been suffered by FILA (-29.00%) and the lowest by SES (-10.77%). The other SPACs returns are as following: IVS -16.15%, LU.VE -13.15%, AVIO -17.27%, ECNL -28.10%, GPI -26.60%, ORS -18.97% and SIT -28.67%. Only SES and LU.VE limited their loss more than the overall market.

  To understand if the returns of SPACs and the one of the market in the three different years are statistically different, t-tests are provided in Table 19. here below.

2016		2017		2018	
T-test		*T-test*		*T-test*	
t Stat	3.115854	t Stat	1.10558	t Stat	-1.7147
P(T<=t) one-tail	0.026321	P(T<=t) one-tail	0.16547	P(T<=t) one-tail	0.0603
P(T<=t) two-tail	0.052641	P(T<=t) two-tail	0.33093	P(T<=t) two-tail	0.1205

Table 19. T-test for year 2016, 2017 and 2018

As it is possible to notice from Table 19., all the SPACs returns are not significantly different than the market return. In fact, the "t-Stat" value is always lower than the "t Critical two-tail". For 2016, it is 3.12 while the critical value is 3.18, for 2017 it is 1.10 while the critical value is 2.77 and in 2018 the t-Stat is -1.71 while the critical value for the two-tail test is 2.26.

Summary

Concluding the third step of the analysis, which compares individually SPACs to the market, it can be derived that, if the overall period is considered, in very few cases SPACs over performed the market. Despite few SPACs have over performed the market, their returns impact the average of the returns of all the 11 SPACs, leading at an average return greater than the market one. Considering each year separately, SPACs gained more value than the market in 2016 and 2017 but lost more value in 2018. In all the periods considered, the t-tests run show that the difference in the returns of SPACs and the market is not statistically significant.

Furthermore, even though the difference of the mean of the returns of SPACs and the market is not statistically significant, it can be stated that the same pattern followed by the continuously rebalanced portfolio is confirmed by looking at the average returns of SPACs over the three different years: in a positive period for the growth of the market, SPACs absorb more advantages of the upward trend, providing higher return than the market, and in a downward trending period, SPACs lost more value than the FTSE ALL SHARE.

7.9. SPACs versus industry: individual analysis

To analyse the performance of SPACs versus the one of the competent industries, the same methodology applied to compare SPACs return versus the market has been applied.

SPACs' versus industry return from Business combination to 31/12/2018				
Industry	**Index**	**Spac**	**index return**	**SPAC return**
Retail	FTIT5300	IVS	94.34%	63.37%
		CELL	-10.43%	-15.96%
Personal & Household goods	FTIT3700	FILA	-9.33%	35.51%
Industrial goods & Services	FTIT2700	LU.VE	-5.96%	-16.32%
		AVIO	-21.60%	-16.72%
Technology	FTIT9500	SES	92.16%	94.47%
Chemicals	FTIT1300	ECNL	-9.61%	-29.18%
		ICF	-11.25%	-39.39%
Health care system	FTIT4500	GPI	24.27%	-24.47%
Food & Beverage	FTIT3500	ORS	38.51%	-30.63%
Construction & Materials	FTIT2300	SIT	-39.30%	-24.36%

Table 20. SPACs' versus industry return from Business combination to 31/12/2018

Table 20. shows the return of SPACs' against the return of the industry for the same period, that is, from the business combination of each SPAC to 31/12/2018. As it is possible to discover, in very few cases SPACs over performed their industry index, considering the overall life of the firm.

More precisely:

- In the Retail industry, both IVS and CELL underperformed the market, since they have performed respectively 63.37% and -15.96%, against the return of the industry for the same period of respectively 94.34% and -10.43%. Notice how the return of each SPAC in the retail

industry is positively correlated with the return of the index over the same period. Moreover, looking at IVS, a return of 64% can be considered a very high return over four and a half years, resulting in a 13.5% annualized return. Over the same period, the index of the retail industry performed even more, since the annualized return has been 18.7%. Regarding Cellularline, the correlation is noticeable as well, given that both the SPAC and the index provided a negative return over the period. The annualized return of CELL has been -35%, while the one of the index has been -0.24%, speaking again in annualized terms.

- In the Personal & Household Goods, the only SPAC which securities are trading is FILA, which has over performed the market from its business combination to 31/12/2018, providing a return of 35.51% against the -9.33% provided by FTIT3700. In this case, it cannot be suspected a correlation between the return of the industry with the return of the SPAC, given that the sign of the returns of the two securities is the opposite. The difference of the return is about 45% in favor of FILA.
- In the Industrial Goods & Services industry, LU.VE and AVIO are trading. The first one has performed -16.32% while the industry for the same period has provided a return of -5.96%. AVIO, instead, has over performed the market since the SPACs' return is -16.72% while the industry has performed -21.60%. The correlation between SPACs return in this industry and the index of the sector is not clear, given that the sign of the returns is the same in one case and the opposite in the other case. What can be concluded is the fact that AVIO provided a very higher return with respect to the index.
- In the Technology industry, SES has over performed the FTIT9500 by around 200 basis points. In fact, SES return is 94.47% while the industry return is 92.16%. In this case, no real differences can be detected, given that both SPAC and industry index perform more or less the same, providing a very great result for the investor, who would have almost doubled its capital in both the cases. It can be concluded that in the industry index, SES followed the pattern of the whole sector, considering the overall period of trading of its securities.
- In the Chemicals industry, which has been an industry characterized by negative returns in late 2017 and in 2018, both ECNL and ICF have underperformed the market. ECNL has provided a return of -29.18% while the industry has performed -9.61%. ICF return is -39.39% against -11.25% of the sector. Again, in this case, the fact that SPACs suffer more than the index in a downward trending period emerges.
- In Health Care System industry, GPI return has been -24.47% while the sector has provided a return of 24.27%. In this case, a difference of about 50% in favor to the index is presented. GPI

return almost mirrored the one of the index, but with opposite sign, providing bad returns for the shareholders, who would have preferred to invest in the entire index.

- In Food & Beverage industry, ORS has performed worse than the index, providing a return of -30.36% against the 38.51% of the FTIT3500. In this industry, the same consideration made for the Health Care System one can be drawn.
- Finally, in Construction & Materials sector, SIT has performed better than the market, given that its return is -24.36% against the -39.30% of the competent index. In this case, the SPACs followed the pattern of the industry, that is, a downward trend. The difference among the two returns amounts at 15%, leading to the conclusion that SIT has been safer than the industry in which it trades.

Analysis for years 2016, 2017, 2018

SPACs' versus industry return divided in 2016, 2017 and 2018

Industry	Index	Spac	Index return			SPAC return		
			2016	2017	2018	2016	2017	2018
Retail	FTIT5300	IVS	-13.59%	7.71%	1.16%	-3.41%	53.88%	-16.15%
		CELL	-	-	-	N.A.	N.A.	N.A.
Personal & Household goods	FTIT3700	FILA	-7.16%	12.81%	-7.33%	26.92%	43.54%	-29.00%
Industrial goods & Services	FTIT2700	LU.VE	10.11%	20.40%	-28.22%	11.50%	-4.29%	-13.15%
		AVIO	-	-	-28.22%	N.A.	0.67%	-17.27%
Technology	FTIT9500	SES	49.79%	57.28%	-29.16%	14.13%	37.96%	-10.77%
Chemicals	FTIT1300	ECNL	-	-	-6.16%	N.A.	N.A.	-28.10%
		ICF	-	-	-	N.A.	N.A.	N.A.
Health care system	FTIT4500	GPI	-	33.54%	-8.94%	N.A.	1.64%	-26.60%
Food & Beverage	FTIT3500	ORS	-	28.19%	9.33%	N.A.	-13.87%	-18.98%
Construction & Materials	FTIT2300	SIT	-	-3.15%	-38.15%	N.A.	5.31%	-28.67%

Table 21. SPACs' vs industry return divided in 2016, 2017 and 2018

Table 21. shows the performances of SPACs against the index of their competent industry, analyzing specifically each year from 2016 to 2018. Consequently, three periods are analyzed. The analysis is limited for those SPACs that are not traded since the beginning of 2016.

According to Table 21., the following derivations can be deducted:

- In the Retail industry, IVS performed better than the index in 2016 (-3.41% vs -13.59%) and 2017 (53.88% vs 7.71%), while in 2018 the opposite happened (-16.15% vs 1.16%). In this industry, it can be stated that SPACs gain more value than the index in periods of growth of the markets (2016 and 2017), while it loses more value in period characterized by a downward trend. As a consequence, a common pattern between SPACs independently on the industry they belong to and SPACs in the retail industry can be derived.

Regarding CELL, notice that it has been listed in 2018, so it is not possible to make a comparison over the three periods considered.

- In the Personal & Household Goods industry, FILA had the same behavior as IVS, performing better than the index in 2016 (26.92% vs -7.16%) and 2017 (43.54% vs 12.81%), while in 2018 it performed worse (-29.00% vs -7.33%). According to this result, the same pattern followed by SPACs in the retail industry can be confirmed. A difference, which allows to define SPACs even more a good investment in this sector, is that in this case, not only the SPAC perform better than the market in periods of positive trend, but also FILA obtained a positive return in 2016 even though the FTIT3700 provided a negative one.
- In the Industrial Goods & Services, LU.VE performed better than the FTIT2700 in 2016 (11.50% vs 10.11%) and in 2018 (-13.15% vs -28.22%), while it performed worse in 2017 (-4.29% vs 20.40%). In the same industry, AVIO has been listed during 2017, so the analysis can be run over year 2018. In 2018, AVIO performed -17.27% against the -28.22% provided by the industry. For the Industrial Goods & Services index, consequently, no clear derivation can be made only looking at the returns of the companies. In fact, the two cases analyzed (LU.VE and AVIO) leads to completely different conclusions. The only common characteristic of their performances is that in 2018, year characterized by losses for the overall sector, the two SPACs have been safer, losing less value.
- In the Technology industry, SES over performed the FTIT9500 only in 2018, limiting its loss at -10.77%, against the loss of the sector of -29.16%. In 2016, instead, SES return has been 14.13% against the 49.79% provided by the industry and in 2017 the SPAC return has been 37.96% against the 57.28% of the sector. Even in this case, the SPAC seems to be safer than the index in a downward trending period. It cannot be stated, instead, that in a growing market the SPAC has been able to over perform the FTIT9500.
- In the Chemicals industry, the analysis can be run only for ECNL for year 2018, since ICF has been listed after the beginning of 2018. ECNL performed -28.10% against the -6.16% of the sector. A very disastrous return would have been provided by investing in the SPAC in the Chemicals industry, where instead would have been more appropriate to buy the index, even if it did not have a positive return in 2018, in line with the overall market pattern.
- In the Health Care System industry, GPI has been listed during 2016, so the complete analysis has been done for 2017 and 2018. In both the years, GPI underperformed the industry. In fact, in 2017 the SPAC return is 1.64% against the 33.54% of the sector and in 2018 GPI performed -26.60% against the -8.94% of the FTIT4500. Also in this industry, SPACs would not provide better result than the market, representing a less attractive investment.

- In the Food & Beverage industry, ORS had a negative return in both 2017 and 2018, while the sector provided a positive one. More precisely, in 2017 ORS lost -13.87% and in 2018 it lost -18.98%, while the sector performed respectively 28.19% and 9.33%. For year 2016 the analysis cannot be done.
- In the Construction & Materials industry, SIT provided a return higher that the FTIT2300 in both 2017 and 2018. In fact, its return has been 5.31% in 2017 (against the -3.15% of the sector) and -28.67% in 2018 (against the -38.15% of the index). In this sector, SIT followed the conservative pattern, at least regarding the loss of its value, losing 10% less than the index. Despite considering the return relatively to the one of the index the SPAC seems to be safer, it cannot be considered a good investment in 2018, since it loses almost 30% of its value.

Summary

This step of the analysis allows to derive the conclusion that in very few cases SPACs over performed the industry they belong to. In particular, considering the overall period of life of the SPAC in the market, the only SPAC that had a high different return than the index in a positive sense has been FILA. In fact, it performed 35.51% against the -9.33% of the FTIT3700, which is the index of Personal & Households Goods industry. The other SPACs that over performed the industry have been AVIO (about 500 basis points), SES (about 200 basis points) and SIT (about 1500 basis points). All the other SPACs performed worse than the sector in which they are categorized.

Table 21. explains that most of the negative influence a SPAC suffers is given by year 2018, which has been a year characterized by a severe downward trend for the market, since every industry taken into analysis lost value, with two exemptions, that are Retail and Food and Beverage ones. The downtrend seems to have a greater impact on SPACs rather than on the entire index.

7.10. Cumulative Abnormal Return (CAR)

After having evaluated the performances of SPACs comparing their returns with the market returns and the returns of the index related to the industry they belong to, the analysis focuses on Cumulative Abnormal Return (CAR). An abnormal return of one predetermined period can be defined as the difference between the return of the share that is evaluated and the return of

the market over that specific period. The abnormal return can be computed for τ periods, depending on the willingness of the analysis. The cumulative abnormal return is instead the sum of the abnormal returns already computed for τ periods.

Mathematically, the CAR can be defined as:

$$CAR = \sum_{t=1}^{\tau} (R_{x,t} - R_{mkt,t})$$

where:

- CAR is the cumulative abnormal return
- t is the period for which the CAR is considered
- τ is the total number of periods for which the CAR is computed
- $R_{x,t}$ is the return of security x in period t
- $R_{mkt,t}$ is the return of the market in period t

This step of the analysis aims at comparing performances of SPACs with performances of companies listed through IPO in a short-term view, to see if there are some differences due to the way they accessed the capital market. Moreover, this analysis allows to derive whether reverse mergers processed through special purpose acquisition companies are valid alternatives to initial public offerings.

To implement the analysis, more data has been collected: the daily returns of all the companies listed in the Italian market from 2013, year when the first business combination took place, to 2018, year of the ending period of the analysis. Precisely, data of 81 companies listed through IPO has been obtained.

The CAR will be computed for the 30 days following the business combination. In addition, CAR for the first 180 and 360 days following the access into the market of the companies will be calculated.

SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
IVS	9.28%	-8.10%	3.05%
SES	-0.26%	-0.88%	10.34%
LU.VE	-4.21%	0.04%	16.49%
FILA	9.16%	49.24%	60.27%
GPI	-4.17%	-6.65%	-12.75%
ORS	-0.94%	N.A.	-46.18%
AVIO	2.64%	-2.08%	2.10%
SIT	1.91%	-3.14%	-17.36%
ECNL	-4.80%	7.59%	N.A.
ICF	0.39%	-19.92%	N.A.
CELL	-3.45%	N.A.	N.A.
AVERAGE	0.50%	1.79%	1.99%
MEDIAN	-0.26%	-2.08%	2.58%
MAX	9.28%	49.24%	60.27%
MIN	-4.80%	-19.92%	-46.18%

IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	-0.92%	-6.94%	-9.52%
MEDIAN	-1.25%	-4.25%	-5.19%
MAX	66.73%	48.36%	74.57%
MIN	-38.07%	-81.36%	-136.48%

Table 22. CAR: SPACs vs IPO

Table 22. allows to determine whether SPACs obtained a CAR that is higher or lower than the one of the companies listed through normal IPO[7]. The result of Table 22. can be summarized as follow:

- considering the 30-days period, on average, SPACs provided a positive CAR of 0.50%, while IPOs provide a -0.92% CAR. The median for SPACs is -0.26% while for IPOs it is -1.25%. The SPAC which provides the highest CAR has been IVS (9.28%) while the lowest one has been given by ECNL (-4.80%). This result allows to understand that, over the first 30 days in which the companies were listed in the capital market, comparing SPACs and companies listed thanks to IPO, the former performed better than the latter in terms of cumulative abnormal returns. Given that SPACs CAR is greater than zero while IPOs' one is negative, it is possible to conclude that SPACs over perform the market, and the market over performed the companies listed via initial public offering. In reality, the difference among the three classes of share is not so relevant.
- Regarding the 180-days period, the CAR of SPACs, on average, has been 1.79%, against the -6.94% provided by IPOs. Again, the median is -2.08% for SPACs while for IPOs it is -4.25%.

[7] *The list of the companies that access the capital market through Initial Public Offering will be provided in the ANNEX*

The maximum CAR is given by FILA (49.24%) and the minimum value is given by ICF (-19.92%). In this case, the difference between IPOs and SPACs in terms of cumulative abnormal return is greater. Consequently, it can be stated that SPACs would have been a better investment than IPOs.

- Even in the case of the 360-days period, it can be concluded that SPACs over performed IPOs in terms of CAR. In fact, SPACs' cumulative abnormal return is 1.99% and IPOs' one is -9.52%. The median in this case is 2.58% for special purpose acquisition companies and -5.19% for companies listed through initial public offerings. Again, the highest CAR has been provided by FILA, while the lowest one by ORS. The conclusion derived from the 180-days period CAR is accentuated looking at the 360-days period.

As a conclusion, it can be derived that companies listed through a special purpose acquisition company over performed those listed via the common initial public offering. Moreover, it seems that the longer the period in which the CAR is computed, the greater the discrepancy between the two classes of firms, among the three periods considered. In fact, the difference for the 30-days average CAR is 1.53%, for the 180-days average CAR is 8.73% and for the 360-days average CAR it is 11.52%. The greater and greater discrepancy is mostly driven by the fact that IPOs cumulative abnormal return is lower if the considered period is longer.

Analysis according to year of quotation

Table 23. here below shows the analysis dividing companies according to the year of their quotation. In particular, cumulative abnormal returns are computed for the same periods of the previous step of the analysis (i.e. 30 days, 180 days and 360 days). The difference here is that the summary statistics have been computed for class of companies according to the year they accessed the market. Consequently, CARs for companies listed in 2013, 2015, 2016, 2017 and 2018 have been computed. Notice that for 2014 the analysis has not been run, since no SPACs accessed the capital market during that year given no possible comparisons.

2013			
SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
IVS	9.28%	-8.10%	3.05%
SES	-0.26%	-0.88%	10.34%
AVERAGE	4.51%	-4.49%	6.70%
MEDIAN	4.51%	-4.49%	6.70%
MAX	9.28%	-0.88%	10.34%
MIN	-0.26%	-8.10%	3.05%

2013			
IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	-6.94%	-28.11%	-45.84%
MEDIAN	-5.97%	-35.33%	-47.29%
MAX	10.64%	33.48%	23.29%
MIN	-32.34%	-60.18%	-136.48%

2015			
SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
LU.VE	-4.21%	0.04%	16.49%
FILA	9.16%	49.24%	60.27%
AVERAGE	2.47%	24.64%	38.38%
MEDIAN	2.47%	24.64%	38.38%
MAX	9.16%	49.24%	60.27%
MIN	-4.21%	0.04%	16.49%

2015			
IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	4.51%	0.55%	-0.62%
MEDIAN	3.91%	1.38%	-3.93%
MAX	66.73%	48.36%	69.81%
MIN	-23.40%	-81.36%	-75.69%

2016			
SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
GPI	-4.17%	-6.65%	-12.75%
AVERAGE	-4.17%	-6.65%	-12.75%
MEDIAN	-4.17%	-6.65%	-12.75%
MAX	-4.17%	-6.65%	-12.75%
MIN	-4.17%	-6.65%	-12.75%

2016			
IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	-2.58%	-12.34%	9.67%
MEDIAN	-0.45%	-14.39%	2.46%
MAX	13.66%	25.20%	74.57%
MIN	-17.79%	-61.29%	-50.31%

2017			
SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
ORS	-0.94%	N.A.	-46.18%
AVIO	2.64%	-2.08%	2.10%
SIT	1.91%	-3.14%	-17.36%
ECNL	-4.80%	7.59%	N.A.
AVERAGE	-0.30%	0.79%	-20.48%
MEDIAN	0.48%	-2.08%	-17.36%
MAX	2.64%	7.59%	2.10%
MIN	-4.80%	-3.14%	-46.18%

2017			
IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	-1.57%	0.37%	-7.60%
MEDIAN	-3.97%	0.17%	4.73%
MAX	24.36%	28.75%	54.93%
MIN	-35.34%	-45.03%	-124.24%

2018			
SPAC	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
ICF	0.39%	-19.92%	N.A.
CELL	-3.45%	N.A.	N.A.
AVERAGE	-1.53%		
MEDIAN	-1.53%		
MAX	0.39%		
MIN	-3.45%		

2018			
IPO	CAR 30 DAYS	CAR 180 DAYS	CAR 360 DAYS
AVERAGE	-1.51%		
MEDIAN	1.48%		
MAX	10.28%		
MIN	-38.07%		

Table 23. CAR: SPACs versus IPOs according to year of quotation.

As it is possible to notice from Table 23., the following considerations can be drawn:

- SPACs listed in 2013 (i.e. IVS and SES) provided a better CAR than the IPOs considering each period analyzed. In fact, the CAR of SPACs for 30, 180 and 360 days is respectively 4.51%, -4.59% and 6.70% with a median identical to the average; for IPOs instead, the average is respectively -6.94%, -28.11% and -45.84%, with a median of respectively -5.97%, -35.33% and -47.29%. Even in this case, the difference between the CARs of the two classes of firms increases with the increase of the length of the period considered.

- In 2015 LU.VE and FILA accessed the market, providing a 30-days CAR amounting at, on average, 2.47%, a 180-days CAR at 49.24% and a 360-days one at 38.38%. IPOs listed in the same year provided a CAR that decreases if the period considered increases. In fact, CAR obtained by IPOs is 4.51%, 0.55% and -0.62% respectively considering 30 days, 180 days and 360 days. The median of SPACs is equal to the average while the one of IPOs decreases as well with the same pattern of the average, amounting at 3.91%, 1.38% and -3.93%.
- In 2016, only GPI has been listed on the market through special purpose acquisition company. Its CAR is lower than the one of the IPOs listed in the same year in the case of a 30-days period and the 360-days period. In fact, GPI's cumulative abnormal return is -4.17%, -6.65% and -12.75% while the IPOs one is -2.58%, -12.34% and 9.67%, with a median of -0.45%, -14.39% and 2.46%.
- In 2017, most of the SPACs accessed the market. In fact, ORS, AVIO, SIT and ECNL became public firms. The averages of their CAR amount at -0.30%, 0.79% and -20.48% respectively for the 30-days, 180-days and 360-days period. The medians for the same periods are 0.48%, -2.08% and 17.36%. Regarding IPOs listed in 2017, it can be noticed that the averages of their CAR are -1.57%, 0.37% and -7.60% for the 30-days, 180-days and 360-days period. The IPOs' medians are -3.97%, 0.17% and 4.73%.
- In 2018, only the 30-days period CAR has been computed, given that SPACs (ICF and CELL) have been listed after the half of the year. Consequently, 180-days and 360-days cumulative abnormal returns are not available, if the period analyzed ends on 31/12/2018. The CAR computed is on average -1.53%, mostly driven by the bad performance of CELL. IPOs listed in 2018 have a pretty much similar cumulative abnormal return, on average, since it is -1.51%, even though the median is 1.48%.

  As a conclusion, it can be stated that SPACs' CAR has been higher than the IPOs one in most of the cases analyses. The only exemptions are given by SPACs listed in 2015 for the 30-days period CAR, by ICF in 2016 and by SPACs listed in 2017 for the 360-days period CAR. In 2018, SPACs' and IPOs' CAR has been almost identical, differing of 0.02%. In all the other cases, SPACs perform better than the companies listed in the market with IPOs, in the short-term.

  Summary

  The conclusion that can be drawn from this step of the analysis is not only that SPACs can be seen as alternative methods of IPOs for a company that wants to become public, but also that

the reverse merger processed through a SPAC seems to provide better result than the common IPO, in terms of cumulative abnormal returns. Considering the past five years, from 2013 to 2018, in fact, SPACs' CAR has been higher than the IPOs' one, in three different length considered. Moreover, considering only companies listed in one specific year, it can be concluded that only in very few cases IPOs cumulative abnormal return over performed the one of the SPACs.

8. CONCLUSION

After having discussed all the characteristics of special purpose acquisition companies, starting from financial features such as income statements and balance sheets, proceeding with the regulations developed during the history in Italy and in the US, an empirical analysis has been conducted, focusing on the impact of accessing the capital markets through SPACs. As discussed, SPACs can be categorized as shell companies thanks to which reverse mergers may take place, even though they present some differences if compared with other shell companies (like the disappeared blank check companies).

The empirical analysis, interested only in Italian SPACs, in order to evaluate their impact on the returns of operating companies that choose to access the capital processing this alternative, has compared the return of the latter and the market return over different periods and cases. After that, a comparison among SPACs and companies listed through IPOs has been run, in order to identify whether SPACs can be considered as alternatives of IPOs and to evaluate their performances relating to initial public offerings.

The results of the analysis allow to derive the following conclusions.

In first place, it can be stated that considering SPACs individually, the return an investor would have had investing in SPACs form the period that starts in the day of the business combination and ends on 31/12/2018, would have been greater than the market one. In reality, during the overall period, both SPACs and the market obtained a negative return. The difference stands in the fact that the market lost around 10%, while SPACs, on average, lost only 0.3% of their value, leading to a close to zero return. A SPACs' characteristic that can be derived from the analysis is their trend to take advantages in periods in which the market is in a growing period. On the other hand, SPACs have the characteristic to lose more value in periods in which the market is in a downward trending period. Lastly, SPACs over perform the market in the day of the business combination. It is important to point out that, neither in the overtime analysis nor in the

static one, according to appropriate tests, the difference among the two securities is statistically significant.

The second conclusion can be drawn by comparing SPACs' return with the return of the index of the industries they belong to. The 11 SPACs listed in the Italian market, if considered separately, SPACs provide substantially higher return only in the Personal & Households Goods, in which FILA obtained a return of 35% against the -9% of the industry. The other industry in which a SPAC (SIT) provide a return better than the index ones is Construction & Materials, even though both the securities had a negative return. In the industry of technologic companies, SES trades and, over the period considered, index and SPAC perform almost the same, since their return differs of about 2%. In all the other industries, that are, Industrial Goods & Services, Chemicals, Health Care System and Food & beverage, SPAC would have provided a lower return comparing with the index ones.

Linking the first two derivations, it can be noticed that, analyzing SPACs individually from their business combination to 31/12/2018, it can be stated that they allow to save more value with respect to the overall market but, if their performances are compared with the ones of the companies in the industries in which they can be categorized, SPACs over performed the index only in the retail and construction & materials industry.

In the first part of the analysis, a continuously balanced portfolio constituted only by SPACs has been created. The portfolio simulates an investment started at the moment of the quotation of the first SPAC (IVS Group) and ends on 31/12/2019. It is interesting how this kind of investment would have provided a return of about 40% in 4 years and a half, leading to a 9.33% annualized return. Over the same period, investing the same amount of money in the FTSE ALL SHARE, would have provide a return of only 11%, annualized at 2.88%. Consequently, it can be confirmed that buying a diversified portfolio made only by SPACs would have provided very good results compared to the market, in the considered period.

Moreover, the same analysis has been implemented for each industry, but in this case, the continuously rebalanced portfolio has been constructed only for those industries in which more than one SPACs trade, whereas for the sectors with only one SPAC, the results concern each SPAC individually. The work shows that the SPAC based portfolio performed 40% less in the Retail industry and 22% less in the case of the Chemicals industry. In the first case, the difference is due to the fact that in periods in which the entire sector growths, the portfolio is not able to increase its value at least as the index does. In the second case, instead, the difference

is due to the fact that the portfolio lost a lot of value during 2018, differently from the index. The other case that has been analyzed is the case of Industrial Goods & Services industry. In this scenario, the return of the two securities is very similar, differing from 2%.

From the analysis of the continuously rebalanced portfolio SPAC made, it can be stated that it follows the pattern derived from the individual analysis: without differing industry by industry, in fact, SPACs over perform the market, but dividing for each sector, they underperform the competent index.

As a conclusion, an investment in SPACs that is enough diversified among industries would provide to the shareholder a good return, compared to the market ones.

The part of the analysis focused on cumulative abnormal returns concerns more on the short-term performances of SPACs, involving a comparison with companies listed through initial public offerings. According to the analysis, it can be concluded that considering three different lengths of period, that are 30 days, 180 days and 360 days, SPACs performed better than IPOs. Moreover, SPACs cumulative abnormal return is positive in every case, leading to the conclusion that in the very short-term, not only they perform better than the IPOs, but also, they provide better return than the market.

So, the results of the analysis point out that SPACs can be considered a good investment both from the medium-long term period point of view and from the short-term period perspective. Moreover, the best returns can be obtained by diversifying the investment in SPACs over the different industries they belong to.

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ANNEX

SPACE 1 Balance Sheet		
YEAR	**2014**	**2013**
Accounts receivable	314.243	162.033
Accounts payable	(1.103.629)	-549.762
Other current assets (net)	(7.600.000)	(7.899.666)
Total current assets	(8.389.386)	(8.287.395)
Other long-term assets	30.482	0
Total long-term assets	30.482	0
Total assets	**(8.360.100)**	**(8.287.395)**
Cash and cash equivalents	(52.290.381)	(51.686.230)
Short-term investments	(80.001.935)	(78.550.235)
Fair value for options	42.470.997	42.470.997
Net financial position	(89.821.319)	(88.765.468)
Equity	81.461.219	80.478.073
Total liabilities (D + E)	**(8.360.100)**	**(8.287.395)**

Annex 1. Balance Sheet of SPACE 1 (financials SPACE 1, 2015, p.11)

SPACE 1 Income Statement		
YEAR	**2014**	**2013**
Revenues	13.714	0
External costs	(1.322.708)	-316.289
Value added	**(1.308.994)**	-316.289
Labour cost	-39.645	0
Gross operating margin	**(1.348.639)**	**-316.289**
Amortization and devaluation	-10.948	0
Operating profit	**(1.359.639)**	**-316.289**
Net financial income (expenses)	898.933	-353.761
Earnings before taxes	**-464.654**	**-670.05**
Taxes	0	0
Net income	**-464.654**	**-670.05**

Annex 2. Income Statement of SPACE 1 (financials SPACE 1, 2015, p.10).

IPO list (1/4)	CAR 30 days	CAR 180 days	CAR 360 days
MC-LINK	-2.65%	-43.02%	-57.10%
ENERTRONICA	10.64%	33.48%	4.30%
MOLESKINE	-15.56%	-50.15%	-87.24%
SACOM	9.19%	-52.92%	-136.48%
ITALIA INDEPENDENT	-14.80%	-6.76%	-13.05%
DIGITAL MAGICS	-5.97%	-31.72%	-47.29%
SAFE BAG	-1.90%	-44.29%	-111.86%
KI GROUP	-14.35%	-14.35%	-14.35%
MONCLER	-9.32%	-35.33%	-6.66%
LEONE FILM GROUP	-5.59%	-43.54%	-67.63%
NET INSURANCE	-8.71%	-12.95%	-30.66%
INNOVATEC	-32.34%	-60.18%	-51.16%
WM CAPITAL	1.07%	-3.78%	23.29%
BLUE FINANCIAL COMMUNICATION	14.94%	19.50%	-16.35%
OPENJOBMETIS	22.63%	29.69%	34.19%
GAMBERO ROSSO	-23.40%	-81.36%	-75.69%
H-FARM	-1.37%	-31.25%	-11.93%
POSTE ITALIANE	9.93%	20.88%	2.37%
GIGLIO GROUP	19.88%	37.19%	69.81%
PITECO	8.28%	35.66%	44.47%
ASSITECA	4.15%	-19.87%	9.19%

Annex 3. IPO list (1/4) with relative CAR (Borsaitaliana.it + elaboration)

IPO list (2/4)	CAR 30 days	CAR 180 days	CAR 360 days
AEROPORTO DI BOLOGNA	3.67%	47.96%	65.54%
BANCA SISTEMA	16.24%	-4.25%	-40.50%
MASI AGRICOLA	2.27%	11.85%	15.77%
BOMI ITALIA	-8.71%	-1.28%	-23.87%
INWIT	7.64%	34.40%	32.97%
MASSIMO ZANETTI BEVERAGE GROUP	-4.51%	-12.71%	-20.87%
BIODUE	66.73%	48.36%	47.54%
COVER 50	-10.10%	2.48%	-46.04%
ELETTRA INVESTIMENTI	-3.80%	-25.55%	-21.14%
CLABO	-6.90%	-61.78%	-59.97%
CALEIDO GROUP	-17.34%	-62.79%	-64.95%
DIGITOUCH	4.23%	0.28%	-10.23%
OVS	10.02%	43.58%	52.83%
ITALIAN WINE BRANDS	-15.16%	-18.89%	3.21%
FOPE	-16.90%	-4.17%	54.78%
4AIM SICAF	-7.28%	-61.29%	-22.32%
VETRYA	0.26%	0.26%	0.26%
SOLUTION CAPITAL MANAGEMENT SI	-3.32%	-19.21%	-29.15%
DOMINION HOSTING HOLDING	-8.18%	-22.89%	-50.31%
ENAV	-0.93%	-16.46%	-5.19%
COIMA RES	3.30%	-32.11%	-32.29%

Annex 4. IPO list (2/4) with relative CAR (Borsaitaliana.it + elaboration)

IPO list (3/4)	CAR 30 days	CAR 180 days	CAR 360 days
TECHNOGYM	13.66%	18.65%	49.89%
SMRE	-17.79%	-27.10%	74.57%
ABITARE IN	0.03%	25.20%	60.73%
SITI - B&T GROUP	3.57%	-12.32%	10.38%
ENERGICA MOTOR COMPANY	2.62%	3.43%	4.67%
ILLA	-12.27%	-10.98%	-16.11%
GEL	-16.08%	-12.10%	-44.81%
DBA GROUP	-5.55%	-1.52%	-23.04%
IDEAMI	-4.58%	7.35%	15.97%
GAMENET	5.47%	23.21%	15.13%
ALKEMY	-4.61%	1.92%	3.85%
EQUITA GROUP	0.53%	11.97%	29.57%
PORTALE SARDEGNA	-10.22%	-2.69%	13.89%
PIRELLI & C	6.80%	15.99%	9.18%
GIMA TT	14.95%	9.13%	-57.16%
NEODECORTECH	-3.58%	-8.92%	5.61%
ALFIO BARDOLLA	6.05%	-30.15%	-124.24%
PHARMANUTRA	-5.45%	-8.10%	30.43%
CULTI MILANO	-15.14%	-17.12%	-29.03%
DOBANK	-3.81%	3.81%	8.77%
DIGITAL360	-4.13%	-8.13%	-1.58%

Annex 5. IPO list (3/4) with relative CAR (Borsaitaliana.it + elaboration)

IPO list (4/4)	CAR 30 days	CAR 180 days	CAR 360 days
FINLOGIC	24.36%	28.75%	54.93%
WIIT	-4.68%	-4.18%	-25.93%
INDEL B	3.74%	19.28%	21.21%
BANCA FARMAFACTORING	10.15%	22.86%	12.36%
UNIEURO	22.08%	17.65%	-4.71%
TPS	0.76%	-6.12%	-12.24%
TELESIA	-35.34%	-45.03%	-82.47%
HEALTH ITALIA	-7.10%	1.87%	17.90%
Garofalo Health Care	5.21%		
Digital Value	10.28%		
Piovan	-0.59%		
Renergetica	-1.25%		
Sciuker Frames	1.46%		
Vimi Fasteners	1.50%		
Sostravel.Com	-4.74%		
Sg Company	2.39%		
Intred	8.66%		
Portobello	-38.07%		

Annex 6. IPO list (4/4) with relative CAR (Borsaitaliana.it + elaboration)

SUMMARY

The present study focuses on Special Purpose Acquisition Companies (SPACs) and aims at analyzing their returns in the capital markets.

Special Purpose Acquisition Companies are shell companies that are used as a tool for different financial purposes; indeed, they can be defined as investment vehicles, special kind of fund or alternative methods for quotation. A Special Purpose Acquisition Company can be defined as a company created by a group of investors called "Sponsors" with the aim to put together resources to acquire another company, which is commonly referred to as "target company".

The paper is divided in two parts: a first, qualitative approach introduces SPACs, while a second quantitative part focuses on the performances of this kind of companies in the capital market. In particular, in the first part, a clear definition of Special Purpose Acquisition Companies is provided, preceded by an overview on how companies can obtain access to the capital markets. Later, the financial characteristics of SPACs are analyzed in detail, followed by the presentation of their way to operate over their entire lifecycle. Finally, the development of this kind of companies is analyzed deeply in detail, looking at the connection between history and legislation, both in the United States and in Italy.

The quantitative part, instead, analyzes the impact of SPACs as a tool for listing operating companies in the capital market, in the short-term and in the middle-long term. The quantitative assessment includes Italian SPACs and it is mostly focused on share prices and shareholder returns. In performing the analysis, many periods and events are taken into consideration, such as the day of the IPO of the special purpose acquisition companies, the business combination with the target one and the overall period from their business combination to the predetermined date 31/12/2018. In addition, the analysis considers cumulative abnormal returns, which are defined and studied in the latest part of this paper. The aim of the quantitative analysis is to understand whether SPACs can be considered alternatives to Initial Public Offerings (IPOs) and to detect their performance against the market and against other companies listed through common IPOs.

Companies that want to grow need to raise capital. To do so, they can have access to the largest number of investors by entering the public capital market. A company has different possibilities through which becoming public. The traditional way to enter the public market is the Initial Public Offering (IPO), with which the company is, for the first time, exposed to the public market. An IPO can assume different shapes, such as Direct Listing Process (DLP), Book

Building Offering, the Fixed Price Offering and so on; the listing mechanism of these different IPO processes is similar. Despite Initial Public Offerings are the most used approach to become a public company, there are other different mechanisms through which a company can be listed. For example, a number of ways to go public, which differ substantially from the IPO and its several forms, require some kind of M&A transactions. Among all the M&A alternatives, an interesting method is represented by the "Reverse Mergers". A reverse merger is a merger which has as a consequence the quotation of a private company. More specifically, the private company is acquired by a publicly traded company, which is called "shell company". Reverse mergers present some advantages in comparison to the traditional IPOs: in general, they are faster, they imply less legal costs and transaction costs, they are less subject to fluctuations caused by market conditions and they require less effort for the managers of the target company to complete the process of quotation. Despite these advantages, reverse mergers also present some disadvantages for acquirers, who may have to deal with asymmetry of information, risks and uncertainty. "Special Purpose Acquisition Companies", commonly known as "SPACs", are one tool for "reverse mergers". SPACs, in fact, can be categorized as shell companies because of their special characteristics, such as the absence of operating activities and the balance sheet, that is mainly composed of cash and liquidity. Moreover, the business objective of SPACs, as well as that of shell companies, is the finalization of a business combination with a target company.

Prior the business combination, the SPAC is listed in the market through an IPO. In this way, when the acquisition is completed, the main consequence of the operation is that the target company accesses the public market. Among the other characteristics of SPACs, the one of the most relevant one is the fact that the founders of the SPAC have some price advantages in buying shares and warrants at the moment of the IPO and consequently, they are expected to own a relevant part of the equity of the SPAC. Another characteristic of SPACs is that 90% of the proceeds derived from the IPO is kept in a deposit institution account from which the financial resources are taken to acquire or to merge with the target company at the moment of the business combination.

The lifecycle of a SPAC can be easily divided into three main phases after its constitution: "No target", "Target found" and "Acquisition completed" (or "Withdrawn and Liquidation"). Between the constitution and the IPO, the main activity of the managers of the SPAC is the preparation for entering the public market. From the IPO onward, managers usually have a period lasting between 18 and 24 months to individuate a target company and to conclude the

merger with it. If the business combination does not happen, the consequence is the liquidation of the SPAC. After the individuation of the target, when an agreement between the managers of the SPAC and the ones of the target company has been found, a letter of intent is sent to the shareholders of the private company. After that, the announcement for the business combination is disclosed. In order to finalize the business combination, the approval of the shareholders is needed; during a shareholder meeting where the combination is discussed, shareholders can vote for the combination or against it. To be approved, the acquisition needs to reach the majority of the votes (50%) and that the fraction of shareholders that exercised the right of withdrawal must not exceed a threshold defined by the prospectus of the SPAC. If the combination has been approved, the acquisition takes place and, consequently, shareholders who voted against the combination are liquidated. The other part of shareholders, instead, become stockholders of the target company, which becomes a public firm. In case the business combination is not approved, instead, two evolutions of the situation can happen: if 24 months from the IPO have not passed yet, and if there is still enough time, managers repeat all the procedures to individuate a new target company and another business combination is still possible. If, instead, the time for the managers to implement a new combination is over, the liquidation of the SPAC takes place.

Following the description of the SPAC and its lifecycle, it is deductible how a SPAC can be also considered a tool for M&A activities. More specifically, the SPAC can be seen as an alternative tool for private equity. The main similarities between a SPAC and a private equity fund are: the fact that they both invest in private companies with similar characteristics (e.g. a strong management team); the limited time of their life; the active participation of the managers in the investment since managers both of SPAC and of private equity funds are required to invest part of their own resources in the target company, to limit the conflict of interests between investors and managers; and the compensation to managers. On the other hand, SPACs and private equity funds differ in the way they collect money. Indeed, if an investor wants to invest her money in a fund, she must do it through a private placement, while if she wants to put her money in a SPAC, she has to buy shares of the SPAC. a SPAC and a private equity fund also differ in terms of portfolios, since on one hand a SPAC merges with one target only, committing a large part of its resources in it; on the other hand, a private equity fund tends to diversify its investments, acquiring more than one target firm. Another difference between a SPAC and a private equity fund concerns the time horizon of the investment; indeed a self-requisite of SPACs is to identify and to finalize a business combination within 24 months while the private

equity activity implies on average investment timeframe of 5 years. Lastly, SPACs' investors enjoy the rights of exit and voice, while investing in a private equity fund they would not have any right of exit or voice.
Moreover, a SPAC can be an exit strategy for a private equity operation, in the sense that if a company in which a private equity fund has invested is not allowed to become a listed company because it does not meet some requisites, the fund can think about investing in a SPAC and then use it to merge with the target company with the aim to make the target listed, avoiding all the requirements of the legislation and sell all the shares on the public market.

Moving onto the development of SPACs in history, economists say that SPACs were born in the '90s in the United States as an evolution of blank check companies. The development of SPACs has been considerably affected by the changes in regulation. In fact, due to the thought that blank check companies were drivers of fraud and manipulation, regulators (especially in the American context) started implementing some plans to eliminate or reduce the negative effect of these investment vehicles and later to help the diffusion of SPACs, which were consider an effective tool from which the economy could benefit and less subject to fraud. The first regulation setting specific rules for shell companies is Act of 1933 promulgated by the PRSA (Public Relation Society of America), which gives a definition of blank check companies and of penny stocks and limits their trading, leading to a decrease in frauds and manipulation. But the most effective rule for SPACs is SEC Rule 419, which introduces some requisites that are adopted by SPACs. In truth, Special Purpose Acquisition Companies are not subject to SEC rule 419, since they avoid being categorized as blank check companies for sizing reasons, but for certain aspects they comply with it. For example, according to SEC Rule 419, 90% of the IPO's proceeds must be kept in an escrow account until the finalization of the business combination, the shareholders' approval is required prior the business combination and the time limit to finalize the acquisition. The just mentioned characteristics are part of SPACs key elements. In the American framework, the markets did not need much time to understand the potential benefits that SPACs could have provided to the economy, thus they adopted some rules aimed at helping the integration of SPACs in the market. So far two major waves of SPACs evolution can be defined: the first one, happening in the last years of the 20th century and the second one, starting at the beginning of the 21st Century, when EarlyBirdCapital, the investment bank of David Naussbaum, launched a second generation of Special Purpose Acquisition Companies in the market. More precisely, since 2003, in the US market, more and more SPACs are demonstrating to be successful, given that most of them have finalized or

disclosed an acquisition. Since 2003 onward, in fact, SPACs have become more and more popular among the public, private and institutional investors, becoming an alternative tool for companies to raise capital and to enter the public market, and for investors to gain returns. Originally, in fact, Special Purpose Acquisition Companies were only traded in OTC markets, since these markets are less regulated; soon, however, they started to trade also on exchange, where more quantitative requirements have to be met by the company to be able to trade. In fact, AMEX adopted SPACs in 2005 and NYSE and NASDAQ did it three years later.

Needless to say, SPACs have not only flourished in the American market. Indeed, SPACs became popular also in Europe. In Italy, SPACs started to be present only ten years after the American boom, in 2011, when the first Italian SPAC, Italy 1 Investment, was founded and listed in the market. The Italian economy is mostly characterized by small-medium size enterprises and, nowadays, start-ups are becoming more and more frequent. Historically, the Italian economy has been affected by the concept of "family-owned firm", which does not allow companies to expand beyond certain limits. Despite these features of the Italian economy, in order to break the slowdown that the Italian economy was facing after the 2008 financial crisis 08, many Italian companies understood that something needed to be changed. In fact, from 2011 to 2014, after the crisis though, the structural component of Italian firms started to change. In this framework characterized by a necessity of grow, SPACs also developed in the Italian economy. In 2011, a wave for Special Purpose Acquisition Companies started to take place in Italy. From that moment, in fact, around 30 SPACs have been created, 11 of which have completed a business combination within 31/12/2018. A dedicated legislation for SPACs in Europe and in Italy is not present. Consequently, SPACs are only regulated by the requisites of the market in which they trade. The Italian market Borsa Italiana is divided into three main sectors: the Italian Stock Exchange (MTA), the Alternative Investments Market (AIM) and the Market of Investment vehicles (MIV). Most SPACs were initially traded on the AIM since it has a less strict regulation. The AIM is a non-regulated market dedicated to small-medium enterprises that are looking for resources to expand their operations. The market presents very simple requisites. In fact, size limit is not required, the floating is low, and the needed documentation is basic. Moreover, regarding the accounting standards, the choice for the managers is very broad, since they can choose among three different kinds of accounting principles. Later, SPACs started to diffuse also on the MIV, which has been created by Borsa Italiana and the London Stock Exchange with the aim to provide capital, liquidity and visibility to investment vehicles. The MIV is a regulated market mainly dedicated to the Special

Investment Vehicles (SIVs), among which SPACs can be categorized. Despite it is dedicated to SIVs, the requirements for a company to enter in the MIV are stricter; indeed, among other requisites, the demanded floating is higher than for the AIM, there is a formal requirement for the capitalization and there is no choice for accounting standards. For investors, instead, the advantages found in the MIV are the presence of liquidity, transparency and the possibility to invest in a regulated market (A. Paletta – 2018).

Summarizing, the American and the Italian frameworks present some differences in terms of legislation for the SPACs. On one hand, American rules faced an innovation derived from problems regarding blank check companies. From a necessity of limitation of blank check companies in the American markets, SEC rule 419 was born, with the aim to protect investors. Later, after the more and more popular thought that SPACs are an innovative tool for quotation and for investments, American markets like AMEX, NYSE and NASDAQ, started to change their requirements in order to adopt SPACs, which are more and more popular as alternatives for IPOs. On the other hand, the Italian framework is characterized by a limited ability in giving a definition to SPACs in order to regulate them. Despite this limit, Italy presents two market segments where securities of special purpose acquisition companies can trade, allowing them to be present in the Italian framework as a tool for quotation.

SPACs are financial instruments with some advantages and disadvantages. The most effective advantage for investors is that they are entirely reimbursed in the case that the shell company is not able to finalize a business combination within the length of its life, so the shareholder's investment in a SPAC can be considered like a risk-free one. Another advantage for the investors concerns the redemption right. Shareholders, in fact, can exercise it at any time, in the case they do not agree with the proposed acquisition made by managers. Needless to say, a SPAC does not represent the perfect financial instrument, since it also carries some disadvantages, like the fact that managers, who have the fear of not being able to conclude an acquisition, may be pushed to acquire a target that is not the best one. From the target company point of view, it can be possible to state that for a private company that wants to become public, implementing the listing process using a SPAC is easier and faster.

After the discussion of the qualitative aspects of SPACs, this paper performs a deep dive intotheir performance The aim of the analysis is to compare SPACs returns to market returns and to understand if SPACs can be considered as effective an alternative to IPOs in terms of shares performance. The framework for which the analysis has been finalized is the Italian one.

To discuss the performance of SPACs, the analysis focuses on different periods and key moments from the IPO to 31/12/2018: the first trading day (each SPAC vs sample of 85 IPOs and vs the market), the business combination day (each SPAC vs the market), the period from the business combination to 31/12/2018 (SPAC vs market return and SPAC vs industry return), year 2016, 2017 and 2018.

In the first 2 steps, the analysis focuses on the performance of SPACs during one single, significant, day (IPO and Business Combination).
In the last 4 steps, the analysis defines SPAC shareholders' return over the period, comparing it with market return and industry return. In the last 4 periods, a more and more detailed analysis is carried out. At the beginning, in fact, SPACs are considered into a unique portfolio that is compared to the market. Later, the portfolio is divided according to different industries and finally each SPAC is evaluated individually. The final step of the analysis is to compute the Cumulative Abnormal Return (CAR) for each SPAC, comparing it with the market return and with other companies listed through normal IPO.
Data has been mainly collected through the online platform Thomson Reuter Eikon, from which daily returns of SPACs[8], of the index of the market (FTSE ALL SHARE) and of the industries have been downloaded. Other instruments utilized in order to obtain data are the website of Borsa Italiana, on which the name of all the companies listed through IPO from 2013 to 2018 (needed for the CAR calculation), is accessible.
The first discussion regards the day of the SPACs' IPO. The analysis focuses on an interesting aspect of the IPO in general. In fact, a common aspect of the quotation of a company through IPO is the so called "IPO under-pricing" which, in Italy, it influences the share price of 8.41%, according to an analysis based on a sample of 85 companies listed on the Italian market. SPACs, on average, on the first day of trading provide a return of -0.37%, underperforming ordinary companies. A possible justification is related to asymmetry of information. The underpricing seems to be related to the fact that investors are not equally informed, and the effect of adverse selection takes place. Probably, SPACs' IPOs do not lead to such asymmetry of information, since there are no investors who can obtain more information than others, given that the target company for a business combination, which is the only business plan of a SPAC, is not disclosed at the moment of the IPO.

[8] *SPACs analyzed are: IVS Group, FILA, LU-VE Group, SeSa, Avio, Cellularline, Acquafil, GPI Group, ICF Group, Orsero, SIT.*

A second moment that should be interesting to look at is the day when the business combination takes place. On this day, in fact, the merger can influence the share price positively or negatively according to the reputation investors assign to the target company, or to their thoughts about success of the merger. Moreover, the business combination day can be considered as the day in which the access into the market of the target, the operating company, happens. On average, the acquisition of the target company leads to a positive return of 2.12%.

Moving onto the analysis of the performance over time, it is possible to derive that SPACs, when considered all together in a continuously rebalanced portfolio[9], overperformed the market if the considered period is the one that starts at the moment of the first business combination in Italy and ends at the end of 2018. In fact, the SPAC based portfolio gained 41.34% in its value against 11.63% obtained by the index FTSE ALL SHARE. Moreover, SPACs provide a higher return even investing exclusively in year 2016 (11.51% vs -7.10%) or 2017 (24.35% vs 13.62%). The only period analyzed in which SPACs underperformed the market is from 01/01/2018 to 31/12/2018, when the constructed portfolio lost 21.76% of its value while the market lost 16.69%. More precisely, it can be concluded that in periods of growth of the market, SPACs seem to absorb more positive effect than the market, as reflected from the period that goes from 2013 to 2016. On the other hand, instead, SPACs seem to suffer more than the market in the periods of negative return of the entire market. In year 2018, in fact, the market lost less value than the SPACs. Summarizing, SPACs would seem to be a better investment than investing in the FTSE ALL SHARE if an investor had bought all the possible SPACs in Italian market, keeping rebalancing her portfolio from the quotation of the target company, or in year 2016 or 2017.

Investing in SPACs would seem instead to be a worse choice than investing in the index of the sector they belong to. In fact, applying the same technique to compare SPACs as a unique entity to the competent industry, it is possible to derive that they have overperformed the market if

[9] *It is supposed that an investor has 100€ to invest and she wants to create a continuously rebalanced portfolio made entirely by SPACs.*

This means that on the day of the first business combination, she invested 100€ in that SPAC, until the day of the second business combination is finalized, when she rebalanced the value of her portfolio between the two SPACs present on the market.

the considered period is the one that starts at the moment of the first business combination and ends at the end of 2018 only in the industry of Industrial Goods & Services. In the Retail and Chemicals industries, instead, investing in the indexes rather than investing in SPACs would have provided a better result. The work shows that the SPAC-based portfolio performed 40% less in Retail and 22% less in the case of the Chemicals industry. In the first case, the difference is due to the fact that in periods in which the entire sector grows, the portfolio is not able to increase its value at least as the index does. In the second case, instead, the difference may be due to the fact that the portfolio lost a considerable value during 2018, differently from the index. The other case that has been analyzed is the case of Industrial Goods & Services industry. In this scenario, the return of the two securities is very similar, differing by only 2%.

SPACs in the Retail industry provided a higher return exclusively in year 2016 or 2017. The only period analyzed in which SPACs in the retail industry underperformed the industry index is from 01/01/2018 to 31/12/2018. SPACs in the Industrial Goods & Services industry provide a return higher than the industry in 2016 and limited its loss in 2018, while underperformed the index in 2017. In the Chemicals industry, SPACs never beat the market, neither considering the overall period after the business combination nor considering only year 2018.

After discussing the return of the SPACs as englobed into a portfolio, the following step is to analyze SPACs performance individually. Performing this kind of study, considering the period from the business combination of each SPAC to 31/12/2018, it can be concluded than even if SPACs' return is below zero, it is still higher than the market return by almost 10%, given that the market obtains a return of -10.06% while SPACs -0.33%, on average. Of course, different periods are taken into consideration since SPACs have not been listed all in the same day. Analyzing instead years 2016, 2017 and 2018 separately, the results are as follow: on average, in 2016, SPACs overperformed the market since the average return of SPACs listed in 2016 was 12.28%, versus -7.10% of the market; in 2017, SPACs beat the market as well, providing an average return of 26.55%, 13% more than the market, which gained 13.62%; 2018 was a year with a downward trend for the market, which lost 16.69% of its value and for SPACs as well, given that they lost, on average, 20.97% of their value. If SPACs are instead compared to the industry they belong to, in very few cases SPACs overperformed the industry index. In particular, considering the overall period of life of the SPAC in the market, the only SPAC that had a high different return than the index in a positive sense is FILA.

After having evaluated the performances of SPACs comparing their returns with the market and the index related to the industry they belong to, the analysis focuses on Cumulative Abnormal Return (CAR), useful to compare performances of SPACs with performances of companies listed through IPO in a short-term view, to see if there are some differences due to the way they accessed the capital market. Moreover, this analysis allows to derive whether reverse mergers processed through special purpose acquisition companies are valid alternatives to initial public offerings. The CAR is computed for 30 days following the business combination. In addition, CAR for the first 180 and 360 days following the access into the market of the companies are calculated. Considering the 30-day period, on average, SPACs provided a positive CAR of 0.50%, while IPOs provide a -0.92% CAR. Given that SPACs' CAR is greater than zero while IPOs' CAR is negative, it is possible to conclude that SPACs overperform the market, and the market over performed the companies listed via initial public offering. Regarding the 180-day period, the CAR of SPACs, on average, was1.79%, against -6.94% provided by IPOs. Even in the case of the 360-day period, it can be concluded that SPACs over performed IPOs in terms of CAR. In fact, SPACs' cumulative abnormal return is 1.99% while IPOs' is -9.52%. As a conclusion, it can be derived that companies listed through a Special Purpose Acquisition company over performed those listed via the common initial public offering. Moreover, it seems that the longer the period in which the CAR is computed, the greater the discrepancy between the two classes of firms, among the three periods considered. The conclusion that can be drawn from this step of the analysis is not only that SPACs can be seen as alternative methods of IPOs for a company that wants to become public, but also that the reverse merger processed through a SPAC seems to provide better results than the common IPO in terms of cumulative abnormal returns.

Summarizing, the results of the analysis allow to derive the conclusions listed below.

In the first place, it can be stated that considering SPACs individually, the return an investor would have had investing in SPACs form the period that starts in the day of the business combination and ends on 31/12/2018, would have been greater than the market one. A SPACs' characteristic that can be derived from the analysis is their tendency to take advantages in periods in which the market is in a growing period. On the other hand, SPACs typically lose more value in periods in which the market is in a downward trending period. Lastly, SPACs overperform the market in the day of the business combination. The second conclusion can be drawn by comparing SPACs' return to the return of the index of the industries they belong to. The 11 SPACs listed in the Italian market, if considered separately, provide substantially higher

return only in the Personal & Households Goods, in which FILA obtained a return of 35% against the -9% of the industry. In the other industries, investing in the index would have provided to investors a higher return.

Linking the first two derivations and analyzing SPACs individually from their business combination to 31/12/2018, it can be stated that they allow to save more value with respect to the overall market but, if their performances are compared with the ones of the companies in the industries in which they can be categorized, SPACs over performed the industry-specific index only in the Retail and Construction & Materials industries.

In the first part of the analysis, a continuously balanced portfolio constituted only by SPACs has been created. The portfolio simulates an investment started at the moment of the quotation of the first SPAC (IVS Group) and ends on 31/12/2019. It is interesting how this kind of investment would have provided a return of about 40% in 4 years and a half, leading to a 9.33% annualized return. Over the same period, investing the same amount of money in the FTSE ALL SHARE would have provided a return of only 11%, annualized at 2.88%. Consequently, it can be confirmed that buying a diversified portfolio made only of SPACs would have provided better results compared to the market in the considered period.

Moreover, the same analysis has been implemented for each industry, but in this case, the continuously rebalanced portfolio has been constructed only for those industries in which more than one SPACs trade, whereas for the sectors with only one SPAC, the results concern each SPAC individually. From the analysis of the continuously rebalanced portfolio made of SPACs, it can be stated that the results in terms of returns follow the pattern emerging from the individual analysis: without differing industry by industry, in fact, SPACs overperform the market, but dividing for each sector they underperform the industry-specific index.

As a conclusion, an investment in SPACs that is sufficiently diversified among industries would provide to the shareholder a good return, compared to the market one.

The last part of the analysis focuses on cumulative abnormal returns concerning the short-term performances of SPACs, and involving a comparison with companies listed through initial public offerings. According to the analysis, it can be concluded that considering three different time spans, that are 30 days, 180 days and 360 days, SPACs performed better than IPOs. Moreover, SPACs' cumulative abnormal return is positive in every case, leading to the conclusion that in the very short-term, not only they perform better than the IPOs, but also, they provide better returns than the market.

So, the results of the analysis point out that SPACs can be considered a good investment both from the medium-long term period point of view and from the short-term period perspective. Moreover, the best returns can be obtained by diversifying the investment in SPACs over the different industries they belong to.