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IPOs as Investment Opportunities for Retail Investors: An Investigation

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Introduction

Initial Public Offerings, or IPOs, are equity instruments triggered by a wide range of institutions, from multinationals to start-ups, to initiate a quotation on the stock market. Just like any other equity instrument, IPOs can be a source of gain for different players in the market, as well as a source of loss for others. Even though they do not represent a major sector of the stock market, public offerings are important components in the life of a company: when a company is quoted on the market it automatically puts at public disposal part of its ownership in the exchange of an adequate capital. The latter statement fully encloses the underlying concept behind IPOs, which consequently begs the following question: who is entitled to purchase a share of ownership of a firm and would they benefit from investing their money this way?

IPOs are a peculiar element on the stock market, they may have positive, negative, or neutral outcomes, and be beneficial to different agents in different ways, nevertheless, the process that brings them to life suggests that their benefits are meant to be perceived by a small niche of entities. However, free markets allow everyone who wishes to do so to buy and sell shares of any kind, therefore, although marginal in the grand scheme of IPOs, the participation to public offerings is justly extended to retail investors. Because retail investors are more puzzling, vulnerable and endure less predictable results than other investor kinds, the aim of this thesis is to determine the type of investment opportunity IPOs represent for retail investors, exploring whether the advantages of buying newly issued shares outweigh the risks. What is interesting about retail investors is their importance in the whole mechanism of IPOs: they may trade smaller sums than other large investing entities, yet they are many and are often responsible for behavioural biases influencing financial imbalances. This investor type is easily influenceable by mass behavior and does not necessarily act rationally, making it an intriguing subject to examine in the IPO context, nonetheless the analysis' focus will be on IPOs as investment opportunities.

The investigation opens with a broad view of the stock investments, in the first chapter, to offer a basic structure of the IPO's environment; that includes defining equity investments and stock valuation methods, to describe fundamental notions needed in order to be able to exert in the stock market, such as the risk and return relationship from a statistical stand point; also, two main equity investment strategies – growth and value – will be compared, to point out the types of investors present in the stock market and, more importantly, to introduce the concept of IPO investing; in conclusion there will be an explanatory distinction between primary and secondary markets, the two main stages of IPOs that matter to investors.

The analysis will then move to the second chapter with the actual definition of IPOs, exploring the whole procedure involved in the realization and purpose of these instruments; the prospective of the companies going public will be elaborated in depth, to show why would company want to do public offerings to begin with. In this section of the thesis the position of retail investors in the marketing of new shares will be studied to better understand the convenience of these entities in participating into public offerings; finally a glaring historical example shall be used to emphasize the importance of retail investors' role in the IPO market: the dot-com crush.

In the third and last chapter, the investigation shall take a case-based route to better explain the mechanics of IPOs in the stock markets as well as whether there are actual opportunities for profits retail investors. The chapter will thus open with two cases of public offerings which have had opposite outcomes, analyzing tangible data to assess the motives for these outcomes and the advantages or risks that retail investors could incur if they had placed their money in either enterprise. To conclude both the chapter and the thesis, there will be a comparison between the cases' firms and an evaluation of individual investors' leverage on IPO investing.

Chapter 1 – Stock Investment

The purpose of this chapter is to function as an introductory component to lay down the necessary foundations from which to start building the analysis concerning the risks and advantages involved in investing in IPOs. The focus of the underlying will be on defining the concept of equity investment and describing the characteristics constituting investment decisions, specifically related to stocks. The chapter opens with a breakdown of the framework of equity investments, defining some key terms and discussing the recurring themes of stock valuation, and risk and return; subsequently, a second section will be dedicated to distinguishing two important forms of equity investment strategies, value and growth; finally, there will be a comparison between the primary and secondary markets, in which the topic of IPOs shall be introduced and given a context.

1.1 Equity investments

"Investment" is defined as the act of committing money in the present with the expectation of receiving a future benefit, where an entity called investor attempts to increase his or her future consumption possibilities[1]. Continuous technological progress has caused the course of action of an investment to evolve through time, but the raw principle has remained unchanged: to spend a significant amount of wealth in a project with the purpose of receiving a monetary gain. While the concept may sound fairly simple, the prosecution requires a more complex examination that involves a number of variables of uncertain nature, in order to ensure the success of the investment.

Investments are the driving force of all financial markets, involving various economic agents with various objectives. As commonly renowned, businesses, companies and extremely wealthy people form the fraction of entities that invest to increase their capital and consequently invest further; however, households invest to increase their income and quality of life, or to make purchases in the present they can only afford through payments in

[1] Mishkin & Eakins, *Financial markets and institutions*, 2018

instalments; the government, instead, invests in infrastructures and public services to increase the social welfare of citizens. Since investments can be of different types and lead to different outcomes they constitute a major role in all economies, however this analysis will concentrate on capital raising investments, and more specifically equity investments.

When discussing specifically equity investments, investors have a vast array of strategies and tools at their disposal and always try to make the best use of their arsenals to derive what in finance is called a "return"; in this scenario risk plays a major role in determining the set of possible outcomes of an investment. As two fundamental elements in the composition of all types of investments, risk and return have a strong, renowned correlation – higher risk means higher return – which will form a crucial aspect of focus for this analysis and will be further elaborated on throughout this section.

Equity investments is a broad category of investments that comprise the trading of stocks on the market among various types of investors. Generally, an agent invests in a company by buying the securities the latter has issued; profits arise only when the stocks are sold to other investors, or when the proceeds from liquidated assets are distributed to all investors, prioritizing first all the underlying companies' obligations, a procedure called equity contribution. It can thus be concluded that profits, or eventual losses, are related to the performance of the firms in which the involved entities invest, as well as the kind of stock bought. There exist two main types of stocks: common stock and preferred stock. Common stocks represent ownership rights in a corporation, giving an owner, called "stockholder", voting rights[2]; they generate copious dividends for their holders which, hierarchically, are the last to be paid out, yet these stocks remain more popular among investors and companies. On the other hand, preferred stocks represent a greater claim over a company's assets and a constancy of dividends, and they may be subject to fluctuations in the market's rates[3]. These features recall a fixed-income type of investment, specifically bonds, however, firms are not obliged to presently pay the stream: dividend

[2] Mishkin & Eakins, *Financial markets and institutions*, 2018
[3] Bodie, Kane, & Marcus, Investments, 2018

payments may be unfulfilled, but when arrears are distributed preferred stockholders have priority over common ones[4].

Common stocks are the protagonists of equity investments: all major indexes such as NASDAQ and Standard & Poor's 500 are composed of common stocks, subsequently, companies most often issue these stocks to raise a significant capital in a short period of time and investors purchase them to secure long-term profits[5]. Through dividends, investors may even realize higher returns in a shorter time-frame, but since equity's is an investment not based on interest return and that, actually, does not guarantee a constant income (if there may be one at all) most investors focus their profits on reselling their principal sum, that is, the stock price. Usually individuals turn to mutual funds to secure a successful return on their investments, so that they can be guided by asset managers who have more experience and expertise in building strategic portfolios. There are three main ways to invest in equity: growth portfolios focus on the potential higher growth, followed by potential higher returns, of companies; value portfolios focus on undervalued stocks which may yield high dividends[6]; blend portfolios may have characteristics of both growth and value portfolios and depends utterly on the current markets' conditions – These investment strategies shall be further discussed in paragraph 1.2.

As in most investment types, equity investment bears as many costs as it generates benefits. First of all, equity markets see their prices driven by supply and demand, meaning that investors' perception of information in the market plays a dominant role in influencing stock prices, creating an unpredictable volatility. Secondly, a minor, underestimated disadvantage may be a biased asset manager whom investors trusted with their capital; a biased asset manager, on a negative connotation, would be a manager who works with the fund's capital following his or her own believes or, in extreme cases, personal interests. Nevertheless, there are also certain advantages to investing in equity, such as an adjustment of risk through the participation in funds: the different kinds of portfolio funds that have arisen recently give a wide range of investors the

[4] Mishkin & Eakins, *Financial markets and institutions*, 2018
[5] Bodie, Kane, & Marcus, Investments, 2018
[6] Bodie, Kane, & Marcus, Investments, 2018

opportunity to engage in equity investment without being bound to a high degree of risk, that would only be bearable from the possession of a certain amount of wealth, for example, pension funds' managers are strictly meant to invest in AAA (safe) securities or similar. Another advantage, specifically for the type of equity discussed in this analysis, is a liquid market, which gives investors the opportunity to readily sell their stocks of listed companies whenever it pleases them. Moreover, diversification, to the right extent, is a valuable tool for eliminating unsystematic risk, that is, the risk linked to a singular company's stocks; thus, any investor is always well advised to compose his or her portfolio with stocks from various provenience, be it market sectors or geographic areas. Diversification too, however, if excessive, could lead to a mare replication of the indexes, where an investor tries to randomly pick as many stocks as possible without following a sound strategy[7].

1.2 Stock valuation

To assess the possible outcome of equity investment one needs to strategically measure prospective benefits and cost. The most direct way to succeed in this assessment is through stock valuation, defined as the method to determine the intrinsic value of a stock; the reason for this passage is that stocks' intrinsic value is not related to the current price, thus making it possible for investors to determine whether the market price of a stock is under- or over-valued. This process is heavily based on available information, yet a competent investor needs to be able to filter information that is both relevant and reliable.

Stocks valuation can be executed in varied manners, nevertheless, there are three most prominent methods which are most widely used and shall be discussed in more detail: the Dividend Discount Model (DDM) and the Discounted Cash Flows (DCF), which are characterized by an absolute nature, since they are derived using companies' fundamental information, and Comparable Companies analysis, which, as the name suggests, has a relative nature.

[7] Bodie, Kane, & Marcus, Investments, 2018

Best known as the Gordon Growth Model (GGM) the DDM is a quantitative method that tries to estimate a stock's fair value regardless of the market conditions, it does, however, consider market interest rates as well as dividends[8]. Consequently, the DDM builds on the theory that the value of a company corresponds to today's worth of the sum of all of its future dividends, by using a discount rate to calculate the present value of the underlying sum. The DDM derives, in fact, from the same principle of the time value of money equation represented below.

$$present\ value = \frac{future\ value}{(1 + interest\ rate\%)^{time}}$$

In the DDM the discount factor is not represented by the denominator of the above equation, but instead by the net interest rate factor, which is the difference between the Cost of Capital Equity and the Dividend Growth rate; the "future value" instead would be the Expected Dividend per Share. The final equation[9] will thus take the following form:

$$Value\ of\ Stock = \frac{Expected\ Dividend\ per\ Share}{Cost\ of\ Capital\ Equity - \ Dividend\ Growth\ rate}$$

Or more simply

$$V = \frac{D}{(r - g)}$$

where $r > g$

Future dividends can be complicated to estimate, though one can rely on historical data of a company and identify a trend in future dividends. The basic assumption in the model is that, by perpetuity, there is a fixed growth rate of dividends, thus the DDM singles out an estimated expected dividend per share (indicated with D) and then discounts it. The cost of capital equity, or r, that represents the rate of return expected by shareholders for tanking the risk of

[8] Mishkin & Eakins, *Financial markets and institutions*, 2018
[9] Mishkin & Eakins, *Financial markets and institutions*, 2018

purchasing the stock, can be found using the Capital Asset Pricing Model (CAPM), which is a relationship between the risk and the required rate of return of an asset, while the growth rate can be estimated similarly to D. The model does have some shortcomings: the assumption of constant dividend growth rate in perpetuity cannot be applied to all kinds of companies, especially those which do not distribute dividends regularly and on newer firms on the market; the model cannot be applied in cases in which r = g, or r < g, scenarios which can happen when there is a decrease in earnings or a loss[10].

Alternatively, the DCF method is a three stages process, which follows the growth of a company to evaluate the intrinsic value of a stock using both the discounted free cash flows (CF) of a firm and a discount rate determined by the Weighted Average Cost of Capital (WACC), which is a firm's cost of capital, represented by k. As a result, stage I of this model has a growth g for its CFs and takes the shape of the following expression[11]:

$$CF_0 + \frac{CF_0(1+z)^1}{(1+k)^1} + \frac{CF_0(1+z)^2}{(1+k)^2} + \frac{CF_0(1+z)^3}{(1+k)^3} + \cdots + \frac{CF_0(1+z)^n}{(1+k)^n}$$

Again, this model is based on the concept of time value of money, which in the formula above is portrayed by the powers of the discount factors, as well as the growth factors, generally representing the number of years. The expression then evolves in stage II, where a new growth takes place (h), as shown in the expression below:

$$\frac{CF_1(1+h)^1}{(1+k)^{y+1}} + \frac{CF_1(1+h)^2}{(1+k)^{y+2}} + \frac{CF_1(1+h)^3}{(1+k)^{y+3}} + \cdots + \frac{CF_1(1+h)^n}{(1+k)^{y+n}}$$

where

$CF_1 = CF_0(1+z)^n$

$y = 1 + 2 + 3 + \cdots + n$

[10] Mishkin & Eakins, *Financial markets and institutions*, 2018
[11] Rosenbaum & Pearl, Investment Banking, 2009

Ultimately, stage III is the maximum that an analyst will consider normally, and it is the stage at which a firm's growth is expected to roughly stabilize, denoted by g in the following expression.

$$\frac{D\ (1+g)}{(k-g)(1+k)}$$

In fact, the last stage is expressed with the Gordon Model, since there is a stable growth and an infinite number of cash flows, which in this case are dividends (D). What is thus important in order to use this model is access to valid information, making it a tool well suited for publicly listed companies, it would be otherwise difficult for an investor to make calculations based on intuitions. The DCF too, however, does not come without disadvantages: during the course of a long period, the risk-free rate, an important component of the WACC, and thus of k, may change, invalidating the project if not accounted for; minority shareholders cannot access future cash flows and may find it complicated to use this method for they would have to make too many assumptions, leading to imprecise results[12].

Lastly, the Comparable Company analysis is a valuation method that relies heavily on the comparison among similarly-sized firms in the same industry[13]. An important assumption of this model is that comparable companies are characterized with alike valuation multiples, therefore, investors are meant to use determined metrics of these firms and calculate certain ratios, amongst the most common ones the most important is the price-earnings (P/E) ratio. The P/E ratio represents the ratio of the current stock price to earnings per share and it is particularly relevant because it signals how much investors are willing to pay for one dollar of earning. These ratios need to be calculated for a delineated pool of firms, so that an average can be made, and an investor is able to derive the theoretical stock price for the interested industry; the average serves as an indicator to assume whether a company is under- or over-valued. Unlike the previous two methods, the Comparable Company analysis does not aim at

[12] Rosenbaum & Pearl, Investment Banking, 2009
[13] Rosenbaum & Pearl, Investment Banking, 2009

finding a stock's intrinsic value, but a hypothetical price supposed to fit a group of firms. From a technical point of view, it is not a particularly demanding model, however, defining the right array of firms and relying on the gathered information and assumptions could turn to be a challenging, and most importantly risky, task[14].

After having discussed only some of the evaluation methods for stocks, it can be concluded that although return always plays a protagonist role in the analysis of an investor, the components of risk and information constantly appear as essential considerations to account for to ensure the success of an investment, even for a single stock. Intuitively, the responsibility for the reliability of the information gathered falls on the investor, or whoever represents him or her, an effort that should not be too great a burden when working with publicly listed stocks. On the other hand, risk requires an intense analysis on which the next section shall focus on, where the previously mentioned relationship between risk and return will be explored through a more statistical approach.

1.2.1 Risk and Return

As already stated, risk, to investors, is as important as return. Broadly defined as the range of possibilities for an investment to not yield the desired outcome, risk is the component that influences return more directly, giving rise to different theories about the relationship between the two. The fundamental idea in finance is that the higher is risk, the higher is an investment's expected return, and this always holds because investors expect a compensation for taking a higher risk. Because risk is an uncertain value, purely influenced by macroeconomic developments and corporations' disclosures, analysts can at best estimate its rate using the available information in the market, thus there is no such thing as a "natural" risk level. The same goes for return; when looking at historical data, one can attempt at making an expectation of the possible gains from an investment, which is why throughout this section return will be addressed to as speculative and denoted by $\tilde{r}$; risk, instead, shall be denoted as

[14] Rosenbaum & Pearl, Investment Banking, 2009

$\tilde{R}$. It can thus be concluded that neither risk nor return can be directly observed, what can be observed, though, are realized returns, from which investors can develop past forecasts of expected risk and return to consequently forecast future expected risk and return. Only by analysing past data and using a set of statistical tools can one make future inferences to build a profitable portfolio.

Conventionally, assets pay an income in the period in which they are held, thus a general idea of the theoretical rate of return from an asset is represented in the following formula[15], that calculates the so called holding-period return of a stock:

$$\tilde{r} = \frac{\tilde{P_1} + \tilde{D} - P_0}{P_0}$$

where

$\tilde{P_1}$ = price of stock at the end of the period

P_0 = price of stock at the beginning of the period

$\tilde{D}$ = dividend paid out by the stock

As shown, return over a specific period is basically the sum of the capital gain, which is the difference between the price at the end of the period and the price at the beginning of the period divided by the latter, and the dividend yield, which is the dividend paid out by the asset divided by the price at the beginning of the period. Because the obtained value for return is uncertain, investors need to quantify their believes about the likeability of the underlying returns to happen in any possible market scenario; to proceed about the realization of this so called probability distribution two components must be identified: expected return ($E(\tilde{r})$) and standard deviation (σ). $E(\tilde{r})$ is defined as the probability-weighted average of the rate of return in each hypothetical scenario as shown in the following formula[16]:

$$E(\tilde{r}) = \sum_{s} p(s)\tilde{r}(s)$$

[15] Bodie, Kane, & Marcus, Investments, 2018
[16] Bodie, Kane, & Marcus, Investments, 2018

where

s = scenarious

$p(s)$ = probability of each scenario

$\tilde{r}(s)$ = return in each scenario

σ of the rate of return, instead, is a measure of risk derived from the squared root of the variance. The variance, or σ^2, is the expected value of the squared deviations from $E(\tilde{r})$, portrayed in the formula[17] below:

$$\sigma^2 = \sum_s p(s)[\tilde{r}(s) - E(\tilde{r})]^2$$

As shown from the construction of the formula of the σ^2, the higher the volatility of the different possible returns, the higher the variance and, consequently, the standard deviation. It can thus be inferred that if investors used σ as their measure of risk they would prefer a lower final value, for it would mean that the average return is steady enough and the investment's risk is low: the investment could be considered "safe"; similarly, they would also prefer a higher mean return, for that would mean that the average return is prospected to be copious. Basically, it is assumed that investors only look at the mean return and the standard deviation, or variance, nevertheless, it should be noted that σ is a rather simplistic meter for risk since other elements must be scrutinized in the schemes of an investment, such as the preferences of the investor himself. σ is reliable as long as the established probability distribution is symmetric about the mean. Furthermore, one shortcoming of using this method is that each deviation from the mean that the various rates of return exhibit is not accounted for in a negative or a positive manner, and this happens because returns appear purely as numbers that deviate from the $E(\tilde{r})$[18].

Moreover, in order to identify all the plausible probabilities to assign to each possible return analysts look at historical data, in particular prices, over a specific sample period. Once identified this sample period, it is then possible to

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[17] Bodie, Kane, & Marcus, Investments, 2018

[18] Bodie, Kane, & Marcus, Investments, 2018

actuate the procedures and considerations described in this section to have a sense of future outcomes. The reason why this step is fundamental is because it is only by analyzing past results that one can formulate accurate, sound predictions and, most importantly, avoid pitfalls[19].

Another important aspect, which seems almost banal to highlight, is the amount of capital an investor intends to commit in relation to the risk and return forecasts. As already mentioned, investors expect higher rewards for taking higher risks, so the best way to measure this reward is by taking the difference between $E(\tilde{r})$ and the risk-free rate of return (r_f): this difference is known as the risk premium on common stocks. The risk-free rate is the rate of return obtained by investing in asses which have little to no risk, such as government treasury bills and bank deposits; Risk premium indicates how great a risk an investor is taking and consequently how great his or her return should be accordingly. The actual difference between $\tilde{r}$ and r_f is called excess return, in fact, risk premium is the expected value of the excess return[20]. The reason why investors' preferences were earlier mentioned as a relevant consideration in the forecasting of risk is conveniently shown through the concept of risk premium: one of the main distinctive characteristics among different kinds of investors is risk aversion, and, obviously, rational risk averse investors will only invest their money in stock when there is a positive risk premium, because should the rate of return of a specific stock be equal to the risk-free rate then risk averse investors would see no reason why they should not invest all their capital in risk-free assets, thus getting an "assured" return.

What is important to remember about this section's discussion is that the analysis described pertains to a single stock type but, realistically speaking, investors almost always invest in diverse stocks, creating a portfolio. Portfolios allow entities to perceive significant returns and diversify their asset choice Diversification, earlier nominated in the paper, is an important aspect of every portfolio, for it is the easiest and most effective way to minimize risk; while it is does not guarantee to utterly protect investors against loss, diversification may

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[19] Graham, Zweig, & Buffett, The intelligent investor 2006
[20] Bodie, Kane, & Marcus, Investments, 2018

be the best tool to direct a portfolio’s outcome closest to its average expected return.

1.3 Equity investment strategies

Now that the basics have been laid out to understand how equity investments are framed and how to value stocks and their returns, it is time to discuss the equity investment strategies to examine why investors prefer to dive into certain projects as opposed to others. Usually each investor has his or her own strategy in deciding in which industries and companies to place their capital, yet, portfolios created by rational entities tend to follow one of the few possible streams. An important distinction in portfolio management for equities is one which was already mentioned in the paper and that will be discussed in this paragraph: value and growth investing. These two approaches are actually complementary to each other and may be used simultaneously for the same portfolio, creating hybrids, for which famous investor Peter Lynch has been credited[21].

1.3.1 Value investing

Value investing entails creating a substantially diversified portfolio of companies that are either “young” in the market or that are supposedly undervalued[22]. Undervalued stocks are those with an intrinsic value higher than their market price, and, as shown in the stock valuation paragraph, there are various ways to evaluate stocks because all stocks possess an intrinsic value, but prices may fluctuate in the markets according to information and received from investors and not always do prices reflect these estimated values. Value investing’s aim is to hold these stocks long enough until a change in prices causes them to generate abnormal returns, a scenario which assumes that markets are inefficient, and investors thus have the opportunity for significantly larger returns[23].

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[21] Investopedia
[22] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[23] Mishkin & Eakins, *Financial markets and institutions*, 2018

The key to this strategy is the patience to wait for the stocks to experience a price increase, although, picking out the suitable stocks to compose the portfolio is fundamental in the success of this approach. An important precaution taken when investing through this strategy is to assure a substantial margin of safety between the low price paid for the stocks and their intrinsic value: it is important to mind that value investing is a thought-through meticulous procedure built on strong records tracking of the interested companies, not a speculative race, thus making it unlikely for the subjected stocks to experience excessive volatility in prices; yet there is still some risk of not gaining the desired outcome, and by taking a safety margin investors can protect themselves from steep losses. In order to realize this scheme an accurate fundamental analysis is needed: fundamental analysis is a method of security valuation that uses a broad category of any micro and macroeconomic factors that may serve to find a stock's intrinsic value; it may take either a quantitative of a qualitative form and it has the sole purpose to find a value that investors can use to compare with current market prices.

Value investors are seen as bargain hunters, seeking out undervalued stocks and taking long positions (buying shares and holing them for the long-run), similarly to grocery shoppers seeking out sales in a supermarket. These investors think that it makes no sense to purchase a stock that has a price higher than how much it is actually worth, so they attempt to "beat the market" by paying less for something that shall be worth much more in the future. The expected high returns have made value investments popular among investors and investment funds, giving fame to some world-renowned investors, such as Benjamin Graham and Warren Buffett[24]

1.3.2 Growth investing

Growth investing is a strategy that aims at building a portfolio with well-performing companies showing a growth margin for their future performances, with the objective of increasing an investor's capital[25]. As opposed to value

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[24] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[25] Mishkin & Eakins, *Financial markets and institutions*, 2018

investing, growth investing is not primarily concerned with the difference between a stock's price and a stock's value, in fact, this strategy is based on the reasoning that young, emerging companies, perhaps even overvalued, that have shown exponential returns, have a large margin of growth of profits. This approach is quite risky, especially since identifying firms showing potentials for earnings growth is an almost ambitious task, that demands the consideration of different aspects, such as the position in the industry, past financial performances and the type of industry in which the interested company is operating. Because investors conduct their actions using personal believes and trains of thought, the analysis of stock choice assumes also a subjective feature that may consequently increase the amount of risk involved.

Growth investors consider themselves as seekers of companies that outperform market expectations and are even willing to pay a premium on the worth of their shares with the prospect that the subjected companies will have such a sizeable growth that returns will follow the same trend[26]. These entities observe five main factors before selecting firms' shares: strong historical earnings growth, forward earnings growth, management's control over costs and revenues, management's operating methods, whether assets have the potential to double in five years' time. The attractiveness of growth investing derives from of the potentially impressive returns that could arise from successful firms' performances; yet this advantage could turn into a disadvantage in the case in which a distortion in the market, caused, for example, by a detrimental new information, may comport a sharp decline in prices and hamper young firms more severely, consequently obstructing returns[27].

A particular form of growth investing that needs particular attention for this paper's discussion is Initial Public Offering (IPO) investing[28]. IPOs are procedures conducted by private firms who want to be publicly quoted on the market, permitting investors to trade the shares made available; what makes them appealing to growth investors is their potential for short term high returns that usually follow, and which gave rise to the so-called dotcom bubble, as shall

[26] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[27] Investopedia
[28] Vitale, "Equity Markets and Alternative Investments ", 2015-2016

be further discussed. Furthermore, IPOs are particular investment types, since they comprise a number of stocks entering the market for the very first time. Therefore, the next paragraph shall focus on the important difference between primary and secondary market, pertaining to the context of IPOs.

1.4 IPO investing: primary market VS secondary market investing

Equity markets can be broadly divided into two main branches: primary equity market and secondary equity market[29]. Most commonly referred to as primary and secondary, these markets are used to trade specific kinds of stocks, and consequently subdivide into smaller categories of equity markets. The distinction of these two markets is decisive in understanding IPO investing, so that a comprehensive definition of the latter can be given in the next chapter.

The primary market is the environment in which equity share are initially sold, once issued, but it may also offer other types of “brand-new” securities, such as corporate or government bonds. This market may contain both privately issued stocks and publicly listed, or quoted, ones on a stock exchange, generally at a lower price than in the successive trading activities, which happen in the secondary market. Publicly issued stocks come from the previously mentioned IPOs and are used by firms to raise capital in a short span of time. Investors, on the other hand, tend to purchase IPO stocks to try and make a profit either in the short or the long-run, taking a, so called, long position. The primary market gives the opportunity to investors to see a company’s market worth for the first time, although prices, set in advance, tend to be volatile due to demand unpredictability. The primary market is mainly populated by larger investors, such as other companies or even hedge funds; some high-profile individual investors and particularly wealthy figures may be able to benefit from the IPO market as well, however it remains a hardly accessible domain[30].

[29] Mishkin & Eakins, *Financial markets and institutions*, 2018
[30] Mishkin & Eakins, *Financial markets and institutions*, 2018

Following the first sale of a new set of shares is the secondary market, where "smaller" investors may trade equity instruments. Thus, those IPO shares purchased in the primary market can now be sold to the next best bidder as ordinary common stocks. The secondary market is purely driven by supply and demand, so prices change accordingly. There is no capital raising since the issuer of the traded stocks is no longer involved in the transaction, in fact those who benefit directly from the exchange are buyers, sellers and eventual intermediaries involved. The reason why the underlying market is called "secondary" is because the securities traded are no longer related to their initial issuer and are thus entering their "second round", or more, in the market[31].

In conclusion, equity investing can take many forms and may be practiced by a vast number of entities, yet, the knowledge behind it is very demanding and requires particular attention. Even though modern times' brokerage services have facilitated the means by which it is possible to interact in this environment, increasing the pool of potential participants, to make a decent return always represents a challenge fit for a small niche. There are as many risks to be considered as there are possible scenarios, and uncertainty is ubiquitous in all types of investment. A peculiar type of investment dominated by dubious outcomes is IPO investing: IPOs are unpredictable instruments reigning the primary market and attractive to those who see a benefit in owning a specific firm's share. Before approaching IPOs, investors should be aware of the financial situation of a company and its place in the relevant industry; outcomes depend on different factors, which may be macroeconomic or opinion-orientated, nonetheless, with a solid analysis and a strong strategy IPOs may be highly advantageous. This thesis' analysis, however, aims at showing why the risks and eventual losses of engaging in the subjected investment exceed the feasible gains. The next chapter shall give a more in-depth analysis of IPOs' processes and explore the reasons for this thesis position.

[31] Mishkin & Eakins, *Financial markets and institutions*, 2018

Chapter 2 – Initial Public Offering (IPO)

After having explored the most relevant concepts of equity investments in relation to this thesis, sufficient grounds have been laid out to analyse thoroughly the structure and functioning of IPOs and how investors interact with these financial instruments. A paragraph will also be dedicated to describing the extreme historic scenario of the dotcom bubble, to strengthen the idea that, despite the various advantages, IPO investing is more costly than beneficial.

2.1 What is an IPO?

According to Benjamin Graham's *The Intelligent Investor* (1959), "*common-stock offerings take two different forms. In the case of companies already listed, additional shares are offered pro rata to the existing stockholders. […] The second type is the placement with the public of common stock of what were formerly privately owned enterprises*"[32].

As can be extrapolated from Graham's words, Initial Public Offering, or IPO, can be defined as the issue of new common stock from a company, and is one of two ways in which new shares are introduced in the primary market. On the other hand, selling new stock after already having gone public is referred to as seasoned equity offering[33], and can actually be interpreted as requiring a premium from a firms' own stockholders in order to maintain the same share and rights of ownership – a procedure become very unpopular in the US, but which remains practiced in Europe[34].

While enterprises "go public" merely for personal gain, IPOs are alluring opportunities to many retail investors – individuals intended as non-professional investors who invest smaller amounts of money through brokerage firms or savings account[35] – who, however, hardly have the means to participate in the primary market. Normally institutional investors – hedge funds, commercial

[32] Graham, Zweig, & Buffett, *The intelligent investor* 2006
[33] Bodie, Kane, & Marcus, *Investments*, 2018
[34] Graham, Zweig, & Buffett, *The intelligent investor* 2006
[35] Investopedia

banks, insurance companies, and so on[36] – have a closer reach to IPO stocks since they have the greatest influence on demand and supply, and thus prices, in the security market[37].

Even though the scope of this thesis is to examine the role of retail investors in the context of IPOs, this paragraph shall be dedicated to an elementary explication of the players and mechanisms that drive the primary market, relating consistently to public offerings.

2.1.1 Structure

When firms are in need of raising capital, they have various ways in which to act; some chose to seek funds privately, however, this method rarely works when large sums are required in a short span of time. Consequently, firms will prefer to go public with an initial public offering, where shares of stock are sold to the public to be traded freely between investors.[38]

Intuitively, IPO procedures derive from an enterprise's initiative to grow and expand, especially in the case of "young" emerging companies, and to do so a strong financing plan is required. These procedures are generally managed by investment banks, which gain the appellative of underwriters: their role is to manage the issued stocks, set a price on them and resell them to the public in the primary market[39]. The greatest benefit, in the end, goes to the issuer of the equity, who gains a capitalization and thus increases its value.

Thus, when a firm, referred to as issuer, takes the decision to go public, it is the underwriter's duty to support the former with any aspect related to the marketing of the securities, beginning from the prospectus. The prospectus is an official registration statement with which a firm wishing to do an IPO declares its intent to the market regulating body. Once this statement is approved it is published and distributed to a web of potentially interested investors[40].

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[36] Investopedia
[37] Bodie, Kane, & Marcus, *Investments*, 2018
[38] Lee & Lee, *Encyclopedia of Finance*, 2006
[39] Lee & Lee, *Encyclopedia of Finance*, 2006
[40] Bodie, Kane, & Marcus, *Investments*, 2018

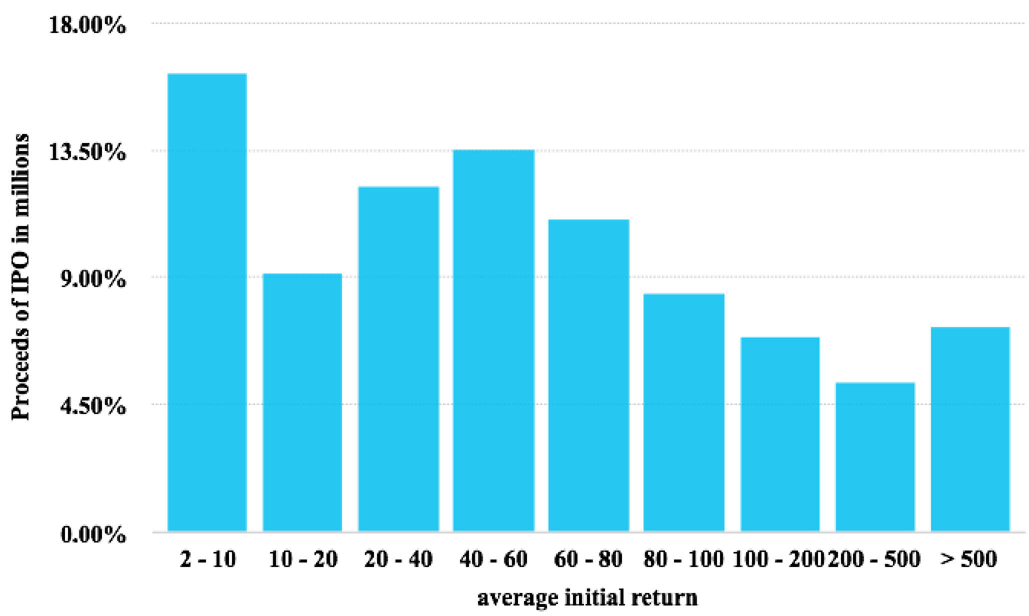
After the targeted investors have had access to the information regarding the IPO, the underwriter will organize some so-called road shows in which a group of representatives shall display the forthcoming offer. In these events the underwriters' delegates have two important goals: to generate more interest among investors, and to gather information for both the issuer and the underwriter about plausible prices at which they could offer the stock to the public. The second task is fundamental in the formulation of the first offered price – or offering price – because all the information collected is consequently used for bookbuilding; bookbuilding is a step which gives the issuer a general understanding of the market's demand and competition for the soon to be issued security[41].

Having concluded all the background analysis leading to the issuing of the shares, the underwriter can now determine the offering price at which each single stock will be sold on the primary market[42]. As is often the case, IPO shares are highly underpriced[43]: this is a consequence of the "fear" of the underwriters of not being able to sell every last one security, and be left with the hardship of selling the leftovers at a loss in the secondary market[44]. Underpricing is a widely diffused practice which can vary across different countries, time periods and economic condition[45]. An interesting piece of evidence is identified in the gaps that repeatedly occur between the offering price and the opening price, also reflected in the "jumps" that stock prices experience shortly after the securities are introduced in the secondary market: the difference between these two values is represented by the percentage of average initial return[46], where the higher the percentage, the wider the underpricing gap. In 1996 Lee et al investigated the underpricing of new shares in the US, between 1990 and 1994, from a sample of 1,767 new issues: the research's results are shown in figure 2.1, where the average initial return of IPOs are reported for different volumes of new issues; the initial return of each IPO is calculated as a percentage variation from the

[41] Bodie, Kane, & Marcus, *Investments*, 2018
[42] Lee & Lee, *Encyclopedia of Finance*, 2006
[43] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[44] Bodie, Kane, & Marcus, *Investments*, 2018
[45] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[46] Vitale, "Equity Markets and Alternative Investments ", 2015-2016

offering price and the opening price – price of stocks once they enter the secondary market.

Figure 2.1 Average Initial Return and Issue Size



Source: Lee, Lochhead, Ritter, & Zhao, "The Costs of Raising Capital", 1996

The aim of this evidence is to show the trend of underpricing occurring in capital markets and thus indicating one of the enticing characteristics of new public offerings[47]. Frequently, in fact, the offering price is seen as a "bargain" price, that pertains to the preferences reported during bookbuilding; this also gives investors an incentive to reveal their truthful inclination towards the offering[48]. This characteristic makes public offerings attractive to most investors who see their interests concretized in an investment which has two possible favourable outcomes: either the stock is sold in the secondary market, generating a generous return through the difference between offering price and opening price, or the stock is kept in the investor's portfolio in the long-run, hopefully with the company performing well and yielding satisfactory dividend returns.

[47] Lee, Lochhead, Ritter, & Zhao, "The Costs of Raising Capital", 1996
[48] Bodie, Kane, & Marcus, *Investments*, 2018

2.1.2 Underwriters and their role

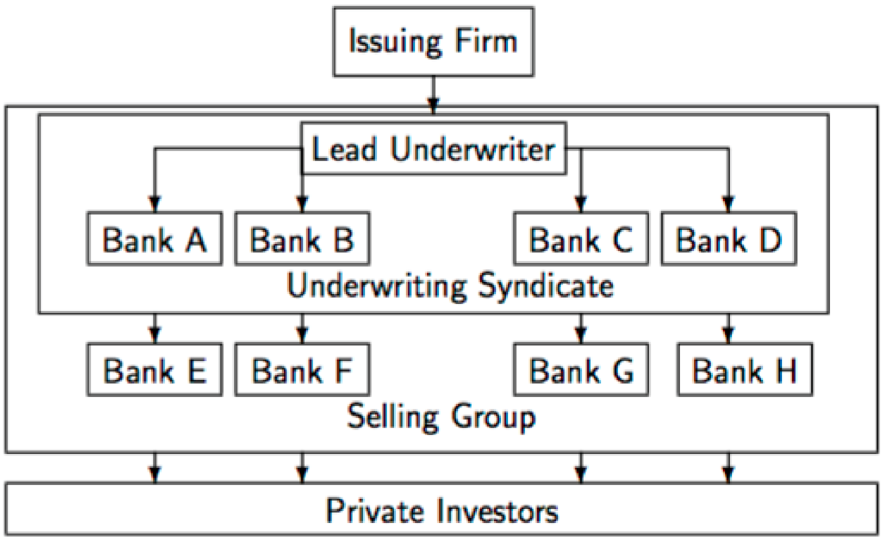
Underwriters, in the field of IPOs, are intended as the investment banks that assume an intermediary role to distribute an enterprise's newly issued shares. The reason why firms turn to these institutions is because underwriters endure the whole procedure of conducting the offering and, simultaneously, carry all the risks associated. Risks, in this case, refers to fluctuating stock prices: a change in the market's perception of the issuer or a deterring macroeconomic event could result in the overall stock market decline, and the underwriter is responsible for and has to bear the risk of loss, or the possibility of a smaller spread[49] – "spread" is the profit of the underwriting institutions and in this case is meant as the fee obtained for managing the IPO[50].

Underwriters, usually, work closely to the issuing firm and have two options on how to proceed: Firm commitment agreement and Best efforts agreement. Firm commitment agreement is the course through which underwriters purchase the securities, set an initial offering price and quantity, and create a distribution network to start selling them – similarly to a put option[51]. Best efforts agreement is an alternative route where the underwriters do not acquire the securities – they never appear as assets on their books – but instead aid the firm in the process altogether[52].

The group of underwriting investment banks and funds participating in an IPO, by Firm commitment agreement, is an actual syndicate that, on the instructions of the leading underwriter, bears responsibilities related to the issuance of the stock. The syndicate constituents take a gross spread to hold the risk of the transaction and then form a selling group to administer the international sale of the shares[53]. As shown from figure 1.1 a hierarchy can be perceived in the underwriting group, where the leading underwriter manages the entire process, and is thus entirely responsible for the failure of the issue.

[49] Lee & Lee, *Encyclopedia of Finance*, 2006
[50] Bodie, Kane, & Marcus, *Investments*, 2018
[51] "Put option gives its holder the right to sell an asset for a specified exercise price on or before a specified expiration date" (Bodie, Kane, & Marcus, *Investments*, 2018 – Chapter 2 p. 51)
[52] Bodie, Kane, & Marcus, *Investments*, 2018
[53] Bodie, Kane, & Marcus, *Investments*, 2018

Figure 2.2 Relationships among a firm issuing securities, the underwriters, and the public



Source: Bodie, Kane, & Marcus, Investments, 2018

All these institutions are employed not only so that the main underwriter may share the risk of the transaction, but especially to form a far-reaching system in which as much information as possible is gathered on potential investors and the magnitude of their interest toward the market of the eventually offered shares – potential demand. This information harvest is thereupon utilized to agree on the initial price and the number of shares to be sold, which the leading underwriter commits to sell – or eventually purchase the surplus[54].

2.1.3 Why do companies engage in IPOs?

Going public can be a significant burden for most companies. A private enterprise assures its owners certain benefits which can no longer be retained once an IPO is undergone: all relevant information can be concealed from competitors, and the owners – original founders – are usually very few in number and may be composed of family members, friends or personally approached investors. Meanwhile, public companies are forced to follow a series of regulations, which are set by governmental entities or central bank's branches – like the Securities and Exchange Commission (SEC) in the US. All public

[54] Bodie, Kane, & Marcus, *Investments*, 2018

entities must institute a board of directors, due to the large number of shareholders that needs to be considered; all reportable financial and accounting information has to be made publicly available every quarter, and all rules laid out by the stock exchange market on which a firm is listed must be observed[55].

Therefore, the scenario displayed above begs the question "Why do companies go public?". Although there exist various ways of raising capital, such as borrowing, venturing into a merger, and so on, IPO is considered by far the most effective way of raising a significant capital in a very short span of time, this datum is, in fact, supported by some notable examples – Facebook's IPO, in 2012, raised about $16 billion, and General Motors Company's IPO, in 2010, raised $20.1 billion[56] – but the most prominent among them is Alibaba Group Holding Limited, which reached the all times market record in 2014 with an IPO worth $25 billion[57]. Furthermore, public companies enjoy better interest rates when they issue debts, due to increased attention on the side of the numerous entities involved, as well as a more liquid secondary market, since all the important information – transaction costs, valuation, prices – is already disclosed. Lastly, being listed in a stock exchange brings a certain degree of prestige and publicity to companies, which may contribute in appreciating enterprise value[58].

2.2 The point of view of the investor

As specified at the beginning of the chapter, the point of view concerning this thesis will be that of the retail investor. Retail investors comprises a vast category of people, ranging from inexpert individuals, mostly guided by behavioural biases, and affirmed, wealthy businessmen, with a strong background in investment expertise and a facilitated access to private equity markets and hedge funds[59]. Commonly all retail investors invest less frequently and with the principal aim of enriching themselves, nonetheless, they constitute

[55] Investopedia
[56] Bloomberg data
[57] Bloomberg data
[58] Lee & Lee, *Encyclopedia of Finance*, 2006
[59] Investopedia

a positive and stimulating presence in the financial markets; although most critics see retail investors as "noise" traders[60] – easily influenced by mass opinion and consequently distorting market prices – these people create an element of diversification which, actually, is much appreciated by IPO issuers, who fear the prospect of giving significant decisional power utterly to other institutions[61].

With new, more accessible brokerage systems all kinds of investors now have an opportunity to trade in capital markets. Sophisticated technology even allows individuals to keep track of their portfolio via mobile phone, and, if it all was not enough, there even exist retail funds and brokers which have low fees and let their costumers deposit very small amounts – just a few hundreds of dollars, for example – for low or no fees[62].

Those who decide to venture in IPO investing tend to mostly be able to interact only in the secondary market, once the trading of the shares begins and an opening price prevails. In the trading of stocks, especially newly issued ones, a rational investor must account for certain considerations before acting: he or she needs to know in what condition the stock market is in that precise moment – bull[63] or a bear[64] market – he or she must think about the timeframe in which to invest – short or long run – finally, a cost-benefit analysis must be conducted.

Logically, issuers usually prefer going public during bull markets, since in these periods investing is most encouraged by the market's attractive trends[65]. Indeed, these time windows are characterized by a healthy economy, with a strong GDP[66], a dropping unemployment rate and a general increase in IPO activities[67]. Due to the positive atmosphere created by the situation, most

[60] "Enhancing retail participation in emerging markets", 2017
[61] "Enhancing retail participation in emerging markets", 2017
[62] Bodie, Kane, & Marcus, *Investments*, 2018
[63] Bull market is a market with an upward trend or in expansion, which is characterized by rising stock prices for an extended period of time, during which investor confidence is likely to grow (Graham, Zweig, & Buffett, The intelligent investor 2006)
[64] Bear market is a market with a downward trend and falling security prices for a sustained time period, during which investors are pessimistic and unlikely to invest (Graham, Zweig, & Buffett, The intelligent investor 2006)
[65] Graham, Zweig, & Buffett, The intelligent investor 2006
[66] Gross Domestic Product
[67] Investopedia

investors are eager to buy securities, increasing notably demand, and averse to sell, decreasing supply – hence increasing prices – which is why Graham suggests that "*an elementary requirement for the intelligent investor is an ability to resist the blandishments of salesmen offering new common stock issues during bull markets*" (Graham, Zweig, & Buffett, The intelligent investor 2006).

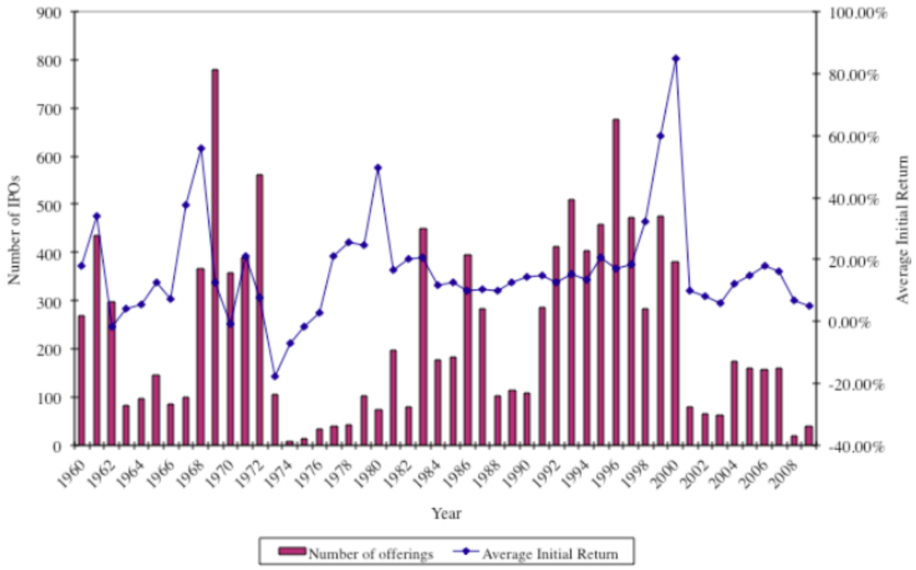
2.1.3 Long-run VS Short-run

IPOs investing represent good investment strategies in the short-run, due to initial share underpricing often induced by the underwriters, yet, in the long-run they may comport rather disappointing yields, especially for retail investors[68]. Investing in the long-run, which involves taking a long position, often gives satisfactory results when the company in which one places his or her money is solid and has a long history of either constant or growing profits[69]. In the case of a new company it is challenging to determine whether the underlying shall grow into a corporate leader of its market or fail in a matter of months; so, investors are well advised to weigh their investment decisions as carefully as possible, instead of speculating on the possible future potential of a start-up – as shall be explained at length in the next paragraph, with the dot-com crush.

Evidence suggests that the average return from IPOs is positively correlated with the number of IPOs effected in a year: Ljundquist, in 2004 has reported the number of IPOs in relation with the average annual initial return on IPOs from 1960 until 2010, in the US, to show this relation persistence through time, as displayed in the graph in figure 2.3.

[68] Vitale, "Equity Markets and Alternative Investments ", 2015-2016
[69] Bodie, Kane, & Marcus, *Investments*, 2018

Figure 2.3 Number of IPOs and Average Initial Return



Source: Ljundquist, "IPO Underpricing", 2004

This trend thus implies that generally IPOs are worth investing in during IPO booming periods. However, as mentioned at the end of the previous paragraph, Grahams' words[70] beg to differ from this tendency. Due to the speculative atmosphere that booming markets create, it is almost natural for investors to be attracted to the opportunity to make safe, effortless profit: the market is sizeable and favourable, all firms remain afloat and keep receiving capital inflows thanks to the low borrowing rates the banks can afford in such florid periods, stock prices are tripling on the day they begin trading, investors' confidence fuels the trepidation of the market players and keeps the whole system running. Investors, especially retail ones, more vulnerable and less expert, must be ware of bull markets' appeal when purchasing new shares; the danger of the ease of short-term profit, in the long run-could cost more to them than to any of the other players, with the probability of incurring severe losses once the market's "frenzy" dries up[71].

[70] "*an elementary requirement for the intelligent investor is an ability to resist the blandishments of salesmen offering new common stock issues during bull markets*" (Graham, Zweig, & Buffett, The intelligent investor 2006), p. 28
[71] Graham, Zweig, & Buffett, The intelligent investor 2006

Another major issue of IPO investing, especially in the long-run, is that for every successful company that ends up dominating its market there are thousands of other enterprises that do not prosper. Investing in the big “winner” of the market can be like winning a lottery, but once again this is a privilege meant for a small niche of entities: the institutional investors[72]. As already stated, institutional investors’ advantage rests in their facilitated access to the primary market, where the offering price is almost always below the share’s intrinsic value. Because most retail investors only manage to trade the instruments on the first public price, they are definitely disadvantaged compared to primary markets participants, and thus have less possibilities to make copious returns. The exclusivity that characterizes every IPO market should technically nudge small investors into avoiding new issues, yet, when stock market values rocket and hundreds of people seem to be getting richer by the minute, due to the behavioural bias of most naïve investors, the truth becomes one and one only: “*the price of a stock seems more important than the value of the business it represents*” (Graham, Zweig, & Buffett, The intelligent investor 2006).

To sum up, it can be concluded that while IPOs make for strong short-term investments, particularly among retail investors, it is always the institutional investors who are going to receive the greater benefit from the next giants of their respective industries. That is because institutional investors have better resources at their disposal to gain a closer reach to the new promising entries of the market. Retail investors, on the other hand, lack the strength to move upstream – a peculiarity that has made many of the great investors known nowadays – and to resist the urge for easy money, which, as will be explained next, has caused a huge damage in the stock market at the beginning of the new millennium with the coming of the Internet Era.

2.3 An introduction to the "dot com" bubble

Since the IPOs’ format has been extensively analysed, together with its risks and advantages, as well as the precarious implications for those who invest in it, this investigation can now make a step backwards and assess certain

[72] Graham, Zweig, & Buffett, The intelligent investor 2006

historical evidence which show the dangers of these equity instruments. An event which stands out in the history of IPOs is the dot com bubble of the late 1990s, a catastrophic period of excessive speculation in the US stock market, coupled by the rise of the Internet; as is often the case, this episode followed a stage of extreme economic growth in which the frenetic enthusiasm of the "bulls"[73] prevailed over the cautiousness of the skeptics. The crush, which lasted from 2000 until 2002, saw the fastest journeys from IPO to insolvency of many tech-firms, while other stronger ones lost a considerable market share but were able to eventually recover – among those are giants like Amazon.com and eBay. This infamous event not only has made investors wary of new common stock issuance but has also caused companies to be more cautious in their process of going public, with the aid of new implementations in the market of IPOs.

The development of a situation of the likes of the tech-bubble resulted from a combination of factors which inevitably influenced the stock market as the world approached the new millennium. Beginning with the spread of the World Wide Web (www), invented by English scientist Tim Berners-Lee in 1989[74], the world had officially entered the "Information Age" – economy based on information technology[75] – where US households, in particular, owned and used computers not as a luxury good but as a first necessity item; the introduction of this new era shifted entrepreneurs' interests towards the huge potential of the Internet market, initiating the creation and exponential growth of online companies[76]. In the meantime, a smooth period of low interest rates was favouring the availability of capital, incentivising spending and investing and a great eagerness to profit from the rise of the tech-market possibilities[77]. Logically, soon enough the first tech-firms began venturing in IPOs to benefit from the favourable scenario, such as Netscape Communications Corporation in 1995 – capitalization of about $2.9 billion[78]. From there on, online start-ups began flooding the stock market, stimulated by eccentric capitalizations and a

[73] Bulls are stock market speculators who usually engage in short-selling and frequently trade overvalued stocks during bull markets (Cassidy, Dot.con, 2003)
[74] Cassidy, Dot.con, 2003
[75] Investopedia
[76] Cassidy, Dot.con, 2003
[77] Cassidy, Dot.con, 2003
[78] Bloomberg data

rapid growth of investments which led to huge increase in prices and, in fact, considerable overvaluation of any shares entering the market[79].

2.3.1 IPO "enthusiasm" and the Internet bubble

As a result of the favourable economic conditions and the many tech-firms on the rise, the IPO market exploded, accompanied by increasing investors' confidence and the advance of investment banks as underwriting firms in the stock market – underwriting was initially seen as a "low-level" task for investment banks, but the high prospected profits brought them to take a determining role in the encouragement of online companies' shares sale and the spread of speculation on technology[80]. With the number of emerging start-ups funded by venture capital and an increment in capital flows fuelled by speculative investments, it was clear that a bull market had overcome.

Investors' confidence, which usually aids economies in escaping crises, in this case was detrimental to the market solidity and fundamental in triggering the creation of the Internet bubble. Instead of analysing the metrics for valuing stocks and determining the risks of the different plausible outcomes, investors believed on the technological progress and based their investments on ".com" suffixed companies, influenced by the ever-growing stock indexes – "NASDAQ climbed from 2,000 to 5,000 in less than sixteen months" (Cassidy, Dot.con, 2003). Investors' hopes rested in the view that the online start-ups would have turned into affirmed corporations through the success of the market and the latter's strained efforts to differentiate among the many.

In truth, the internet market from 1995 onwards was merely supported by a speculative vicious cycle. Although most people in the field knew that all tech-firms struggled just to break-even[81], investors genuinely cared to seize the opportunity for easy profits, without minding the consequences of a market in steep growth with close-to-failing companies at its foundations. Despite the impressing capitalizations from IPOs encouraged a number of enterprises to go

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[79] Cassidy, Dot.con, 2003
[80] Graham, Zweig, & Buffett, The intelligent investor 2006
[81] Cassidy, Dot.con, 2003

public and acquire as many investors as possible, the trend suggested that most of the online start-ups could not manage to turn a profit, all the funds received by venture capitalists and investors spent for advertising campaigns they could not afford[82].

Among those skeptics who opposed to the speculative trends dominating the Internet age were Berkshire Hathaway partners Warren Buffet – CEO and president – and Charlie Munger – vice president. Like many companies in that time window Berkshire Hathaway incurred in stock issuance meant to attract small investors – priced at $1,100 each compared to the $34,000 regular shares' trading price – yet neither Buffett nor Munger were buying shares, actually, they were advising their shareholders not to[83]. Moreover, Fidelity Magellan Fund asset manager Jeffrey Vinik, concerned with the apparent euphoria of investors in the stock market, moved part of his capital into bonds, in 1996, suffering a lower performance compared to those funds who had all their capital in the technology markets; shortly afterwards Vinik resigned from his position[84]. Asset managers considered this happening as one of the reasons why they should have kept their funds committed to the booming stocks, even though they knew the equity instruments to be utterly overvalued, while feeding the dangerous excitement of the investors.

2.3.2 The burst of the bubble

Alan Greenspan – FED chairman at the time – in 1996 had warned markets about such enthusiastic dive into the Internet stocks and investors' irrational behaviours, however no monetary policy had been actuated to tackle the problem. It was only in the spring of 2000, once the crush had begun, that Greenspan increased US rates, halting capital inflows for tech-stocks funding, and tried to help the economy by injecting liquidity into the markets. Meanwhile, high-leading tech-companies had placed huge sell-orders sparking panic selling among investors: the stock market lost around 10% in value just in a matter of weeks.

[82] Investopedia
[83] Cassidy, Dot.con, 2003
[84] Cassidy, Dot.con, 2003

The first signs of a subsidence in a bull market is often detectable when common stocks of unknown, small companies are priced way higher than well-established brand firms with a long market history. The development of such an unbalanced situation is easily linked to the irrational, mass behaviour of those small, hasty investors who follow the opportunity for cheap money. Once this phenomenon takes over, it is clear that an imminent, violent price collapse is about to concretize in the stock market[85]. The crush of the early 2000s is the perfect example of such situation, yet its consequences where so terribly amplified because of the poor fundamentals on which had been erected the Internet stock market to begin with.

All those companies going public and raising capital, ultimately feeding on investors' unrealistic expectations, had accumulated a cumulative amount of some trillions of dollars, which vanished once investment capital depleted. Furthermore, some of these enterprises had yet to make a business plan and actually generate revenue although they had already gone public; some barely had a finished product to market, yet, the positive attitude of the investors and the exponential increment stock prices experienced on the first day of issuance gave these start-ups the confidence that the stock market alone could sustain them. As a result of this absurd, irrational belief, once panic selling began, most of the tech-firms became worthless, and eventually insolvency followed. By the end of 2001 those companies that had folded either disappeared or got acquired by other entities, while the few that managed to survive suffered severe losses in value in the stock market[86].

The so-called dot-com crush lasted from March 11th, 2000, to October 9th, 2002[87]. Some blame Greenspan leadership for the resulting burst of the bubble but, as can be deducted from the prelude of the bubble itself, it was an inevitable collapse of a market built on thin air. The numerous start-ups realizing more losses than they could account for and naïve investors excited by fast growing profits had started a mechanism of cheap money recycle, flanked by a n harmful "herd" behaviour in the whole market. The IPO "frenzy" that had

[85] Graham, Zweig, & Buffett, The intelligent investor 2006
[86] Cassidy, Dot.con, 2003
[87] Cassidy, Dot.con, 2003

nourished the ambitions of hundreds of entrepreneurs and thousands of investors, all driven by the perfect alleged reason – the coming of the Information Age – had brought to both the greatest capitalization the world had ever seen so far and the most embarrassing economic failure in the US.

What can be learnt from this episode is that investors should know that despite the market conditions, the risk can never truly be eliminated. The Internet age seemed like the right time to invest in the next Microsoft[88], yet most investors decided to overlook the fact that all these new firms were lacking a solid background and had no guarantee whatsoever that their businesses could have become successful. IPOs gave these players the right environment to nurture this vicious cycle, where venture capitalist supplied ridiculous amounts to finance the rapid growth of these technology-based business ideas and investors sure enough increased stock prices through the rushed trading of the first few days. After the disastrous burst of the tech-bubble, IPOs lost their popularity all together, especially among smaller firms: the SEC has increased audit costs for all those firms wishing to go public, weighing down start-ups and small enterprises; nevertheless, all small firms are facing difficulties in the market due to a lack of the rapid growth that the late 1990s stock market provided[89].

Although the IPO market dried up altogether after the dot-com crush, public offerings have not necessarily lost their appeal to larger firms. Since investors have become weary of diving precipitously into new common stocks of unknown, unestablished brands, it could be said that the stock market is an unbiased timeframe where IPOs can turn to be a success, a failure or a replication of the market performance. The next chapter will display two cases of IPOs which have taken place after both the internet bubble and the 2008 financial crisis. The cases will compare two companies which have gone public and obtained opposite results, in order to establish those criteria that make for a prosperous IPO and whether investors can rely on them to place their investment decisions.

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[88] Graham, Zweig, & Buffett, The intelligent investor 2006
[89] Ritter, Gao, & Zhu, "Where Have All the IPOs Gone?", 2013

Chapter 3 – Pros and Cons of IPOs' investment: Ferrari Vs GoPro

A company's success may derive from a set of variables: business plan, product, management, or a combination of these and many other factors. Often, the successful performance of a company may be cause for other parties' successful performances: underwriters, investors, stakeholders and so on. All these elements are interconnected with the common aim of turning a profit, where the market environment has a determining role in influencing the accomplishments and failures of the different kinds of entities involved. With this picture in mind, this investigation will now turn to the comparative analysis of two sizeable, yet diverse firms that have both engaged in IPOs and have obtained opposite results. This assessment will have two main purposes: to show why some IPOs triumph compared to others, and to give an extended understanding of why IPO investing could be detrimental to retail investors.

The chapter will be a case-based branch of this thesis and shall compare the prosperous performance of the IPO of Ferrari NV, and the unfortunate outcome of the IPO of GoPro Inc, offering a comparison elaborating on what exactly may have given the opportunity to the former to prevail in its market compared to the latter – these concepts will be developed through the three sections of this chapter.

3.1 The case of Ferrari

Ferrari NV is a Dutch law company which controls Ferrari SpA, led by Louis Carey Camilleri and quoted on the New York Stock Exchange (NYSE) and on the Borsa Italiana, by the appellative RACE[90].

Originally renowned as Ferrari Società per Azioni (SpA), Ferrari strongly upholds a world-esteemed "made in Italy" brand, which currently provides automobiles – new and second-hand – insurance programs, clothing,

[90] Bloomberg data

and other Ferrari-marked accessories[91]. These products, all falling in the luxury goods category, are distributed on a global scale, with the sports cars particularly appreciated for their comfort, design and efficient engines. Ferrari's long history of outstanding car manufacturing has made the SpA protagonist of hundreds of car race championships – the Scuderia Ferrari is one of the most famous and talented bodies of auto racing class Formula One. The Italian automotive enterprise is nowadays part of the Dutch company "New Business Netherlands NV - naamloze vennootschap" – acquiring the name of Ferrari NV[92].

Because of the immaculate reputation characterizing the firm and the persistence of high quality delivered on a world-wide range, Ferrari enjoys an envied position in the luxury cars markets; despite the narrowed clientele million dollars cars may allure, Ferrari has always remained a successful brand, with generous revenues and robust company performances. This multitude of positive qualities have in fact aided the enterprise into conducting a rather successful IPO – conclusion inferred from the escalation experienced by Ferrari's title in the stock market well after its issuance[93]. Therefore, investing in Ferrari stock, when it went public, in 2015, was an excellent move on the part of its investors, who in 2018 enjoyed a cumulative total of about € 138 million in dividends – € 0.71 per share.

3.1.1 Ferrari NV: The Company

Born as a sports car company in 1947, Ferrari was founded by car racing champion Enzo Ferrari, in Maranello, Italy. The company's initial business was mainly based on car racing manufacture and, following the passion of its creator, on motors championships. Truthfully, it is Ferrari's endured efforts into the racing field that in the late 50s comports the logo to become a world-recognized name – nowadays Scuderia Ferrari is the world's leading team in the Formula One[94].

[91] Bloomberg data
[92] Ferrari Corporate
[93] See Figure 5
[94] Ferrari Corporate

In 1960, realizing that a restructuring on the administrative foundations was much needed, Enzo Ferrari decides to approach a different policy and makes Ferrari into a Società per Azioni. In 1969 the now Ferrari SpA becomes part of the Fiat Group – Ferrari in fact cedes 50% of its shares to the latter. Successes on the fronts of both sales and racing kept increasing with the respective introduction of revolutionary car models and the victory of diverse automotive competitions. It is in the 80s, however, that, with the passing of Enzo Ferrari, the SpA incurs in a fragile phase of its course: Fiat acquires 90% of Ferrari's shares[95].

Nonetheless, the company faces a huge expansion in the new millennium, where the great success and publicity brought from the victory of thirteen world titles in the car racing field spur the implementation of about thirty Ferrari stores, both in Europe and world-wide – Saint Petersburg, Dubai, Abu Dhabi, Singapore, New York and Miami. With these stores, in fact, began the marketing of clothing and accessories linked to the brand, accompanied by a growing projection of luxury car models[96].

On the 24th of May 2013 Ferrari SpA is acquired by the New Business Netherlands NV. Shortly after, talks of IPO begin to emerge among the directing board, until Sergio Marchionne, Fiat Chrysler Automobiles NV (FCA) – ex Fiat Group – CEO, decides to put up for sale 10% of FCA's Ferrari shares with an IPO on the 21st October of 2015[97]. This IPO takes Ferrari on the scenario of the NYSE as RACE, giving New Business Netherlands NV the nominative of Ferrari NV. It is then that Ferrari NV detaches from FCA and becomes an independent company, part of the Exor investment group, and consequently enters the panorama of the Borsa Italiana – January 4th, 2016[98]. Ferrari now enjoys a dominant position in the car manufacturing sector covering a geographic area comprising over 60 markets all over the world[99].

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[95] Ferrari Corporate
[96] Ferrari Corporate
[97] SEC annual report of Ferrari NV, 2018
[98] Ferrari Corporate
[99] See Figure 4

Figure 3.1 Sales by geographic region

Source: Ferrari Corporate, 2018

3.1.2 Ferrari IPO

Wall street sees Ferrari stock RACE for the very first time in October 2015. After the various proposals dictated by Marchionne, the final settlement discloses a quotation of 188,923,499 million brand new common shares at the offer price of $52 each[100]. The underwriters involved in the operation were Banco Santander SA, Mediobanca SpA, JP Morgan, Allen&Company Inc., Merrill Lynch Pierce Fenner&Smith Inc., UBS, BNP Paribas Securities Corporation, Santander Investment, Securities Inc. Moreover, before the definitive number of shares was marketed, Marchionne's IPO also offered a total of 1,717,150 additional common shares at the discounted price of $ 50.44 each, as an optional for the underwriters. When the underwriters fully accepted the bid, Ferrari's IPO capitalized a final sum worth $ 982.8 million[101].

Market data on RACE clearly shows that Ferrari's title was most welcome from stock investors, allowing its value to grow in a confident fashion. These observations can be retrieved on the graph below which sees Ferrari NV even outperforming the market benchmark of the Borsa Italiana – FTSE MIB Settlement Index – a few years after its debut.

[100] SEC annual report of Ferrari NV, 2018
[101] Bloomberg data

Figure 3.2 Ferrari NV stock and Milano Borsa (MIB) benchmark through time

Source: Bloomberg data

Intuitively, Ferrari's IPO was a success both for the firm and its investors. What is now to determine is who turned a profit from Marchionne's deal. The current major holders of stocks, and benefiters, are Exor Group – 22.91% - and Enzo Ferrari's son, Piero Ferrari – 9.74% – with respective voting powers of 32.7% and 15.4% – the spare 51.2% of the decisional power remaining free float[102]. As already mentioned, they and the other shareholders retained a considerable amount from dividends, since 2015, and, surprisingly enough, 19.17% of these shareholders are private individuals – retail investors. It is safe to say that aside from Exor and Piero Ferrari, those who engaged in the risk of investing in a luxury brand firm have abundantly been rewarded.

3.1.3 Absolute Analysis

Ferrari's outstanding results can be attributed to different factors, as already mentioned, like brand reputation, the Scuderia's fame and world-renowned quality products. However, profitable companies never only survive, let alone prosper, on good publicity, as the dot-com crush has proven. The

[102] SEC annual report of Ferrari NV, 2018

solidity behind Ferrari also derives from a consistent history of valid performance, that is reflected in the financial statements of the firm through the years. EBIT – earning before interests and taxes – for example, is a strong indicator of financial performance, which in Ferrari's case features an admirable progressiveness in the institution's achievements – also thanks to the increment in sales which supports the firm's growth and profitability. The table below shows Ferrari NV's EBIT and Revenues through the years, portraying evidence of a mild increment as time passes.

Table 3.1 Ferrari NV's EBIT and Revenues[103] through the year

Year	EBIT	Revenues
2014	€ 389	€ 2,762.4
2015	€ 444	€ 2,854.4
2016	€ 595	€ 3,105.1
2017	€ 775	€ 3,416.9
2018	€ 862	€ 3,420.3

Source: SEC annual report of Ferrari NV, 2018

As shown from the table and from statistical data, 2015 was a golden year for Ferrari, with € 2,854 million in net revenues, a record of 7,664 cars sold over a range of 62 markets around the globe[104] and an EBIT increase of 12.39%. It is evident how the company had chosen an ideal time to go public, with strong financials at its back and the advantage of a higher stock market, which fuelled demand for luxurious cars of the likes of Ferrari[105]. Furthermore, the merchandise of less expensive products such as clothing and gadgets that still carry the brand ensures the firm with an additional income on which to rely.

The company's solidity can also be appreciated by the ever-increasing workforce, which has spurred the increase in cars and merchandise produced, too[106].

[103] EBIT and Revenue notation is in millions
[104] Ferrari Corporate
[105] Ferrari Corporate
[106] Bloomberg data

Table 3.2 Number of employees at Ferrari through the years

Year	Number of employees
2014	2858
2015	2998
2016	3104
2017	3380
2018	3851

Source: Bloomberg data

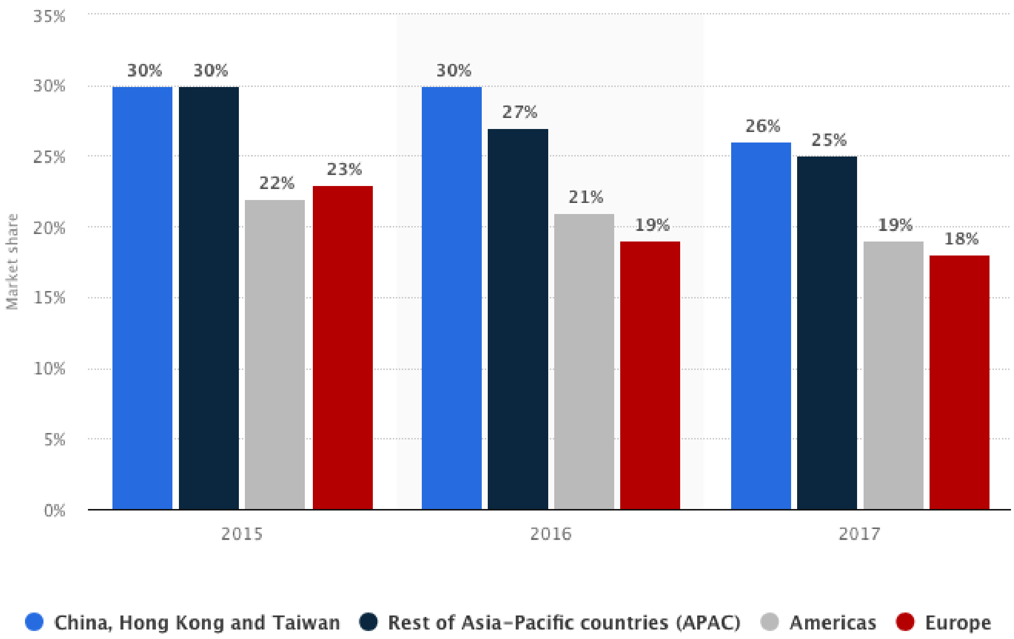
3.1.4 Comparative analysis

Ferrari is a world-renowned brand which has affirmed its position in the luxury cars market. As Figure 6 shows, it is quite undisputable that already in 2015 – its IPO year – the company had become a pioneer of the luxury cars markets around the globe: in Asia the Italian car maker owned almost a third of the market, while in the West about a fifth. These strong prospects construed an ideal frame for the IPO launch, unveiling an attractive and easily recognizable investment opportunity. It can be deducted that these fundamentals probably aided the firm in gaining its popularity in the stock market in the long-run.

Even though there has been a decline in these figures in 2016 and then again in 2017, Ferrari remains a dominant player of the luxury cars market, with constantly increasing sales and a positive enterprise growth[107]. This confidence is stated in the official company's reports: "*our volumes in recent years have proven less volatile than our competitors'. We believe this is due to our strategy of maintaining low volumes compared to demand, as well as the higher number of models in our range and our more frequent product launches compared to our competitors*" (SEC annual report of Ferrari NV, 2018). Again, these statements suggest that Ferrari's product has a tangible competitive advantage, that makes the enterprise stand out among the other luxury car manufacturers. At the moment, on a global scale Ferrari controls about 20% of the luxury cars market[108].

[107] SEC annual report of Ferrari NV, 2018
[108] Ferrari Corporate

Figure 3.3 Market share of Ferrari on the luxury car market worldwide from 2015 to 2017 – sorted by geographical area.



Source: SEC annual report of Ferrari NV, 2018

Not too surprisingly, the Italian car producer's P/E ratio[109] shows an increasing trend through the years after its IPO: from table 3.3 it can be seen how the mean P/E ratio for Ferrari has steadily been increasing, consequently indicating a constant increase of both stock price and earnings per share[110]. A high P/E ratio generally indicates that investors are eager to pay a high price for a stock, anticipating a positive growth in the future of the company; therefore, it is safe to conclude that the market players on which Ferrari depends are confident in the NV, coronating the success of its IPO. What is also interesting to notice is that in the Europe Automobiles Manufacturing peers' market Ferrari's P/E ratios have always kept well above the industry's average, giving yet again another signal of clear market dominance – currently the mean P/E ratio of the peer group is 9.89, Ferrari NV's is 35.25[111].

[109] P/E ratio = market value per share / earnings per share
[110] Bloomberg data
[111] Bloomberg data

Table 3.3 P/E ratio of Ferrari through the years

P/E	2015	2016	2017	2018
Mean	28.81	27.13	36.04	37.51
Max	28.81	36.76	46.45	45.38
Min	28.81	18.42	24.82	17.8

Source: Bloomberg data

When discussing comparable company analysis, in the first chapter, only the P/E ratio was elaborated on, since it is considered quite important when comparing companies in an industry, however, the price to book value – P/Book[112] – ratio is yet another rather relevant indicator in the comparable analysis. The P/Book ratio reflects the value that market players affiliate to a firm's equity, relative to the book value of such equity. Usually this ratio is very low – benchmarks are generally of 1.0 or even 3.0 – but Ferrari's abnormally high P/Book ratio indicates how brightly investors view the enterprise's future prospects compared with past performance, emphasizing the potential for growth and investment opportunity the NV represents[113]. Hence, it can be concluded that, ever since its IPO, Ferrari has been considered as a continuously growing entity in the car industry, which, compared with Ferrari's 18.63, averages a P/Book ratio of 0.78[114].

Table 3.4 P/Book ratio of Ferrari through the years

P/Book	2015	2016	2017	2018
Mean	-	32.04	46.46	25.49
Max	-	32.04	59.99	31.15
Min	-	32.04	21.16	12.48

Source: Bloomberg data

[112] P/B ratio = market price per share / book value per share
[113] Investopedia
[114] Bloomberg data

Despite the slow growth and high costs a company of this calibre has to endure[115], Ferrari NV represents a sure investment for the market players interested in copious dividends. Obviously, investors should always be cautious when engaging in IPO investing, however, if a company has a financial record as optimistic and steady as Ferrari's then it is fair to believe that the investment may turn to be brilliant even in the long-run. Therefore, in these cases IPOs are considered as fantastic investment opportunities for retail investors – especially for a long position – where, after a deep scrutiny of all available information, it can be determined that there is an evident chance of turning a profit.

Unfortunately, this is not the case for all IPOs, not just because of the 2001 crush, but also because not every company going public necessarily turns into a certain win. The IPO "losers", as all underpriced IPOs, initially see their stocks rise at an absurd rate but shortly after plummet down, bringing their investors down with them. Not all losses caused by failed IPOs are necessarily as disastrous as the dot-coms', yet, they remain poor long-run investing choices, accompanied by capital losses. The case to be analysed next will give an insight on this "dark side of the moon".

3.2 The case of GoPro

GoPro Inc is a US manufacturer and seller of sports cameras and affiliated accessories, founded by Nicholas Woodman, in 2002. Public since 2014, the firm is quoted as GPRO on the NASDAQ[116].

GoPro provides people all over the world with technical devices incredibly resistant to different environmental conditions – underwater, rain, torrid temperatures, etc. – and able to capture shots during peculiar extreme activities – surfing, mountain climbing, mountain bike and so on[117]. Intuitively, this company offers innovative products, useful to both amateur photographers and adventurers.

[115] SEC annual report of Ferrari NV, 2018
[116] Bloomberg data
[117] GoPro Corporate

Despite the challenging and highly competitive market the firm navigates, certainly GoPro has been able to differentiate among the many. Its small, versatile, durable cameras and sports gadgets are quite popular among a wide range of customers, especially with the growing demand for sports' items due to the increasing appeal for extreme sports. Sadly, differentiation is not "attractive" enough to investors, whose loose interest in the GoPro stock has caused the firm's IPO to be a flop. Ever since, GPRO has lost 75% of its initial market value[118], although its largest shareholders refuse to give up on their investment; among them is Woodman himself, CEO and holder of 75.97% of voting power[119].

3.2.1 GoPro Inc: The Company

Headquartered at San Mateo, California, US, GoPro Inc rose from Woodman's initial company Woodman Labs. Although bearing a failed dot-com entrepreneur experience, in 2002 Woodman, as a surfer, concerns himself with the fact that there are no high-quality cameras one can use while riding a wave – at the time those that already existed were extremely expensive and not easily accessible to the public[120]. Hit by this idea, Woodman gives life to Woodman Labs and in 2004 launches the first camera, Hero, with 35 mm film, immediately obtaining a huge success among a large variety of consumers: sportsman, pilots, children, military and even cinema directors – panoramic "point of view" footage[121].

The sprint given by the first product initiated a doubling of revenues year after year, which encouraged a continuous innovation of the hero cameras and camera-products financed for in 2011 from a Series A financing round[122] – investments in a privately-held start-up company that are conceded once it has shown progress in its business model, growth potential and revenue generation[123]. In 2014, woodman also introduces a fixed-lens HD video camera

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[118] Bloomberg data
[119] SEC annual report of GoPro Inc, 2017
[120] GoPro Corporate
[121] GoPro Corporate
[122] GoPro Corporate
[123] Investopedia

able to take 360° videos, and, in June of the same year, former Microsoft executive Tony Bates becomes President of GoPro Inc. In 2016 GoPro even ventured the drone and virtual reality markets, but without the first-mover advantage it was difficult for the company to stand out in the technology industry. In the same year, the enterprise also partners with Periscope to develop a channel of live streaming and expand its market, broadening GoPro's popularity[124].

June 2014 was a fundamental time in Woodman's now billion-dollar company, for on the 25th of the month GoPro decides to go public. The capitalization, according to Woodman would have served to cover the company's debt and perhaps invest further in assets and complementary business[125].

After a not so brilliant IPO, the company experiences a weakening of sales, around 2015, which causes the company to incur losses from the end of 2015 up until 2017's third quarter – in part due to the first drone introduction, the Karma. Predictably, the board had to lay off personnel more than once during this harsh period. At the beginning of 2018, the firm's workforce counted just under 1000 employees – the situation partly developed through a slow decline in revenues paired with increasing expenses[126].

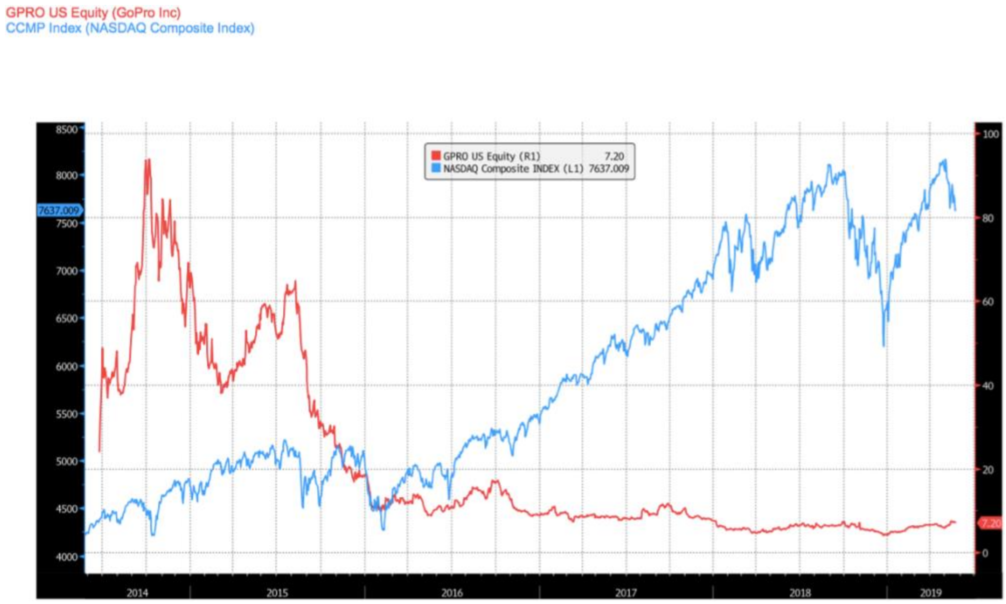
Additional to the challenges faced by the US tech-firm is the ever-growing use of smartphones' cameras, which drastically narrows down the potential customer types for cameras[127]. GoPro efforts for technological innovation, especially in the drone markets, may help the company endeavour new horizons and profit opportunities, but with the stock market counteracting its actions and the fast-paced technological progress growing demand, there is no way to tell what the future has reserved for Woodman's sports cameras Inc.

[124] Investopedia
[125] SEC annual report of GoPro Inc, 2017
[126] Investopedia
[127] Investopedia

3.2.2 GoPro IPO

GoPro Inc joins the NASDAQ on the 25th of June 2014, issuing Class A common stock – stock type which gives the owner one vote per share. Woodman's stock system is in fact divided into two main streams: Class A common stocks and Class B common stocks – stocks giving its owner 10 votes per share. This method obviously gives Woodman and other few major holders of Class B shares a more relevant decisional power and assures a greater control of the company, as compared to the public holders of Class A shares. About 17.8 million shares of Class A common stock were issued at the price of $24 delivering a capitalization of $427.2 millions. The underwriting procedure is conducted by J.P. Morgan, Citigroup, Barclays, Allen & Company LLC, Stifel, Baird, MCS Capital Markets, Piper Jaffray and Raymond James.

Figure 3.4 GoPro Inc stock and NASDAQ benchmark through time



Source: Bloomberg data

The history of the GPRO stock can be examined in Figure 6, flanked by a comparison with the NASDAQ Composite Index. It is evident that Woodman's IPO initially benefited from a wide underpricing gap, which initially brought the value of the first shares issued up until $ 98. Nonetheless, shortly after entering the market, GPRO experienced two major declines: the first just at the end of 2014, which brought the price down to the initial offering price; the second in 2015, which perpetuated throughout 2016 – the value had dropped by 43.8% of its offering price[128]. The reason behind these price changes is actually due to the fragility characterizing stocks depending on bullish growth expectations: while this form of investor confidence has the power to thrust the initial price of a stock in a very short time, they also have the weakness of making the underlying susceptible to downturns in the market as soon as a “bad news” hits and causes an imbalance in investments[129]. In the case of GoPro such imbalance can be credited to the 2015-16 sell off that hit stock markets globally – due to a series of turbulent macroeconomic factors, such as fall in petroleum prices, fall in Chinese GDP and Greek debt default, the Chinese SSE Composite Index fell by 43% in just two months, causing both the devaluation of its coin, the yuan, and a huge amount of sell orders all over the world[130]. Although the stock markets managed to strengthen again, GoPro’s share price ended up remaining very low from the end of 2016; this can logically be attributed to the severely negative correlation with the NASDAQ benchmark, amply evident from Figure 6. Today GPRO is priced a little over $7.

3.2.3 Absolute Analysis

One of the reasons that probably brought the firm to the decision of going public was a prosperous 41.44% increase in revenues of the same year; unlike many of the start-ups that usually are in need of raising capital and thus go public, GoPro actually had an impressive growth – both in revenues and market expansion – which differentiated it from the crowd, and made it seem like a promising investment opportunity. Despite the apparent good trend, the rate of growth had diminished in 2014 compared to the previous years – 2012 revenues increased by 125% – beginning a time of diminishing revenue growth from there on[131].

[128] Bloomberg
[129] Investopedia
[130] Investopedia
[131] SEC annual report of GoPro Inc, 2017

The bitter scenario foreshadowed by the decreasing growth in revenue is perceptible in the firm's EBIT, which shows a dramatic diminishing trend that ends up resulting in contraction of sales and, consequently, losses from 2016 onwards. As can be detected, GoPro's sales suffered a continuous decline, again starting from 2016, which clearly have influenced the EBIT negatively – the sales per worker have seen a percentage decrease of almost 28%[132]. These results are certainly related to the failed attempt of the Karma drone, which shortly after its introduction in the market, in view of the evident technical problems it posed – malfunctioning, falling on people's heads and so on – had to be withdrawn from the market. The lost revenues from missed sales and the capital invested in projecting, marketing and producing the drone have cost the firm a sharp decline in revenues and a considerably high R&D[133] opportunity cost.

Table 3.5 GoPro's EBIT and Revenues[134] through the years

Year	EBIT	Revenues
2014	$ 187	$ 1,394.2
2015	$ 54.7	$ 1,620.0
2016	$ (322.8)	$ 1,185.5
2017	$ (134.2)	$ 1,179.7
2018	$ (64.7)	$ 1,148.3

Source: Bloomberg data

Additionally, a worrying datum, reported on table 3.6, shows that as a consequence of inadequate operations on the side of GoPro, investors faced negative dividend returns following on the EBIT tendency. This outlook, in fact, confirms that 2016 was the company's worse year yet and that from there on the company has invested strenuous efforts into bringing itself back to its former glory.

[132] Bloomberg data
[133] Research and development
[134] EBIT and Revenue notation is in millions and negative numbers are represented as (losses)

Table 3.6 Net income per share[135] of GoPro through the years

Year	Net income per share	
2014	$	0.92
2015	$	0.25
2016	$	(3.01)
2017	$	(1.32)
2018	$	(0.78)

Source: SEC annual report of GoPro Inc, 2017

The negative outturns of both the stock valuation and company performance are finally reflected in the number of employees dismissed starting from 2016[136]. The apparently good market for the endurable sport cameras had encouraged the company to almost double its workforce right after its public debut, yet, it is possible that the losses incurred with the drone experiment and the increasing decline of GPRO price had forced the Inc to cut expenses and consequently let off as big a portion as the one acquired in 2015.

Table 3.7 Number of employees at GoPro through the years

Year	Employee number
2014	970
2015	1539
2016	1552
2017	1273
2018	963

Source: SEC annual report of GoPro Inc, 2017

All evidence clearly suggests that GoPro's IPO represented a poor investment decision in the long-run for retail investors. After its peak years and its abnormally fast growth into the technology market, the enterprise could not counteract against the fast-pacing technological progress, and its new sports cameras simply were not innovative enough in the years to come. The advent of

[135] Negative numbers are represented as (losses)
[136] See table 3.7

the smartphone and the failed attempt with the drone have given signals that GoPro is not strong enough to survive in the market unless it restructures its business or comes up with a new technologic item before anyone else does. Therefore, the low rate at which investors value GPRO is definitely a mirror image of the poor attractiveness it represents for those looking for a profitable, strong investment.

3.2.4 Comparative Analysis

"*The market for cameras and camcorders is highly competitive. We compete against established, well-known camera manufacturers such as Canon Inc., Nikon Corporation, Olympus Corporation, Polaroid Holding Corporation and Vivitar Corporation […] Many of these companies have substantial market share, diversified product lines, well-established supply and distribution systems, strong worldwide brand recognition and significant financial, marketing, research and development and other resources*" (GoPro Inc Corporate, 2014 Annual Report, page 10)

In its 2014 official statement it is evident how GoPro allegedly acknowledges the risks involved in venturing publicly a market already so developed and fast-paced. GoPro's advantage rested in the diversification of its emblematic product, yet the firm also recognized that it was definitely not enough to keep the company afloat forever. Even though GoPro had thus identified all the difficulties in the competitive environment it navigated, nothing in its business plan and further improved products suggests that the company managed to carve out its own niche from the market. In mid-July of 2016, for example, the whole camera market suffered a significant drop in camera sales, that actually coincides with the violent drop of GPRO, Nikon's, Canon's and many other companies' stock in that market[137], but GPRO was the only title in the stock market that did not manage to recover.

The report then continues with another worrying aspect of the cameras market, relating to the reduction in the camera industry itself: *"Smartphones and*

[137] Bloomberg data

tablets with photo and video functionality have significantly displaced the market for traditional camera sales. It is possible that, in the future, the manufacturers of these devices, such as Apple Inc. and Samsung, may design them for use in a range of conditions, including challenging physical environments, or develop products similar to ours" (GoPro Inc Corporate, 2014 Annual Report, page 10)

As mentioned above, already in 2014, the company feared a diminishing demand for its products and the heavy competition from the technology giants which set foot in the tech-market. These declarations suggest that there is a certain fragility in the offer GoPro delivers to its customers, due to the expanding market for smartphones. Unfortunately for Woodman's Inc, these premonitions revealed true in the next 4 years, causing the dreaded contraction in sales and the inevitable drop in revenues that followed[138].

Furthermore, it is interesting to consider GoPro's position in the industry through the view of the market participants, analysing the P/E ratio and P/Book ratio, respectively displayed in table 3.8 and table 3.9.

The P/E ratio of GoPro has an impressive outlook in the year of its IPO, almost peaking at 200; nonetheless, after 2014 a diminishing trend prevails, eventually bringing the firm to have no P/E ratio at all by the end of 2016 (not shown in table 3.8). The absence of a P/E ratio indicates no or even negative earnings per share (EPS); this deficiency signals to investors that the company's financials are troubled and no good can come from placing one's money there[139]. GoPro's situation remained unchanged in 2017 and 2018, while revenues had already begun declining and net profits were in red; also, by looking at the negative dividend yields previously presented[140] it is easy to predict for EPS – and consequently P/E ratio – to have followed the same fashion.

[138] See table 3.5
[139] Investopedia
[140] See table 3.6

Table 3.8 P/E ratio of GoPro through the years

P/E	2014	2015	2016	2017	2018
Mean	130.45	46.57	48.75	-	-
Max	198.45	72.68	74.76	-	-
Min	66.4	18.36	34.76	-	-

Source: Bloomberg data

The P/Book ratio, on the other hand, has remained positive since GoPro's IPO. Initial values even prospected further growth from the already precocious Inc, and even so, yet again a decrease in 2016 draws the ratio down. As already mentioned, the P/Book ratio measures a company's market price in relation with its book value – book value intended as shareholder's equity plus liquidated assets minus repaid liabilities – thus meaning that in the tech industry, where there are fewer tangible assets to be considered and a fester development and growth, it is common for the tech-firms to have higher P/Book ratios[141]. Therefore, the ratios from 2016 until 2018 shown in table 3.9 suggest a huge slowdown for the ambitious sports camera maker, causing investors' capital to stave off. Currently the industry for cameras has a P/Book benchmark of 2.4, while GoPro strives to improve achieving a 4.93[142].

Table 3.9 P/Book ratio of GoPro through the years

P/Book	2014	2015	2016	2017	2018
Mean	12.37	8.59	2.16	2.38	2.67
Max	12.37	13.47	3.31	3.7	3.47
Min	12.37	3.19	3.19	2.29	1.85

Source: Bloomberg data

Overall, GoPro never enjoyed a particularly large or even relevant market share, the most obvious reasons are the lack of diversification, generating difficulty in emerging in a market already full of powerful competitors, and the hampering of the camera market itself, emphasising the struggle of succeeding

[141] Investopedia
[142] Bloomberg data

for the Inc. It can be inferred that these aspects are all in part responsible for the sports cameras' flop in the stock market. The enterprise's IPO which showed a profitable trend at first – like all undervalued stocks do – turned out to be a "loser": in truth GoPro had too many issues at its foundations to ever be successful that soon. Any investor placing his or her money in GPRO could have grasped a glimpse of the probable failure of such investment, would he or she have analysed the situation correctly. All considered an IPO's results can be seen as a reflection of a company's real strength in its market: if a company is seen as profitable and shows signs of solidity in the market, its IPO will magnify its position among other competitors; yet, if an IPO fails to confirm an enterprise's position in the market, that enterprise will likely suffer grave hindering in achieving its goals.

Hence, this is the main issue with IPOs: even though a company may prove itself as healthy and full of potential, fuelled by a rapid growth and pushing for innovative, fresh ideas, the market – in terms of both investors, consumers and information – is always going to be too unpredictable to determine with utter certainty whether any IPO will make for a good investment. In the late 90s it was common sense to think that any IPO represented an excellent investing instrument; as times changed and the dot-com crush made investors aware of such naivety, IPOs are now looked at with a rather cautious, even distrustful, eye. Nonetheless, IPOs do not necessarily depend on the flip of a coin: they remain investment opportunities which can be thoroughly analysed, since the main characteristic of these transactions is the disclosure of information, enabling investors to make rational decision. All considered, the last paragraph of this chapter will in fact be used to build a discussion to understand why Ferrari NV succeeded where GoPro failed.

3.3 Ferrari Vs GoPro: What made the difference?

When considering two companies like Ferrari NV and GoPro Inc it is important to remember how different both the companies and the respective industries are. While the former is an almost 100-year-old Italian car manufacturer actively participating in the luxury vehicles market, the latter is a

US sports camera maker that with its two scarce decades of life struggles to gain a relevant market share in the cameras market. The only common ground between them is the IPO analysis which is central to this thesis. Despite their differences both companies were potentially fair investment opportunities, thus it is through the companies' financials and the IPO information from chapter 2 that this section will attempt to reconcile why the two analysed IPOs had their respective outcomes and why, for retail investors, IPOs' risks outweigh the advantages.

Recalling what stated in the second chapter[143], IPOs are poor long-run investment decisions for retail investors; that is because IPOs' uncertain outcomes combine with the limited chances of trading new stocks at favourable prices. Since IPOs are often traded in bullish markets, investors are given the initial deception that the newly issued shares will yield very high profits – the frequent degree of underpricing given by the underwriters being partly responsible – thus fuelling the hasty trading of these equity instruments and shooting prices upwards. As a result, IPOs are seen as very attractive opportunities, especially for active investors[144], nonetheless, for those who are not interested in short-term and ordinary gains, IPOs, on average, cannot offer much more.

For truly lucrative returns the best option is to invest in a long-standing company, with a solid history of satisfactory performance and a strong reputation. Ferrari NV for example, should be considered the perfect investment opportunity under this point of view. Born as a car racing pioneer, the enterprise has grown to be a symbol of luxury and Italian quality; with its IPO Ferrari affirmed its already fierce position in the car industry, encouraging a slow but steady, healthy growth for the whole business structure. Clearly, when Ferrari went public it represented a chance for secure profits – generated by increasing sales and constant incorporation of innovative technologies into its car models – for both the privileged institutional investors and retail – a surprising 19.17%.

[143] See "The point of view of the investor"

[144] "Active investors purchase investments and continuously monitor their activity to exploit profitable conditions" (Investopedia)

GoPro, on the other hand, represents the classic example of IPO flop, where the investors' expectations were greater than the tangible poor fundamentals of the firm's business. Unlike Ferrari, GoPro Inc is a young enterprise which has undergone an abnormally fast growth, and despite its early successes that turned it into a billion-dollar company the firm now writes off its income statements with losses. There are a few reasons for this sad situation, but the most relevant one is the challenging technological industry the company has to face: with only one product to sustain its business strategy GoPro has always been a water drop in a huge ocean. The fast expansion of the smartphones market, together with the omnipresent dominance of major tech-firms, like Samsung, Apple, and so on, have significantly hampered both GoPro's industry and GoPro itself. Market participants, too, have not been so generous with Woodman's Inc, first feeding GPRO's expectations to then letting it precipitate, together with the company's sales and revenues. Needless is to say that retail investors could never benefit from such precarious engagement. Perhaps those who managed to short sell shares in the early period of the IPO gained a decent income, but in the long-term who kept their money invested in the Inc is currently making negative EPS.

Unfortunately, are few the IPOs that become successful like Ferrari's, Facebook's, Spotify's, or those of other brands which are world-renowned and enjoy a certain degree of dominance in their respective industries. Most IPOs end up merely replicating market's indexes or, like in GoPro's case, they fail. The initial "spike" appearing on the stock market for new shares, soon followed by a sharp drop, is very common among IPOs, thus indicating that, to avoid investing into a stock blown up by the excitement of biased behavioural trading, investors should wait for markets to settle down. Only then will the market reveal the true outcome of the public offering – once it no longer portrays an IPO but just a stock among many. Although they can use the information publicly retrievable and make rational choices, retail investors usually do not necessarily possess the finances to afford losing money due to of a poorly placed bet. While institutional investors hold the possibility to make losses, individuals may be more vulnerable and influenced from the masses. It is precisely the individuals and their herd behaviour that bring stock values up and down, amplifying the effects of companies’ negative outlooks or strained periods of market turbulence. Retail investors, like any investor, cannot know with absolute certainty whether a company will be successful in the stock market once it goes public, so, in the end, the best option for them would be to not invest into an IPO.

Conclusion

The aim of the present study was to determine whether IPOs are positive investment opportunities for retail investors. The analysis has used both theoretical notions and authentic corporate data to take into account every possible perspective from which to evaluate this objective: within the first chapter the essentials of stock investing have been amply described, to show how many important considerations must be regarded before entering equity markets and invest in any firm's shares; the second chapter followed with an exhaustive picture of IPOs and their proceedings in the stock markets, offering different agents' points of view and the Internet bubble as historical example of catastrophic consequences; lastly, in the third chapter two IPO cases were offered, to give a better understanding of what lies behind the success of an enterprise's IPO.

Essentially it is safe to conclude that the outcome of this investigation has shown that IPOs are not positive investment opportunities for retail investors. The conclusion derives from a thorough scrutiny of IPO mechanisms and possibilities for their investors, accounted for in the procedure conducted to realize a public offering and in the results yielded by the study of the cases Ferrari and GoPro.

It is clear how retail investors are considered to be marginal entities of the whole system since the beginning of the underwriting process, where investment banks responsible for the marketing of shares only search for buyers in the institutional investors community: at this point already, a clear disparity cuts retail investors out of the primary market giving them an initial disadvantage compared to the more resourceful and privileged investment funds and similar. Nonetheless, in the secondary market these individuals still can attempt to participate, yet, only once prices are higher. This commencing is indicative of the unfavourable odds faced by individuals, but since retail investors still do commit their capital in such projects it is worth understanding what drives them after all. Ferrari's case, for example, has shown how remunerative IPO investing can be, with almost 20% of its investors being retail and experiencing significantly favourable dividend yields. The issue with this example is that, as frequently outlined throughout the analysis, only a few companies manage to eventually succeed in the stock market; the rest ends up like GoPro, whose debut in the stock market has failed to benefit the company, which is now making negative returns.

Central both to IPO's and retails' issues is the behavioural biases combined with the herd attitude of investors. Most investors, especially individuals, tend to follow the masses on a frequent basis, especially in times of financial imbalances, as the dot-com crush has abundantly proved. The rushed trading of stocks in the markets when a new stock is issued, causes considerably high price jumps, which makes a stock appear very successful at first; it is only after some time that the shares' value plummets downwards, once the market – alias the investors – no longer see potential in the subjected firm. The importance of the Internet bubble occurrence serves to highlight the difficult predictability of both the IPOs results and how investors contribute to emphasising them, a concept reflected in the peaks and lows of most stocks. This investigation has in fact found that a persistent weakness of retails is the lack of strength to move upstream when investing, it is greatly evident how following the crowd hampers an investor in improving his or her performance compared to the market, thus when the crowd is large enough to influence the whole stock market, it becomes almost obvious why complicated investments like IPOs' are not tailored for these types of individuals.

Another problem regarding IPO investing for retails is the actual profit that may be acquired: to understand the convenience of an investing opportunity it is important to recall the risk embedded in every possible market scenario and form an idea of the plausible returns; this concept needs to then be incorporated in a time frame, forming a clear scheme of the desired investment. As stated in the second chapter, investing in IPOs generates less profitable returns in the long-run, compared to investing in long-standing firms with a solid history of profits and business path. Underpricing makes IPOs alluring to eager, young people looking to make easy, large earnings, yet this train of thought rigorously holds for the short-term. Therefore, retail investors should avoid investing in IPOs, a conclusion which can be recalled from GoPro's failure as well: from this event it can be certified that retails would largely benefit from not investing in IPOs, because were they to wait for the stock markets to balance again right after the issue of a new stock, it would be better visible whether an offering was or not successful, giving them a chance to ponder on whether it would be advisable to invest in the interested company – obviously that would imply not investing in an IPO, but just in relatively recent shares of stock. Public offerings returns' close relationship to the number of IPOs present in the market demonstrate how unstable their presence is in the market, as can be again learnt from the early 2000s catastrophe.

With this investigation it is now clear that IPOs cannot offer brilliant investment opportunities to retail investors. The motivations delineated above have been sufficiently explicative in outlining the major difficulties retails would encounter in venturing their capital in these peculiar investment circumstance, hence insisting on the conclusion that the average individual investor would be more likely to incur losses than profits, and convincingly suggesting that it would be wiser for them to invest in newly issued shares only after the markets have stabilized.

The scope of this investigation was to assess IPOs' investment opportunities, using retail investors as a magnifying lens. By focusing on retail investors the examination could provide an unbiased resolution of the results obtained, since retails are the ones who hardly have access to facilitations in their investment activities and represent the essence of the free market trading. Because these results are thus fairly impartial it is reasonable to conclude that IPOs remain exceedingly risky investment opportunities and should be carefully inspected before engaging them.

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