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**IPO's Effect on
Dividend Policy:
Evidences from the
two AIM Stock
Exchanges**

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Introduction

Throughout this thesis we will explore the main drivers of dividend policy in small and medium enterprises and how these drivers change when the company decides to become listed. In particular, the main focus will be on the companies which performed an IPO in the last 5 years (2015-2019) in one of the two existing Alternative Investment Markets.

The Alternative Investment Market is a sub-market of the London Stock Exchange created in 1995 with the aim of helping smaller and more risky companies with high growth opportunities to have access to investor capital in the public market. Since 2009, after the merger of the London Stock Exchange with Borsa Italiana, this market was introduced also in Italy with the name of Alternative Investment Market Italia- Mercato Alternativo del Capitale.

The main characteristic of these two markets is the low level of requirements in order to become listed, this makes possible and substantially less costly for small and medium enterprises with high growth opportunities to have access to the capital required in order to sustain their investments.

Due to the lack of a proper analysis coverage over these relatively new markets, they have been considered as a good starting point in order to reach the objective of this analysis.

The main aim of this thesis, thus, is to individuate which factors influence mostly the dividends decisions and how these decisions change after the IPO on the Alternative Investment Market. Moreover, it has been intended also to make a comparison between these two markets individuating both the differences and the similar aspects which bring companies to make decisions about dividends' distributions.

In this document it is presented a literature review about the possible factors affecting dividend policy with a particular focus on corporate governance. This is a very interesting topic as dividend policy depends on so many factors which are very difficult to detect without a proper analysis, while corporate governance is a widely controversial topic, especially in last years.

Moreover, another outstanding point of this thesis is the IPO. This process changes deeply the characteristics of the companies that decide to become listed having inevitably impacts also on corporate governance and dividend policy.

The theories studied in the literature review have then been applied to the empirical analysis, by looking if small and medium enterprises follow the same “rules”. It is very interesting, so, to detect how small and medium enterprises, not widely considered by existing literature, respond to IPO by changing their dividends policy or the way they set their dividends. Another aspect considered is whether companies listed in different markets are influenced by different factors in setting their dividend policy.

The results of this research have been satisfying, showing that for companies listed on AIM Italia, the variables considered in our analysis have not substantial influence over the decision of paying dividends which is plausible due to the young maturity of the companies composing this dataset and the consequent decision of not paying dividends for most of these companies. On the other hand, the companies listed on AIM-LSE have shown an even lower influence over the payout ratio of such variables, however, in the post IPO phase, a greater and more substantial relationship has been found on the total amount of dividends paid.

Over this period dividends have proved to be driven mostly by financial performance rather than corporate governance as the most significant variables have resulted to be operating revenues, shareholders' funds and EBITDA.

The results have then been discussed in the last chapter of this thesis.

As for the structure of this document, the first two chapters provide a theoretical introduction of the main topics covered by the research: dividend policy, corporate governance and Initial Public Offerings and the main relationship between these topics; while the third chapter provides an oversight over the main capital markets subject of the analysis and the fourth chapter describes the analysis performed and the results reached providing some hints for future researches.

I. Theoretical introduction to dividend policy and corporate governance

1.1 Dividend policy

The return of stockholders of a listed company can take two different forms: capital gains and dividends. Capital gains occur when stockholders decide to sell the stock and it is the difference between its purchasing price and its selling price¹. On the other hand, if stockholders decide to retain the stock, the return that they will have can be either in the form of dividends or stock buybacks.

This preliminary remark has been needed in order to introduce the main topic of this thesis on which we will focus from now on the dividend policy.

Dividends are the part of the company's net profit that the board of directors decides to distribute to the stockholders, on the other hand, the remaining part is retained in the company and used for investments in new projects or put as reserves.

Dividends can be paid either in cash or through stocks; *cash dividends* are the most common and consists in a cash outflow, while *stock dividends* occur through the issuance of new stocks which are distributed as dividends, this practice is particularly used when there is a lack of liquidity.

Another feature of dividends is that they can be paid at regular intervals (quarterly, semi-annually, or annually), as *regular dividends*, or in addition to the regular dividends, as *special dividends*.

Another important question that may arise is: "How are dividends measured?". There are two different ways of measuring dividends: the first is the *Dividend Yield*, this method relates the dividend paid to the price of the stock:

$$\text{Dividend Yield} = \frac{\text{Annual dividends per share}}{\text{Price per share}}$$

¹ De Luca, P. (2008), "La Politica dei Dividendi tra Valore per l'Azienda e Valore per l'Azionista", *Amministrazione & Finanza*, 23, pp. 42-50

This is a significant method as it provides a measure of the components of the Total Return from stocks which derives from dividends.

$$\text{Expected Return on stocks} = \text{Dividend Yield} + \text{Price Appreciation}$$

The Dividend Yield can also be used to estimate the risk of an investment and to decide on which kind of stocks to invest. Indeed, from some studies has emerged that, on average, the higher the dividend yield, the higher the returns that the stock will generate in the future.

The second approach is the *Dividend Payout Ratio*, which relates the dividends paid to the earnings of the company:

$$\text{Dividend Payout Ratio} = \frac{\text{Dividends}}{\text{Earnings}}$$

The Payout Ratio is useful for different purposes. It is a common tool to estimate dividends in future periods, since dividends growth sometimes is a more meaningful indicator of the company's performance than dividends itself. The second use is to estimate future earnings, this is possible by looking at the retention ratio which is the measure of how much profit is retained in the company; generally speaking, the higher the retention ratio, the higher the growth rates of earnings. Lastly, the Dividend Payout Ratio gives us some understanding regarding the stage of the company's lifecycle as it tends to follow the different stages of the company's evolution; firms facing a high growth usually have a payout ratio equal to 0 which increases as the company matures and the growth perspective decreases².

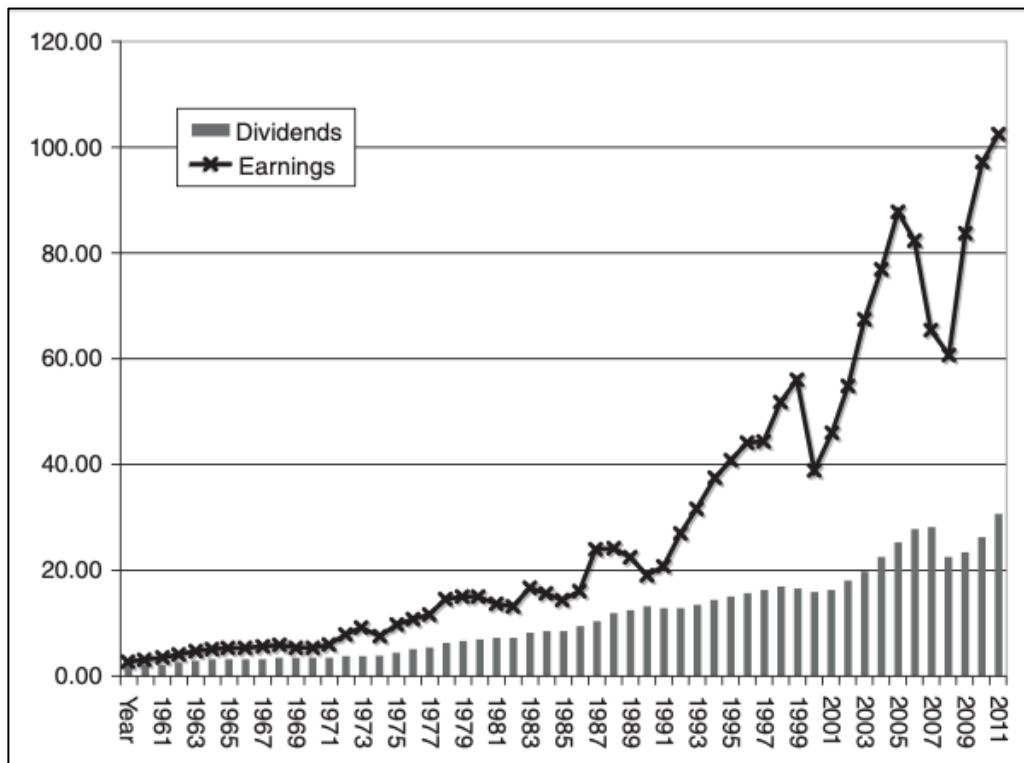
There exists a lot of different kinds of dividend policies, but there are five common characteristics that can be associated to every company. These five peculiarities have been individuated by an empirical study performed by John Lintner³ in 1956.

² Damodaran, A. (2004), *Applied Corporate Finance*, Wiley

³ Lintner, J. (1956), "Distribution of income of Corporation among Dividends, Retained Earning and Taxes", *American Economic Review*, 46, pp. 97-113

The first characteristic is that dividends tend to lag behind earnings, meaning that dividends and earnings are positively correlated over time. An example of this trend is demonstrated in Figure 1 which shows the path followed by dividends and earnings by S&P 500 companies between 1960 and 2012. According to Figure 1, dividends tend to increase in periods of higher earnings and decrease in periods when earnings are lower.

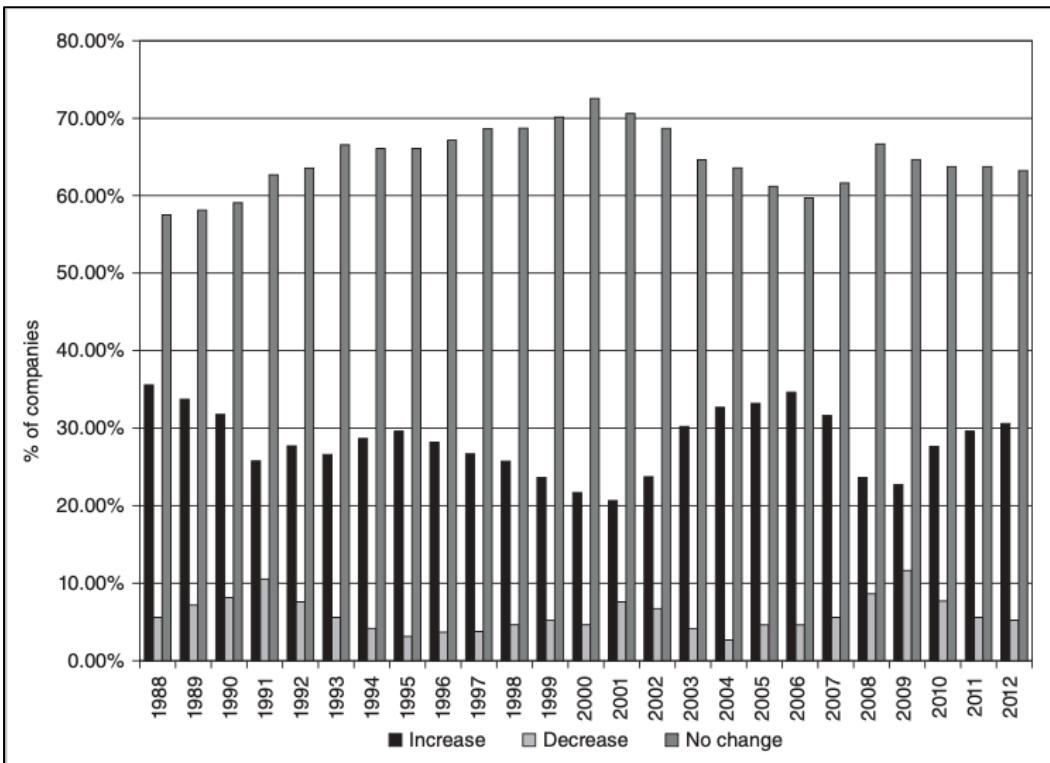
Figure 1: S&P 500: Dividends and Earnings



Source: Damodaran, A. (2004), *Applied Corporate Finance*, Wiley

Secondly, dividends are “sticky” because firms are typically reluctant to change dividends, this reluctance derives from the company’s concern about the capability of maintaining higher dividends in future periods and markets do not feel good about dividend reductions resulting in stock prices’ downturns. Figure 2 shows the percentage of all US firms that changed their dividend policy and those that did not change it from 1989 to 2012. From the figure we can see that most of the firms decided not to change their dividend policy and, among those that decided to change it, the majority increased the dividends paid, this trend persisted also during the period of the 2008’s financial crisis.

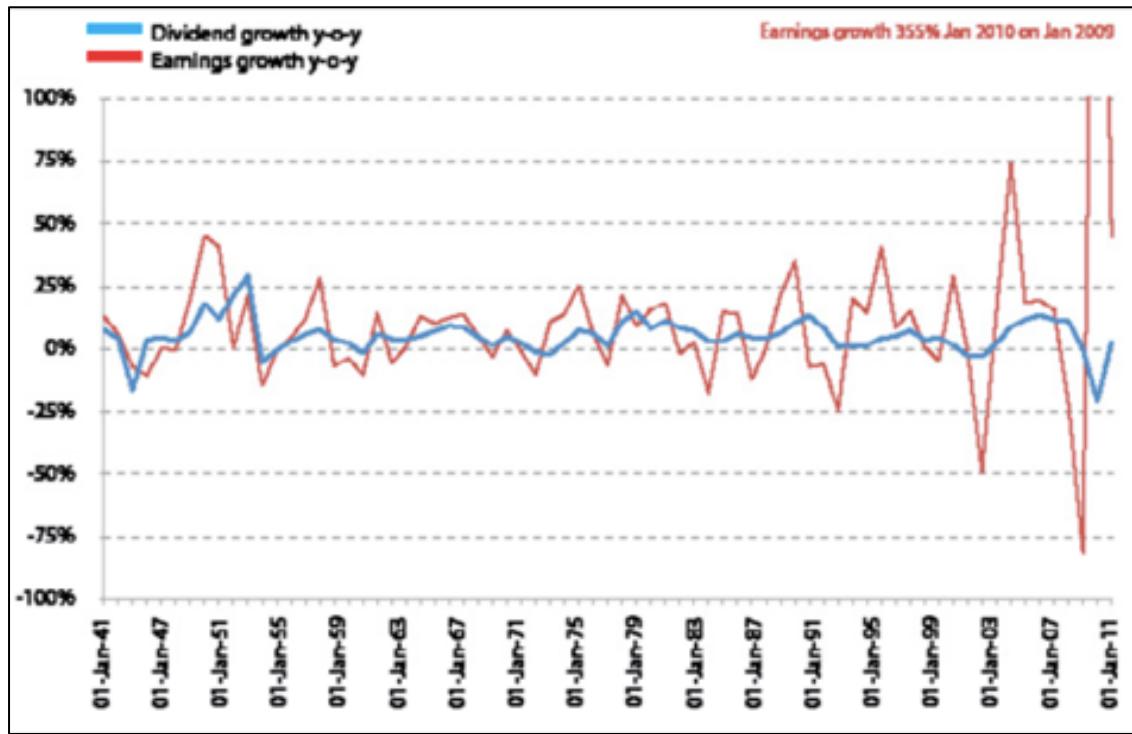
Figure 2: Dividend Changes of US companies



Source: Damodaran, A. (2004), *Applied Corporate Finance*, Wiley

Thirdly, dividends tend to follow a much smoother path than do earnings: therefore, dividends are not as volatile as earnings on a year-to-year basis; also, this characteristic derives from the company's reluctance to increase dividends until it is able to maintain them. As shown in Figure 3, dividends are much less volatile than earnings, providing comfort to investors in recessionary periods. As we can see from the figure, earnings can present changes of a much greater magnitude than dividends do on a year to year basis making them much more volatile, especially in the period of the financial crisis. Furthermore, dividends, in that period, presented a higher volatility than other years, but this is controlled by the fact that managers are reluctant to change dividends because of market opinion.

Figure 3: Dividends and Earnings Volatility



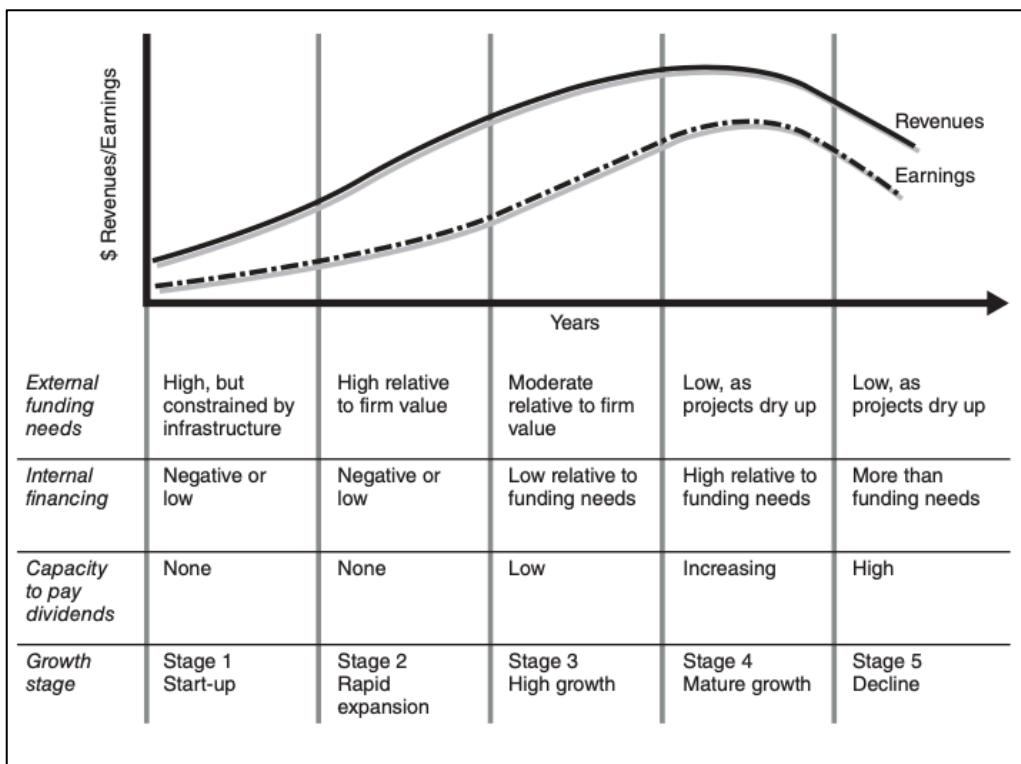
Source: Seeking Alpha

Finally, there are differences in dividend policies over the lifecycle of a company, due to changes in growth rates, cash flows and project availability, as is explained by Figure 4 which represents the differences in external funding needs, internal financing and capacity to pay dividends for each growth stage of the company's lifecycle.

As represented in the figure, companies, at the beginning of their lifecycle, have very high external financing needs and a low cash availability so they usually decide not to pay dividends and invest their cashflow on new projects; as they move to the second stage, their situation does not change as they have opportunities to invest cash into profitable projects and do not have excess free cashflow to distribute to the shareholders.

Companies usually start to pay dividends from the third stage, when the need of external financing decreases; however, dividends in this period are still low. It is in the mature stage when companies start to have enough free cashflow to increase their dividend payments and fewer investment opportunities in which to put cash. Finally, in the decline stage companies do not have profitable investment opportunities and decide to pay very high dividends.

Figure 4: Dividend Policy and growth stage



Source: Damodaran, A. (2004), *Applied Corporate Finance*, Wiley

1.1.1 How companies pay dividends

Once we have made an introduction on what dividends are and their characteristics, it is important to say that each company has different strategies to pay dividends. These strategies are called *Dividend Policies* which are the policy that each company employs in order to structure its dividend payout to shareholders and it is considered as an integral part of the corporate strategy.

The dividend policy of a company must explain three features to the shareholders:

- (i) The overall value of the payouts over the life of the enterprise;
- (ii) The time profile of a firm's payouts across period; and
- (iii) The type of the payouts.

The overall value of the payouts is one of the primary concerns in the theoretical hierarchy, but, still, timing is very important since it determines the resources available

to managers at each point in the firm's lifecycle and how much value is actually generated. Lastly, the type of the payout is of less importance since it matters only when dividends are taxed more heavily than stock buybacks, influencing the preferences of the investors⁴. According to the features just described, we can distinguish among several dividend policies.

- *Stable Dividend Policy*: it is the easiest and most commonly used. This policy consists in steady and predictable dividend payouts each year independently on the changes in earnings, giving shareholders more certainty about the amount and timing. The main weakness of this policy is that there is no increase in dividends in boom years and no decrease in years when the company has lower earnings or lower liquidity.
- *Constant Dividend Policy*: it occurs when the company pays a specific percentage of its earnings as dividends every year. The amount of dividends is positively related with the amount of earnings, but the main drawback is that it is affected by the short-term earnings' volatility lacking the predictability given by a Stable Dividend Policy.
- *Residual Dividend Policy*: it implies that the company pays as dividends the remaining cash flow after capital expenditure and working capital have been deducted. This approach is highly volatile because dividend payments fluctuate with respect to the available investment opportunities. An advantage of this policy is that the management is free to pursue profitable opportunities without worrying about the dividends' constraints.
- *Steadily Increasing Dividend Policy*: involves paying dividends with a stable growth trend during a period of time. In order to be sustainable, the dividend growth rate should be less than corporate profit growth rate; this policy can be applied to companies at the mature stage of the lifecycle and it tells the market that the firm is in a steady growth with low risk.

⁴ De Angelo, H., De Angelo, L., Skinner, D.J., (2009), "Corporate Payout Policy", *Foundations and trends in Finance*, 3, pp 95-287

- *Low Regular Dividend and Special Dividend Policy*: allows companies to keep lower fixed dividends every year and add to them the appropriate special dividends taking into account the operating profit, the capital expenditure and the working capital. It entails a large flexibility, protecting the enterprise from the risk of financial distress which can occur through implementing a stable dividend policy; moreover, it solves the fixed payout ratio problem, arising from the constant dividend policy.
- *No Dividend Payout*: is adopted by companies that decide not to distribute dividends to shareholders; the profit earned is retained and reinvested into the business for future growth. This is a typical policy usually adopted by companies at early stages of their lifecycle, meaning that they are using their earnings for profitable investments opportunities. These companies are constantly growing and expanding, so they are attractive because the value of their stocks should appreciate overtime⁵.

1.1.2 The factors affecting dividend policies' decisions

Independently of the dividend policy that the company decides to apply, corporate earnings are the primary determinants of dividend decisions.

According to Lintner, managers give such importance to earnings due to many reasons. Firstly, investors understand earnings and find them a “reasonably persuasive, if not compelling” basis for setting payouts; secondly earnings are “reported frequently and receive wide publicity” and, lastly, stockholders have a “proprietary” interest in earnings. The main problem in using earnings as a determinant for dividends is that they generally differ from the Free Cashflow; the “true” FCF is theoretically the ideal residual cash flow that remains after managers have taken all positive-NPV projects so it cannot create more value for the company. The FCF should either be fully distributed to investors or placed in value-neutral investments and fully distributed later.

⁵ Xian, M., Xing, W. (2015), “Analysis of dividend policy of listed company and its financial impacts”, *International Symposium on Computers and Informatics*, pp. 110-116

Investors, instead, have a preference for earnings because it is very difficult for outsiders to observe the “true” FCF and, for this reason, they need to rely on more easily observable, and verifiable measures of company’s performance such as earnings⁶.

Another factor of substantial influence on dividend policy is the individuals’ behavioral biases which can influence it either through their impact on the demand for dividends by investors, and on the decisions made by managers.

According to Shefrin and Statman, investors do not always behave rationally, and this can influence dividends in different ways. Investors tend to assume some behaviors that make the demand for dividends to increase, in particular, they adopt the behavioral rule “consume only out of dividends” in order to avoid selling too many stocks to fund excessive consumption today and risk being left with too little consumption later on; they also have a “regret aversion” bias that generates a demand for dividends that would not exist in a rational expectations world; a third behavioral demands from dividends arise from “mental accounting” meaning that investors would prefer to receive €1 dividend and a €9 capital gain than €10 capital gain because the marginal utility of the first euro of dividends received is greater than the marginal utility of the tenth euro of capital gains⁷. In addition, investors preferences vary also overtime putting more or less value on dividends paying stocks⁸.

Managers’ behavioral biases, on the other hand, have a major influence on corporate payout practices. Managerial opportunism, indeed, is to be expected when outsiders have only limited information about the company’s opportunities and cashflow consequences of managers’ decisions. In addition, managerial overconfidence can lead managers to be less disciplined about capital outflows when they have resources to spare; companies with

⁶ Lintner, J. (1956), “Distribution of incomes of corporations among dividends, retained earnings, and taxes”, *American Economic Review*, 46, pp. 97–113.

⁷ Shefrin, H. and Statman, M. (1984), “Explaining investor preference for cash dividends”, *Journal of Financial Economics* 13, pp. 253–282

⁸ Baker, M. and Wurgler, J. (2004), “A catering theory of dividends”, *Journal of Finance*, 59, pp. 1125–1165

over-confident managers tend to accept lower returns investment projects, pay dividends less often and repurchase stocks more frequently than other firms do⁹.

1.1.3 Why do companies pay dividends?

An important question that may arise talking about dividends is: “Why do some firms pay dividends while others do not?”. Traditionally, the main reasons behind dividends’ payments has been the desire to communicate information to shareholders or to satisfy the demand for payouts of the different investors, but these are not the primary determinants. From different researches performed by multiple economists overtime, it has emerged that dividends payments are associated with firm size, growth opportunities and profitability¹⁰.

The finance literature contains many theories, hypotheses and explanations for paying dividends. These theories are not totally independent, indeed, some of them are related to each other.

According to the *bird in the hand theory*, a good reason for companies to pay dividends is that investors have a preference for certain dividends payments to future higher but uncertain capital gains; the result is that, in order to keep the share price high, companies need to continue to pay high dividends.

Dividends, in addition, depend on *taxation*; investors prefer that firms retain cash when dividends are taxed more than capital gains and vice versa, but different researches have shown that taxation has only a minor influence on the payout policy, so it is not one of the primary determinants for dividends.

⁹ Ben-David, I., Graham J. R., Harvey C. R. (2007), “Managerial overconfidence and corporate policies” Working paper, University of Chicago and Duke University

¹⁰ Kinki, S., (2001), “Dividend Puzzle – A Review of Dividend Theories”, *LTA*, pp. 58-97

Another reason behind dividends' payouts is *information asymmetry*, it is the basis for signaling theory. Dividends have an important signaling effects to outsiders, in particular, dividends' changes communicate to investors the company's future cashflows; for example, dividends' increases provide signs of higher future expected cashflow of the company¹¹. Dividends are considered as almost a credible signal since they involve a substantial cost for the company that not all can afford. As a result of this effect, dividends' changes generate market reactions. Usually the market response is positively correlated with the change in dividends, meaning that share prices tend to increase as a result of dividends' growth and decrease when the company decides to cut the payouts¹². Managers, in addition, have incentives to signal private information to the public when they believe that the current market value of the firm is below the intrinsic value. It is useless to say that it is very important for managers to be aware of the market reactions when thinking about changing the dividend policy.

Dividends play an important role in mitigating *agency costs*, as we will see in more details in the next paragraphs; dividends payouts align the interests and reduce the agency problems between managers and shareholders by reducing the free cashflow available to managers. Holding excess cash balances increases managers' investing flexibility but can be detrimental to shareholders, on the other hand, there is not a clear empirical evidence that dividends reduce agency costs among the firm's stakeholders.

Other rationales behind dividends' payout are, as we mentioned before, *investors preferences* for dividends due to behavioral biases like self-control, mental accounting and regret, and the stage of the *company's lifecycle*.

As the company grows the firm's ability to generate cash overtake the ability to find profitable investment's opportunities, leading it to distribute cash as dividends; this theory is in contrast with the signaling theory according to which dividends are signal that the company is growing, and profitability has improved.

¹¹ Baker, H. K., Weigand R., (2015), "Corporate dividend policy revisited", *Managerial Finance*, 41, pp. 126-144

¹² Kinki, S., (2001), "Dividend Puzzle – A Review of Dividend Theories", *LTA*, pp. 58-97

The last theory explaining the reasons behind dividends' payment is the *catering theory* which focus on investors' sentiment and says that managers pay dividends when investors prefer dividends-paying firms and reduce dividends when investors prefer non dividend-paying companies, catering demand.

These theories show us that there is still uncertainty behind the reasons that push companies to pay dividends. No theory is unequivocally verified, different researches have led to different and opposite results about this topic. These differences are due to different time periods, methodologies and variables used¹³.

1.1.4 The Dividend Irrelevance Theory and the three schools

Different and contrasting theories have been developed about dividend policies over the years, among them, a basic debate arisen is whether the dividend policy affects the firm value.

There are three schools of thought about this topic. The first school argues that dividends should be irrelevant both for firm's value and investors, the second one asserts that increasing dividend payments increase a firm's value and the last one claims that high dividend payouts have the opposite effect on company's value¹⁴.

The most important is the Dividend Irrelevance Theory developed by Modigliani and Miller (1961) according to which the value of a company is determined by its assets and the cashflow generated by them and not by the way in which cashflow is distributed to the shareholders; thus, it is the investment policy alone that determines the value of the company¹⁵.

¹³ Baker H. K., Weigand R., (2015), "Corporate dividend policy revisited", *Managerial Finance*, 41, pp. 126-144

¹⁴ Al-Malkawi, H.N., Rafferty M., Pillai R., (2010), "Dividend policy: a review of theories and empirical evidence", *International Bulletin of Business Administration*, 9, pp. 171-200

¹⁵ Damodaran, A., (2004), *Applied Corporate Finance*, Wiley

Besides demonstrating that the dividend policy is irrelevant for the value of the company, Modigliani and Miller's theory proves that rational investors should be indifferent between receiving their returns as dividends or as capital gains.

This is true only under the assumption of perfect and efficient markets where expected future investments and cashflow are independent of the dividend decisions, so that the company will distribute dividends when the free cashflow is positive and, when it is negative, the company will issue new shares¹⁶.

Since it is almost impossible to have perfect and efficient markets in reality, the Modigliani and Miller theory is supported by only a few observations; for this reason different and contrasting theories have been developed.

Different studies have provided some results according to which dividends matter and affect the value of the companies and for the shareholders, either positively or negatively. According to Gordon (1959), the value of a company is given by the sum of all the future dividends, and therefore, by increasing the dividends paid, the value of the shares will increase as well¹⁷. In addition, according to the *Bird in the Hand Theory*, investors prefer dividends to capital gains because the former is certain while the latter not. However, this argument is not so strong, since the choice is not between dividends today and uncertain capital gains in the future, but between dividends today and an almost equivalent price appreciation today; moreover, by paying dividends, the firm decides to reduce the capital gain by an amount almost equivalent to the amount of dividends paid. Furthermore, if a company decides to increase dividends not changing its investment policies, it will have to replace the dividends with new stock issues in order to increase the cashflow at its disposal, reducing the price of the stocks and, in turn, the capital gain¹⁸.

More recently, new and modern arguments have been developed in favor of dividend policy, among these, the most outstanding one is the *Dividend Signaling Theory*. This theory suggests that, when a company announces to increase its dividends payment, it

¹⁶ Booth, L., Zhou, J., (2017), "Dividend Policy: A selective review of results from around the world", *Global Finance Journal*, 34, pp. 1-15

¹⁷ Gordon, M.J., (1959), "Dividends, Earnings and Stock Prices", *The Review of Economics and Statistics*

¹⁸ Damodaran, A., (2004), *Applied Corporate Finance*, Wiley

means that it has positive future prospects; as increases in company's dividends' payout generally forecast positive future performance of the company's stocks. This argument has been developed from game theory leading to the result that managers with good investment potential are more likely to provide signals to the market. As a consequence of this theory, companies that pay higher dividends are, or should be, more profitable than those with lower payouts. There is wide skepticism around this theory, but different studies have come to the conclusion that signaling does exist. In fact, from different observations on stocks' performance, we can notice that, when a company decides to increase its dividends' payment, the stock price tends to increase; on the other hand, when a company decreases its payout, the company will face negative future performance. But what is there behind this theory? If a company is profitable, it should generate enough cashflow to have some retained earnings to pay out or increase its dividends paid. So, even though a profitable company, with enough free cashflow, experiences quarters of low earnings or losses, it will still have enough free cashflow to increase its dividends payments also in difficult times¹⁹.

This theory has been also proved by different papers written by J. Poterba and L. Summers between 1983 and 1985²⁰. The result of their empirical research is the development of a "traditional view" of dividends in which firms derive an advantage from the payment of dividends and this advantage is reflected into the market value. This traditional view, thus, supports the theory that dividends provide signals of some private company's information about profitability.

The Dividend Signaling Theory is still a controversial topic; several early studies, like for example those performed by Watts (1973)²¹ and Conedes (1978)²², reached the

¹⁹ Bernheim, B.D., (1992), "A tax-based test of the dividend signaling hypothesis", *NBER Working Paper 4244*

²⁰ Poterba, J., Summers, L., (1983), "Dividend Taxes, Corporate Investment, and Q", *Journal of Public Economics*, 22, pp. 135-167
Poterba, J., Summers, L., (1984), "New Evidence that Taxes Affect the Valuation of Dividends", *Journal of Finance*
Poterba, J., Summers, L., (1985), "The Economic Effects of Dividend Taxation", *Recent Advances in Corporate Finance*, pp. 227-284

²¹ Watts, R., (1973), "The Information Content of Prices", *Journal of Business*, 46, pp. 191-211

²² Conedes, N.J., (1978), "Corporate Signaling, External Accounting, and Capital Market Equilibrium: Evidence on Dividends, Income and Extraordinary Items", *Journal of Accounting Research*, 16, pp. 26-79

conclusion that dividends are unrelated to subsequent earnings; on the other hand, a more recent study by Ofer and Siegel (1987)²³ found that analysts usually revise the earnings forecasts as a result of unanticipated changes in dividends and these revisions are rational.

Furthermore, investors prefer dividends to capital gains for different reasons, in particular, behavioral finance tried to explain this irrationality in preferring dividends even though they may be taxed more heavily than capital gains.

According to Shafrin and Statman there are three main explanations for this preference:

- Absence of self-control: investors, in order to avoid consuming too much, prefer receiving dividends and not selling the stock;
- Mental accounting: as the marginal utility of the last euro received if the return is split between dividends and capital gains is higher than if it is received only as capital gains;
- Regret avoidance: if an investor buys a non-dividend paying stock and its price goes down, he is forced to sell the stock, on the other hand, if an investor buys a dividend paying stock, he can avoid selling the stock even if the price decreases²⁴.

The last theory in favor of dividends is that their payment might serve to align the interests among shareholders and managers, reducing the agency conflicts by decreasing the amount of cashflow at disposal of managers. As we will see in the next sections, managers' interests are not always the same as shareholders' interests, this may lead managers to conduct some actions that could be costly for shareholders. Shareholders, in turn, incur in some costs associated with the need of monitoring managers actions and these costs are an implicit burden resulting from the potential conflict of interest among shareholders and corporate managers. Easterbrook (1984)²⁵, argued that dividends can be used to reduce the free cashflow at disposal of managers avoiding poor investments, moreover, dividend payments will force managers to approach the capital markets to raise

²³ Ofer, A.R., Seigel, D., (1987), "Corporate Financial Policy, Information, and Market Expectations: An Empirical Investigation of Dividends" *Journal of Finance*, 42, pp. 365-394

²⁴ Shefrin, H., Statman, M., (1984), "Explaining investor preference for cash dividends", *Journal of Financial Economics* 13, pp. 253–282

²⁵ Easterbrook, F., (1984), "Two agency-cost explanations of dividends", *American Economic Review*, 74, pp. 650-659.

new funds, so that, there will be an external source of monitoring of managers actions, lowering the monitoring costs for shareholders. However, he also argued that, increasing dividend payments might push managers to take undesirable actions and increase firm leverage and, as a result, the firm's risk will increase as well.

So, in contrast with the M&M hypothesis, this theory suggests that, dividend policy and investment decisions are related, and, an increase in the dividends paid will reduce the overinvestment problem, impacting positively the market value of the firm²⁶. However, paying more dividends forces managers to acquire funds from the market and involves shareholders to accept the risk of higher debt and pay higher personal taxes on dividends. In other words, shareholders have to trade-off between the costs and the benefits of receiving more dividend payments.

The last school argues that *Dividends are bad* as they reduce the returns to the stockholders after personal taxes. Dividends have usually been taxed at a higher rate than capital gains, as a consequence, they reduce the returns to the stockholders, they, in turn, will reduce the stock price of the companies paying dividends with respect to the non-dividend paying companies; as a result, firms would be better off retaining the earnings or repurchasing the stocks. Moreover, dividends are taxed immediately, while taxes on capital gains are deferred until the stock is actually sold and the capital gain generated. The theories in support of this argument have been eliminated when the tax rates on dividends began to decrease in order to match the tax rate on capital gains.

Different countries, over the years, have implemented different plans in order to protect dividend receivers, in particular, there are two main solutions that have been adopted: one involves to allow corporations to have a partial or complete tax deduction for the dividends paid, another solution is to give partial or full tax relief to the individuals that receive dividends.

Despite these tax reductions, most firms decide not to increase so much dividends; the main reason is the fear that they will not be able to sustain the higher dividends with their volatile earnings, so the inability to reduce dividends reduces the tendency to increase them in the first place²⁷.

²⁶ Lang, L.H.P., Litzenberger, R.H., (1989), "Dividend Announcements: Cash Flow Signalling vs. Free Cash Flow Hypothesis", *Journal of Financial Economics*, 24, 181-191

²⁷ Damodaran, A., (2004), *Applied Corporate Finance*, Wiley

No consensus about the three school of thought has been developed after several decades of investigation, and different scholars can often disagree even about the same empirical evidence. Although different studies have examined the various issues of the dividend policy, they have produced mixed and inconclusive results.

Thus, we can conclude this section with the famous statement of Fisher Black “the harder we look at the dividends picture, the more it seems like a puzzle, with pieces that just do not fit together”²⁸.

1.2 Corporate governance

Corporate governance is widely studied in academic research because of its substantial influence on the firm.

Corporate governance is the system of rules, practices and processes by which an organization is directed and controlled. The governance structure is fundamental for the existence of the company and it has been the focus of political and business debate for many years because failures in corporate governance has led to corporate frauds and failures and have raised some issues about ethics and culture of business conduct.

Corporate governance has its origin in the separation of ownership from management and on the differences in whom the stakeholders are and their significance. For this reason, there are differences in governance between countries. These differences can be grouped and classified into different regimes, as is explained by Figure 5.

²⁸ Black, F., (1976), “The Dividend Puzzle”, *Journal of Portfolio Management*, 2, pp.5-8

Figure 5: Comparative Corporate Governance Regimes

Regime Basis	Characteristics	Examples
Market-based	Efficient equity markets; Dispersed ownership	United States, United Kingdom, Canada, Australia
Family-based	Management and ownership is combined; Family/majority and minority shareholders	Hong Kong, Indonesia, Malaysia, Singapore, Taiwan,
Bank-based	Government influence in bank lending; Lack of transparency; Family control	Korea, Germany
Government-affiliated	State ownership of enterprise; Lack of transparency; No minority influence	China, Russia

Source: Tsui, J., Shieh, T., (2004), "Corporate Governance in Emerging Markets", *International Finance and Accounting Handbook*, Third Edition, Wiley, pp. 24.4-24.6

Market Based Regime is characterized by dispersed ownership and efficient capital markets, these are common characteristics of companies coming from the USA, United Kingdom, Canada and Australia. On the other extreme there is *Family Based Regime*, the main characteristics of the companies classified in this regime are that they are mostly owned by family, and they continue to be mostly family owned even once they go public, this regime is primarily diffused in emerging countries like Hong Kong, Indonesia, Malaysia, Singapore and Taiwan. *Bank Based and Government Affiliated Regimes* arise in those countries in which government exercises a substantial influence, in particular, for Bank Based Regimes, the influence is on bank lending where there is a substantial lack of transparency and family control like in Korea and Germany, on the other hand, in Government Affiliated Regimes, the government has substantial control of the enterprises and the industry like in Russia and China.

The development of the different corporate governance regimes in different countries is dependent on four factors: financial market development, separation of management and ownership, degree of disclosure and transparency and historical development of the legal system. As far as the financial market development is concerned, countries with slow growth or that have industrialized rapidly through neighboring capital markets, usually do not have strong and efficient capital markets, the result is that a high concentration of ownership is maintained, and few disciplined processes of governance are developed. The second factor of influence is the separation between ownership and management, usually, the less sharp the separation is, the fewer are the agency issues and failures that the company may face; on the other hand, in countries where this separation is more distinct, like United States, it is more difficult to align the goals of management and ownership.

Another factor of particular importance is the fact that the degree of disclosure varies dramatically across countries; disclosure is important because it is the result of different forces like the degree to which ownership is public, the degree of government intervention and the extent to which family based and government based business remain central to the culture. Lastly, there is the historical development of the legal system; investors are more preserved in countries adopting the English Common Law legal system, for this reason these countries have a tendency for Market Based Regimes; on the other hand, in countries where investor protection is weak, a solution which is usually adopted is a more concentrated ownership²⁹.

Corporate governance has five primary functions in a company, these functions are:

- *Determining the objectives of the organization:* the objectives are translated into the mission and vision and are implemented through the strategic plan. Defining the objectives means to delineate the purpose of the organization and how it will be achieved.
- *Determining the ethics of the organization:* Ethics means to establish which behavioral aspects are of more importance, it is based on morals and values and define the rules and standards of people in the organization.
- *Creating the culture of the organization:* The culture is expressed into the way people interact with each other, it is decided by the governing bodies which influence the operating culture by appointing different people in executive positions.
- *Ensuring compliance by the organization:* Meaning that the organization need to comply with regulatory, statutory and legal obligations.
- *Designing and implementing the governance framework for the organization:* The governing body cannot undertake all the governance activities itself, so it needs to appoint other members and establish a framework to reach the corporate objectives by delegating responsibilities, defining principles, structures and enabling factors and interfaces through which people operate; moreover, it needs

²⁹ Eiteman, D.K., Stonehill, A. I., Moffett, M. H., (2016), *Multinational Business Finance*, Pearson

to delegate authority and responsibility to managers in order to ensure accountability.

1.2.1 The goals and structure of Corporate Governance

There have been considerable debates about which should be the ultimate goal of corporate governance.

It is very important for managers to have a clear knowledge of what the objective is. An objective specifies what the managers have to accomplish and provides the measures that can be used in order to choose between the different alternatives.

According to the Anglo-American markets, the main objective of the corporate governance should be the maximization of the shareholders' returns. In order to achieve this objective, the board of directors should develop and implement a strategy that ensures corporate growth and equity value creation.

Equity shareholders, in fact, are considered as residual claimants; this definition derives from the fact that dividends are paid to the shareholders only after the interests of all the liabilities are paid and all the other parties are satisfied. Also in the case of company's failure, shareholders are the last ones to receive their payment, so that, maximizing the value received by the shareholders, means also that the value created for all the other people that have interests in the company is maximized. In addition to maximizing the shareholders' value, corporate governance needs to ensure an effective relationship with stakeholders; for this reason, it is not a simple topic since it needs to consider different relationships among all the different people that have interests in the organization.

But, let's go deeper into the concept of corporate governance, so "What do we mean with the expression corporate governance?". It is a combination of parties each with different responsibilities associated with the governance of the modern corporation. The modern corporation, in turn, is influenced by two kinds of forces: internal and external.

The *internal forces* are those responsible for determining the strategic direction and execution of the company's strategy, they are composed by:

- *Board of directors*: it is the legal body accountable for the governance of the company, it can be composed either by inside members which are employees of

the company and outside members that are nonemployees. From the importance of this body some debates are derived, like for example, the right balance between inside and outside members, the compensation of the members and their ability to manage the company with only a few meetings a year.

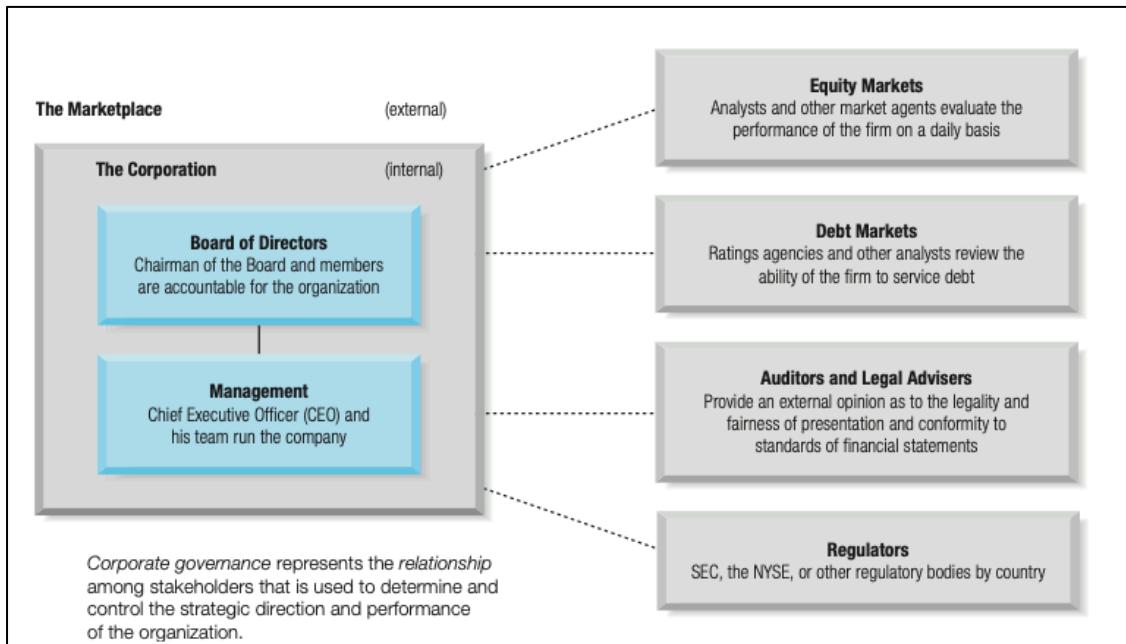
- *Management*: the main members of this body are: the Chief Executive Officer (CEO), the Chief Financial Officer (CFO) and the Chief Operating Officer (COO), these members are the creators and directors of the corporate strategy; in particular, they act in behalf of the shareholders, as agents, in order to pursue the company's value creation. In order to align the objectives of the management with the objectives of the shareholders, salary, bonuses and stock options are used.

These internal forces are constantly controlled and influenced by the *external forces*; these forces include:

- *Equity Markets*: Companies are strongly influenced by the marketplace, in particular, the main figures in these markets are the analysts, which are experts employed by investment banks which evaluate the strategies and their execution and the financial performance of the company depending on the documents that the company discloses like financial statements.
- *Debt Markets*: These markets are composed by the banks and financial institutions that have provided loans and other forms of debt to the company. Their primary interest is the financial health of the company, so that it will be able to repay its debt in a timely manner. In order to make their assessment they need to rely on the documents disclosed by the company like financial statements.
- *Auditors and Legal Advisors*: They provide an external opinion about the fairness, completeness, legality and accuracy of the company's financial statements, ensuring that the company complies with the accounting principles, (GAAP in the USA, IFRS in EU or home country national law).
- *Regulators*: Each company is subject to the regulatory oversight of governmental and nongovernmental organizations. These authorities require a regular and orderly disclosure of the corporate performance so that investors can evaluate their investments using accurate and reliable information.

Corporate governance, as is explained in Figure 6, is the relationship among stakeholders that is used to determine and control the strategic direction and performance of the organization³⁰.

Figure 6: Corporate Governance Structure



Source: Eiteman, D.K., Stonehill, A. I., Moffett, M. H., (2016), *Multinational Business Finance*, Pearson

1.2.2 The Corporate governance issues

Failures in corporate governance are becoming subject of particular interest especially in recent years, this has made to emerge the issue of good corporate governance. In particular, it is very difficult to assess the corporate governance and say whether it is good or not. One way that companies can use to signal good governance to the investor market is to publish a fundamental set of governance policies and practices; this method has been adopted by almost all publicly traded companies and has led to the creation of a standardized set of common principles.

According to these principles, good corporate governance possesses the following characteristics:

³⁰ Eiteman, D.K., Stonehill, A. I., Moffett, M. H., (2016), *Multinational Business Finance*, Pearson

- *Composition of the Board of Directors:* The board of directors should be composed both by internal and external directors, who should possess true experience and knowledge.
- *Management compensation:* The compensation system should be aligned with corporate performance and must be monitored by the board of directors.
- *Corporate Auditing:* Financial reports must be subject to independent auditing on a real time basis.
- *Public Reporting and Disclosure:* The company should publish its reports timely, the reports concern both financial and nonfinancial operating results which are used by investors to assess their investments' quality³¹.

The Organization for Economic Cooperation and Development (OECD) has provided specific guidance for legislative and regulatory initiatives in both OECD and non-OECD countries. In particular, the OECD has provided some principles to assist OECD and non-OECD governments to evaluate and improve the legal, institutional and regulatory framework for corporate governance in their countries and to provide guidance and suggestions for stock exchanges, investors, corporations and other parties that participate in the process of developing good corporate governance. These Principles offer non-binding standards as well as good practices and guidance to implement them; they are particularly directed to publicly traded firms; however, they might also be a useful tool to improve the corporate governance of non-publicly traded companies. As we have already explained in the previous paragraph, corporate governance involves relationships between the Board of Directors, the management, the shareholders and other stakeholders, so corporate governance should provide the right incentives for managers to act in the interest of the company and the shareholders, reducing the amount of monitoring needed. The result of good corporate governance is a lower cost of capital and higher returns for the shareholders.

The Principles developed by OECD focus particularly on the governance problems that derives from the separations of ownership and control, governance issues can arise also from the power of controlling shareholders over minority shareholders.

³¹ Eiteman, D.K., Stonehill, A. I., Moffett, M. H., (2016), *Multinational Business Finance*, Pearson

Before introducing the principles that have been developed, we need to say that there is no single model of good corporate governance, the OECD has only identified some common elements that characterize good corporate governance. The Principles are built on these common elements and are formulated in order to serve the needs of the different models existing.

The Principles that have resulted are the following:

- I. *Ensuring the basis for an effective corporate governance framework:* The corporate governance framework should promote transparent and efficient markets, be consistent with the rule of law and clearly articulate the division of responsibilities among different supervisory, regulatory and enforcement authorities.
- II. *The rights of the shareholders and key ownership functions:* The corporate governance framework should protect and facilitate the exercise of shareholders' rights.
- III. *The equitable treatment of the shareholders:* The corporate governance framework should ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights.
- IV. *The role of stakeholders in corporate governance:* The corporate governance framework should recognize the rights of stakeholders established by laws or through mutual agreements and encourage active cooperation between corporations and stakeholders in creating wealth, jobs and the sustainability of financially sound enterprise.
- V. *Disclosure and transparency:* The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company.
- VI. *The responsibilities of the board:* The corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of

management by the board, and the board's accountability to the company and the shareholders³².

Despite the efforts in providing guidelines and principles for good corporate governance, one of the major challenges is to define a single measure of good corporate governance. In fact, despite many years of researches and development of measures and methods the results are still ambiguous and contradictory³³. This issue has led to the creation of some empirical reviews of the different methods of measuring corporate governance; the main finding has been the fact that single measures are more efficient in predicting performance outcomes than composite measures. Furthermore, different measures of different providers, that intend to measure the same target, are poorly correlated with each other. Single measures are defined as those that concentrate on only one aspect of the corporate governance like for example the number of external directors, while composite measures are composed by different indicators that refer to different aspects of the corporate governance e.g. the GMI metric produced by Governance Metrics International or the Accounting & Governance Risk (AGR) score developed by Audit Integrity.

The main problems associated with composite measures are that there is a lack of theoretical justifications for the composition of these indicators and there is an issue in assigning different weight to different variables. On the other hand, simple measures of corporate governance are not able to account for the complex interactions that exist between the corporate governance mechanisms and the environmental factors.

According to Schnyder G., the optimal corporate governance index depends on the kind of research we are performing, it would not be cautious to limit too much the number of variables considered because some corporate governance characteristics are relevant only in combinations with others, so a balanced and careful judgment of the degree of variety required is needed. This task is very complex making very difficult to measure the corporate governance and say whether it is good or not³⁴.

³² OECD, (2004), *OECD Principles of Corporate Governance*

³³ Bhagat, S., Bolton, B., (2008), "The Promise and Peril of Corporate Governance Indices", *Columbia Law Review*, 108, pp. 1803 - 1882

³⁴ Schnyder, G., (2012), "Measuring Corporate Governance: Lessons from the 'Bundles Approach'" Available at
SSRN: <https://ssrn.com/abstract=2220616> or <http://dx.doi.org/10.2139/ssrn.2220616>

1.3 How does the quality of corporate governance affect dividend policy?

Even if at first dividend policy and corporate governance seem to be not so related to each other, these two factors are highly interrelated.

The primary meeting point of these two elements can be found in the agency theory. According to Jensen's agency theory, dividend policy is determined by the agency costs arising from the divergence of ownership and control³⁵. We have seen in previous paragraphs how agency problems may arise because of the difference of interests between managers and shareholders and how dividends can be used in order to mitigate such problems.

There are a lot of researches that offer evidence in favor of the agency role of dividends in solving the problem related to the retention of too much free cashflow. Agency theory, indeed, provides a general framework of the role that dividends play in mitigating the cost of aligning the interests of managers and shareholders. Dividends, in fact, reduce the amount of free cashflow that managers dispose and that could be put into suboptimal investments or used to pursue their own interests, in addition, they provide additional monitoring to managers' activities by external financing market because paying dividends increases the probability that new funds need to be issued from the capital market and, finally, they increase managerial risk-taking³⁶.

These findings support the theory that corporate governance quality and dividend payments are associated. This association is linked to the necessity of using the dividend policy to reduce the agency problems that the company may face.

Generally speaking, firms with better governance quality are more profitable and more valuable, as a result, they face lower agency costs and usually has a lower need to pay dividends to solve managers-shareholders conflict. On the other hand, when a firm experiences high agency costs, meaning that the quality of the corporate governance is

³⁵ Jensen, M. C., (1986), "Agency costs of free cash flow, corporate finance and takeovers" *American Economics Review*, 76, pp. 323-339.

³⁶ Easterbrook, F., (1984), "Two agency-cost explanations of dividends", *American Economic Review*, 74, pp. 650-659.

bad, it faces a greater requirement for dividends in order to align the interests of managers and shareholders.

Moreover, if we compare the two different payout forms that companies can adopt, dividends are more effective than stock repurchases at mitigating the agency costs of a misuse of the free cashflow due to their pre-commitment nature and the higher costs associated with a change in the dividend policy.

As a result of this preamble, we can say that dividend policy act as a substitute for weak corporate governance because companies with better governance tend to avoid the costs associated with dividends in order to employ excess cash into profitable investments. Another corporate governance's factor that can influence the corporate payout is the degree of internal monitoring. Managers in firms with strong internal monitoring are able to sustain high market valuations through profitable investments without incurring into costly payouts. In contrast, companies with poor internal monitoring need to pay more dividends in order to increase their market value³⁷.

According to these results, we would expect companies with better corporate governance quality to pay lower dividends than companies with poor governance quality, but it is not always the case as is explained in the next paragraphs.

1.3.1 Two hypotheses of relationship: the outcome hypothesis and the substitution hypothesis

In the previous paragraph we have proved the existence of an economic association between corporate governance quality and dividend policy due to agency costs; what we try to understand now is whether corporate governance and dividend policy are positively or negatively related. There are still controversial opinions on the sign of this relation, however, the literature has developed two hypotheses in order to try to give an explanation to this relationship: the *Outcome Hypothesis* and the *Substitution Hypothesis*.

³⁷ John, K. Knyazeva, A., (2006), "Payout Policy, Agency Conflicts, and Corporate Governance" Available at SSRN:
<https://ssrn.com/abstract=841064> or <http://dx.doi.org/10.2139/ssrn.841064>

The *Outcome Hypothesis* is based on the free cashflow hypothesis developed by Jensen in 1986³⁸.

According to Jensen, managers have incentives to make their firms to grow beyond their optimal size because growth increases managers' power by increasing the resources under their control, resulting also in an increase in managers' compensation which is usually tied to sales growth³⁹. These incentives are particularly strong when the company generates substantial amounts of free cashflow. As we know, free cashflow is the amount of cashflow generated by the company after having undertaken all positive NPV investments. In this case, a greater monitoring effort by the shareholders is required in order to avoid waste of cashflow and align the interests of managers. As a result, managers of firms with weak governance, and therefore lower monitoring, are more likely to retain cash and not to distribute it as dividends in order to use it for their own interests, like for example consume perquisites or empire buildings or invest in projects that enhance their prestige but do not produce adequate returns for the company and shareholders.

On the other hand, in firms with a strong governance, it is less frequent for managers to engage in free cashflow's abuse practices, giving them more incentives to pay dividends. The result of this hypothesis is that companies which have a strong governance pay more dividends than companies with a weak governance because managers have less incentives to use free cashflow for their own purposes, so there is a positive correlation between governance quality and dividends paid.

According to this theory, dividend policy is the result of the governance that the company experiences.

This theory has been also supported by different researches.

Renneboog and Szilagy (2006) performed a study on Dutch firms finding evidence in favor of this hypothesis. They examined the dividend behavior when shareholders' control is restricted by legally imposed governance regime and anti-shareholders devices

³⁸ Jensen, M. C., (1986), "Agency costs of free cash flow, corporate finance and takeovers" *American Economics Review*, 76, pp. 323-339

³⁹ Murphy, K., (1985), "Corporate Performance and Managerial Remuneration: An Empirical Analysis", *Journal of Accounting and Economics*, 7, pp.11-42

such as Dutch-style poison pills; the result that they obtained is that firms that must adopt these regimes pay lower dividends and smooth dividends to a lesser extent⁴⁰.

Moreover, Michaely and Roberts (2006), comparing the dividend policy of publicly- and privately- held firms, found that the protection of the corporate governance mechanisms reached by shareholders of publicly traded firms resulted in distributing higher fractions of earnings as dividends relative to similar private firms in which these protection mechanisms are not available. They manage to conclude that the stronger the governance is the higher and the more consistent dividends payout are⁴¹.

Finally, La Porta, Lopez-De Salinas, Shleifer and Vishny (2000) in their research have compared the Outcome Hypothesis with the Substitution Hypothesis, which will be described below, finding strong evidences in support of the *Outcome Hypothesis*⁴².

The second hypothesis that has been developed is the *Substitution Hypothesis* which argues that the payout policy is one of the mechanisms to reduce the conflict between managers and shareholders. This hypothesis is based on the fact that dividends reduces the free cashflow at managerial disposal, avoiding the opportunity to invest it in non-profitable projects; moreover, dividends lead managers to raise funds from external markets, which, as a result, will have incentives to monitor managers action, increasing the degree of monitoring of managers.

The probability of success of the payout policy in solving agency problems depends on the degree in which it can restrict the actions of managers, in fact, without pre-commitment managers, in firms without a strong monitoring, can deviate from the payout policy using free cashflow for their own interest. Dividends pre-commitment is the agreement of managers to pay a certain level of dividends in a determined period of time. This commitment is not specified by a contract but relies on the fact that dividends cut cause negative market reactions, so, once managers communicate shareholders a

⁴⁰ Renneboog, L., Szilagyi, P., (2006), “How relevant is dividend policy under low shareholder protection”, Tilburg University

⁴¹ Michaely, R., Roberts M., (2006), “Dividend smoothing, agency costs, and information asymmetry: Lessons from the dividend policies of private firms”, Cornell University

⁴² La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., (2000), “Agency problems and dividend policy around the world”, *Journal of Finance*, 55, pp. 1-33

determined payout, it is very dangerous to decrease it. The negative market reaction to dividends cuts, so, reinforces managers monitoring and constitute a pre-commitment mechanism in case of a severe agency conflict. On the other hand, payout in form of stock repurchases offer managers more flexibility; the flexible nature of repurchases reduces their cost but it also limits their effectiveness at addressing this agency problem because of the lack of pre-commitment⁴³.

According to this theory, the need for dividends is stronger in companies with a weak governance than those with a strong governance, since they have more need to intervene to solve the agency conflicts.

Another evidence in support of this theory is that dividends imposes some costs on the company, like for example the cost of forgone positive-NPV projects or the costs of incurring into external financing when there is not sufficient cashflow; the burden associated with paying dividends makes firms with a stronger governance less inclined to pay dividends, avoiding such costs. In contrast, firms with weaker governance and more subject to agency costs, show a stronger propensity to pay dividends because the agency costs that the company face are greater than the costs associated with dividends' payments.

Moreover, as we already mentioned in the previous paragraph, another reason in support of this hypothesis relies on the firms' need to raise money in the external capital market. In order to be attractive, it is necessary to reward shareholders by paying dividends because dividend payments leave less room for managerial opportunistic behaviors. The firms that need the most this favorable reputation, are those with a weaker governance, as a result, they will pay higher dividends. On the other hand, for the firm with stronger governance, the need for this kind of reputation is lower because they still manage to have a high stock price without incurring in dividends' payments and also the need to pay dividends are lower⁴⁴.

To sum up, according to the *Substitution Hypothesis*, there is a negative correlation between dividend payments and governance quality, as a result, the stronger the

⁴³ John, K., Knyazeva, A., (2006), "Payout policy, agency conflicts, and corporate governance", New York University and University of Rochester

⁴⁴ La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., (2000), "Agency problems and dividend policy around the world", *Journal of Finance*, 55, pp. 1-33

governance is, the lower will be dividend payouts because the lower is the need to intervene to solve the agency problem.

This inverse relation has been proved by different researches performed by Nielsen (2006)⁴⁵, Jo and Pan (2009)⁴⁶ and Officer (2007)⁴⁷ who have used the Governance Index (GINDEX) as a measure of the quality of corporate governance. The GINDEX is a measure of corporate governance based on 24 governance rules that evaluates the strength of shareholders' rights.

In particular, Jo and Pan, in their research, examined the relation between managerial entrenchment and dividend policy for a large number of US firms, the results showed that firms with entrenched managers are more likely to pay higher dividends and this propensity persists overtime⁴⁸.

Officer, in his research, provided evidence that dividend policy is a substitute for weak internal and external governance by focusing on a sample of firms which should pay dividends. He found that predicted dividend payers with weak governance are significantly more likely to pay dividends than are predicted dividend payers with strong governance. Furthermore, he discovered that firms with weak governance face abnormal market returns after dividends payments' announcements than other firm, as a proof that dividend policy acts as a substitute for other corporate governance qualities, and the market puts value on the decrease in agency costs that derives from the payment of dividends⁴⁹.

⁴⁵ Nielsen, A.E.B, (2006), "Corporate governance, leverage, and dividend policy", Princeton University

⁴⁶ Jo, H., Pan, C., (2009), "Why are firms with entrenched managers more likely to pay dividends?" *Review of Accounting and Finance* 8, pp. 87-116

⁴⁷ Officer, M.S., (2007), "Dividend policy, dividend initiations, and governance", University of Southern California

⁴⁸ Jo, H., Pan, C., (2009), "Why are firms with entrenched managers more likely to pay dividends?" *Review of Accounting and Finance* 8, pp. 87-116

⁴⁹ Officer, M.S., (2007), "Dividend policy, dividend initiations, and governance", University of Southern California

John and Knyazeya (2006) also noticed a negative correlation between governance quality and dividend policy using GINDEX⁵⁰.

There are still contrasting opinions on which of these two hypotheses just described represents the real relationship between dividends and corporate governance.

The results of the different researches performed change according to the type of indicators used to measure both the corporate governance quality and the dividend policy. The lack of an unequivocal type of indicators makes it very difficult to achieve a single solution to evaluate the relationship between corporate governance and dividend quality. However, the majority of the researches performed using narrow indicators of the corporate governance policy, which are more specific indicators, have found results supporting the outcome hypothesis. Nevertheless, it is still possible to reach a completely different outcome by changing the type of indicators used to measure both the corporate governance quality and the dividend policy.

1.3.2 The role of corporate governance in determining the payout policy

Having explained the two hypotheses of correlation between dividend policy and corporate governance, it is important to focus now on the role that corporate governance plays in determining the payout policy.

Even though there are evidences that shows the responsiveness of dividends to low investment opportunities, ownership structure and CEO compensation, there is a lack of empirical evidence on the role that the corporate governance plays in determining the type and the structure of the dividend payouts.

The free cashflow theory, that we mentioned before, has been widely used in the previous researches to explain the rationale behind dividend payments but it does not explain why companies use different forms of corporate payout or choose stock buyback instead of dividends.

This paragraph, thus, tries to explain the role that corporate governance quality plays in deciding among the different kind of dividend policies.

⁵⁰ John, K., Knyazeva, A., (2006), “Payout policy, agency conflicts, and corporate governance”, New York University and University of Rochester

There are some areas that are majorly affected by corporate governance on which we need to focus in order to better understand this relationship:

- Cash dividends vs stocks repurchases;
- Level of dividends payments;
- Stocks buybacks' trends;

As far as the first factor is concerned, companies, when deciding to distribute earnings, have to choose between whether to distribute cash as dividends or use it to buy back the stocks. As a result, when we talk about the use of the payout policy to mitigate the agency problems which arises because of a weak corporate governance, we need to pay attention to an important distinction between dividends' payment and stock repurchase from the perspective of the pre-commitment. This difference is the key to explain the role that the corporate governance plays on payout policy design and the trade-off between dividends and buyback.

As we already explained in the previous paragraph, stock buyback is a more flexible tool than dividend policy to use the excess free cashflow that the company has, in fact, repurchases are more irregulars than dividends and allow managers to adjust their payout policy without reducing substantially the market value. On the other hand, it is less efficient than dividends in solving the conflict between managers and shareholders because of the lack of pre-commitment that stocks buyback involve.

Dividends, in turn, are a much less flexible tool, since, once a dividend payment is established, a dividend cut may cause a negative market reaction and the market value of the company's shares goes down. Due to their pre-commitment nature, dividends are more powerful in solving the agency conflicts.

The corporate governance, so, plays a central role in deciding between dividends and stock buybacks.

When there is a lack of monitoring, shareholders require dividends pre-commitments, on the other hand, when shareholders can easily monitor managers' activities, stock buybacks are preferred. Sometimes companies can decide to use a mixed policy of dividends in combination with a repurchase plan.

Usually, weak corporate governance is associated with a greater focus on dividend pre-commitment and less reliance on stock buybacks alone; on the other hand, firms with

stronger corporate governance require fewer shareholders protection so are more likely to implement stock buybacks or mixed strategies.

The second aspect to consider is the level of dividends paid. The corporate governance quality, indeed, influences the decision about how much the company decides to pay as dividends. A company facing weak corporate governance has to deal with a stronger agency problem associated with excess cashflow because managers will have more room to engage in opportunistic behaviors, as a result, it requires a higher amount of dividends paid in order to constrain managers actions and prevent poor investments. Moreover, a higher dividends pre-commitment, however, besides acting as a constraint for managers, imposes also a cost on the firm. These costs are derived from the fact that higher dividends cause the managers not to use the cashflow to invest in positive NPV projects or force them to incur into costly external financing in order to compensate periods of lower cashflow.

All these drawbacks associated with the payment of a higher amount of dividends, lead companies with a stronger governance to avoid high dividend payments in favor of a more stable dividend policy. Indeed, they are more likely to choose dividend policies characterized by lower but stable overtime dividend payments.

The third aspect in which the corporate governance plays a considerable influence is the trends of stock buybacks overtime.

We have seen how firms with good governance tend to avoid committing to high-dividends policies, the result is that managers, in these companies, may decide to keep the excess cashflow in the company and not to distribute it or use it to buy back shares. This decision depends on one of the factors taking part of the corporate governance framework: the level of internal and external monitoring that the company is facing.

In particular, managers which are subject to a higher degree of external monitoring, like for example a high threat of a takeover, are more likely to buy back shares and usually tend to repurchase more, on average, in order to protect themselves from these threats; the main reason is that, usually, cash cows, which are companies with high amount of cash and low investment opportunities, are the primary target of hostile takeovers and leveraged buyouts, so, they need more protection mechanisms. On the other hand, managers subject to weaker external monitoring and less subject to takeovers' threats,

tend to engage less in the repurchase activity and retain more cash in the company to be used for future projects' needs.

As far as internal monitoring is concerned, the better the Board of Directors is able to monitor managers' activities, the lower is the incidence of any kind of cash distribution. A good internal corporate governance, indeed, reduces the asymmetry of information about the managerial actions and reduces the need for payouts aimed at solving agency conflicts; managers, in firm with strong internal monitoring, are able to keep market valuation high through investing the cash efficiently in projects with positive NPV without having the necessity to incur into costly payout.

On the other hand, when internal monitoring is weak and the actions of managers are not efficiently monitored by the Board of Directors, dividends are required to avoid the managerial opportunistic behaviors that may arise⁵¹.

Until now, we have seen how corporate governance can determine the dividend policy and the correlation between these two factors.

However, corporate governance is not the only determinant for dividend policy and, on the contrary, dividend policy is only one of the tools that can be used to mitigate agency problems.

Different companies can choose different strategies so there can be some of them that do not follow these rules.

For this reason, it is even more difficult to analyze and find a unique and unequivocal relationship between these two factors, since every company faces a different situation and chooses different tools to intervene.

Another important determinant in choosing between the different strategies is the degree of risk that the company is facing on which depend the costs of setting up better governance mechanisms or dividend policy.

In conclusion of this first chapter, the dividend policy is a very difficult topic to discuss, and corporate governance is an even more difficult one; they both depend on multiple factors which are very difficult to take in singularity in order to see how they affect them.

⁵¹ John, K., Knyazeva, A., (2006), "Payout Policy, Agency Conflicts, and Corporate Governance".

Available at SSRN: <https://ssrn.com/abstract=841064> or <http://dx.doi.org/10.2139/ssrn.841064>

For this reason, all the results need to be discussed taking into account the company's environment in which it operates and all the factors affecting its activity and the kind of measure used to perform the analysis.

II. Initial Public Offering

2.1 Theoretical Introduction to Initial Public Offering

There is a stage during the company's lifecycle in which it decides to sell its stocks publicly and make an *Initial Public Offering* (IPO).

An Initial Public offering can be either a primary offering in which the company decides to sell its stocks to raise additional cash, or a secondary offering in which the existing shareholders decide to sell part of their holdings in return of cash. Many IPOs are a mixture of primary and secondary offerings.

There are several advantages connected to having a market for the shares but, it is important to remark that not all firms aim to go public. In many countries, indeed, large companies have tendency to remain privately held; an example is Italy that, how we will see in the next chapter, has only about an eighth as many listed companies as the U.K., even though their economies have a pretty similar size.

One of the primary concerns that, firms deciding to go public have to face, is the cost associated with the disclosure requirements that arise with the IPO, especially after the Sarbanes-Oxley Act. This act has been implemented in the USA in order to prevent some corporate scandals like Enron and WorldCom. It imposes more disclosure requirements for companies that want to go public increasing the burden on small companies and, consequently, reducing their possibility to go public.

In addition, making an Initial Public Offering is not a simple process, as it requires to follow a specific and detailed procedure:

1. The company's first task is to select the managing underwriter (book runner) and co-manager, they together choose the other underwriters to form the underwriting syndicate. They are the first contact between the company and the market. They have three functions: they provide the company with financial and procedural advice; they buy the stocks, and they resell them to the market. Choosing the right underwriter can enhance the IPO's process; the underwriter, indeed, perform a

wide variety of activities, among them the most important are creating market visibility and interest in the offering⁵².

2. The company makes some arrangements with the underwriters about the spread. It is the difference between the price paid by the underwriter and the price at which the stock is sold in the market, it usually amounts at 7% of the total sum raised from investors for medium-sized IPOs⁵³. They also agree on the green-shoe option, which is a clause allowing the underwriters to increase the number of shares bought by a maximum of 15%.
3. The company has to prepare the registration statement for the issue which must be approved by the Security Exchange Commission in the USA, while in Italy it is subject to the approval of the Consob and the Italian Stock Exchange, and the London Stock Exchange for the UK. The statement is a detailed document of the information about the proposed financing and the firm's history, existing business and future plans. The most important sections of the registration statement compose the prospectus which is then distributed to the investors. The prospectus is a formal summary that provide information about the security issued, it is compulsory and regulated by the law.
4. The company and the underwriters arrange a road show which is a presentation where they discuss publicly with potential investors, mostly institutional investors. The investors give their reactions about the issue to the underwriters who estimate the demand for the stocks and build up a book of potential orders.
5. Once the approval by the SEC or the relative Stock Exchange is received, the company and the underwriters agree on the issue price. The company usually tries to push the price up, while the underwriters are more cautious because, if the price is too high, they would be left with unsold stocks, and, moreover, a certain degree of underpricing is good to tempt investors to buy the stocks.

⁵² Brau, C.J., Fawcett, S.E., (2006), "Evidence on what CFOs think about the process: practice, theory, and managerial implications", *Journal of Applied Corporate Finance*, 18, pp. 107-117

⁵³ Chen, H.C., Ritter, J.R., (2000), "The Seven Percent Solution", *Journal of Finance*, 55, pp. 1105-1132

6. The underwriters sell the stocks. This usually occurs with an overallotment which means that the underwriters have purchased a lower number of shares than those required by investors, creating a short position. The short position can be covered by asking the company to exercise their green shoe option or by buying the stocks from the market. Rebuying the stocks from the market may help to stabilize the price and, in addition, can give the underwriters a profit on the sales of these extra shares, but this also involves more risk connected with the fact of not knowing in advance what the market price of the stocks will be.

We have seen from this process how the most important figures in the IPO's process is the underwriter. Underwriters, in order to participate in the IPO, usually assume the risk that the issue may flop, and they are left with unwanted stocks. In order to reduce such risk, when the issue is particularly risky, the underwriters may handle the sale on a *best-effort* basis; this means that they commit to sell as much of the issue as possible but do not guarantee to sell the entire amount. The alternative to the best effort is an *all-or-none* arrangement. In this case, either the entire issue is sold at the offering price or the deal is called off and the issuing companies receives nothing. In order to be successful, indeed, underwriters require a lot of experience, as the risk is very high. The underwriting sector is dominated by the most powerful investment banks and large commercial banks. Figure 7 shows the top managing underwriters in the period January-June 2014. As we can see from the figure most of them are large investment banks⁵⁴.

⁵⁴ Brealey, R.A., Myers, S.C., Allen, F., Mohanty, P., (2018), *Principles of Corporate Finance*, 12th Edition, Mc Graw Hill

Figure 7: Top Managing Underwriters

	Value of Issues (\$ billions)	Number of Issues
JPMorgan	\$271	1,120
Deutsche Bank	239	1,006
Citi	227	905
Barclays	223	843
Bank of America Merrill Lynch	202	849
Goldman Sachs	200	707
Morgan Stanley	186	904
HSBC Holdings	177	805
Credit Suisse	143	671
BNP Paribas	111	483

Source: Thomson Reuters (www.thomsonreuters.com)

Making an IPO is very costly from the company's point of view. The cost is associated with different aspects of this operation. The first is the spread which is the difference between the price paid by the underwriters and the price at which the stocks are resold to the public. The spread is the payment that the underwriters receive for following the operation, furthermore, in riskier cases, the underwriters receive some extra noncash compensations, such as warrants to buy additional common stocks in the future. Since many of the costs incurred by the underwriters are fixed, it is expected that the percentage spread would decline with issue size. This is partly true, indeed, for example, for a \$5 million IPO the spread can be around 10%, while a \$300 million IPO might carry a spread of only 5%. However, Chen and Ritter, found that for almost every IPO between \$20 and \$80 million the spread was exactly 7%⁵⁵. They argued that the fixed spread suggests that the underwriting market is not competitive. On the other hand, Robert Hansen disagreed with this argument proving that a 7% spread is not profitable for the underwriters and thus, this demonstrates that the underwriting market is competitive and efficient⁵⁶. In addition to the underwriting fee, an IPO also entails substantial administrative costs, like

⁵⁵ Chen, H.C., Ritter, J.R., (2000), "The Seven Percent Solution", *Journal of Finance*, 55, pp. 1105-1132

⁵⁶ Hansen, R., (2001), "Do Investment Banks Compete in IPOs?: The Advent of the 7% Plus Contract", *Journal of Financial Economics*, 59, pp. 313-346

for example those associated with the preparation of the registration statement and the prospectus which involves management, legal consultants and accountants as well as the underwriters and their advisers. There are also some fees associated with the registration of the new securities.

Another considerable figurative cost that a company may incur in doing an IPO is linked to the underpricing effect. Sometimes may happen that the offering price is lower than the true value of the issued securities and the investors who bought the issue got a bargain at the expense of the firm's original shareholders. These costs which are just figurative, exceed all other issue costs.

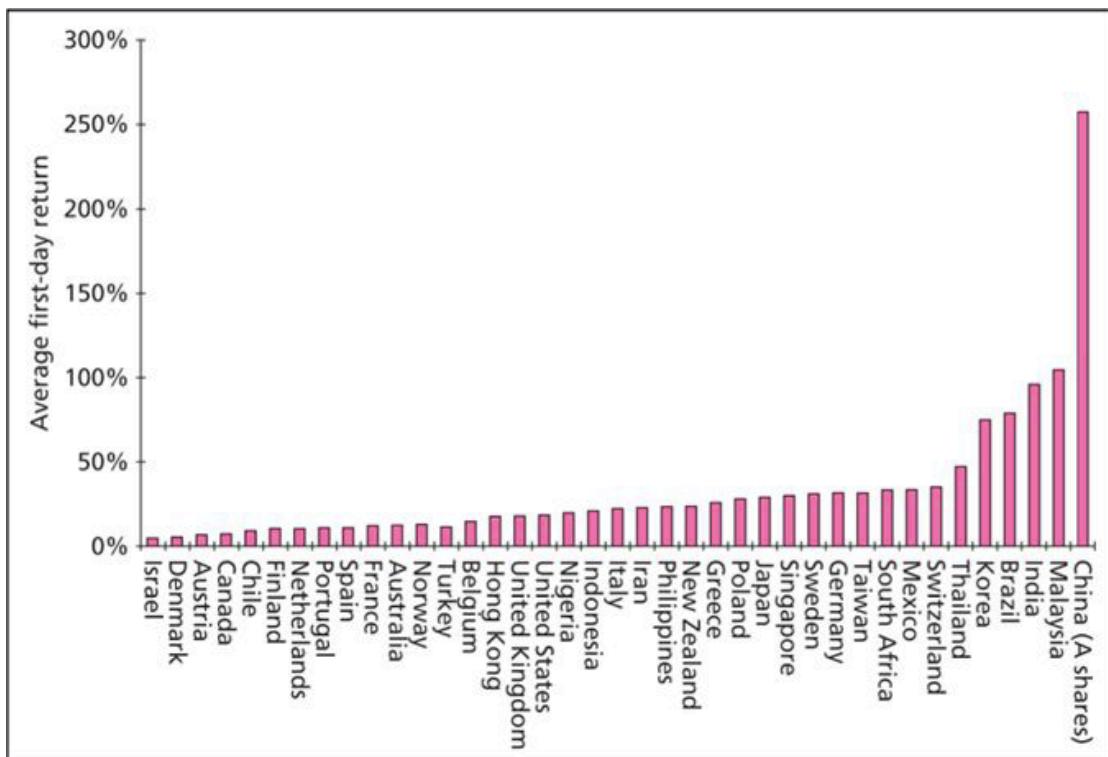
The underpricing effect occurs because, whenever a company decides to go public, it is very difficult to judge how much investors will be prepared to pay for the stocks and sometimes the underwriters misjudge dramatically the value of the shares.

The most clamorous case of underpricing is the VA Linux Systems' IPO that took place in 1999. The IPO issued shares with an offer price at \$30.00 per share but at the end of the first day of trading the price of the stock peaked to \$239.25 with an underpricing of almost 700%. On the European stock market, the two most outstanding examples of underpricing are the IPO of Endemann Internet AG with an end of the first day return of 361% and Biodata Information Technology AG with an underpricing of 433%⁵⁷.

Figure 8 shows the average underpricing percentage in each country, as we can see, the highest percentage of underpricing occurs in China for A shares which are traded only domestically.

⁵⁷ Reiche, O., (2014), *The phenomenon of IPO Underpricing in the European and U.S. Stock Markets*, Anchor Academic Publishing

Figure 8: Average initial returns from IPOs in different countries



Source: Loughran, T., Ritter, J.R., Rydqvist, K., "Initial Public Offerings: International Insights", *Pacific Basin Finance Journal*, 3, pp. 139-140

However, underpricing is also in the interest of the issuing firm. A low offering price on an IPO raises the price when it is subsequently traded in the market and enhances the firm's ability to raise further capital. Another possible reason for underpricing is the *winner's curse* which says that the highest bidder in an auction is most likely to have overestimated the object's value and, unless bidders recognize this in their bids, the buyer will on average overpay. As a consequence, if bidders are aware of the danger of overpayment, they are likely to adjust their bids down. If we apply this theory to IPOs, uninformed investors, who cannot distinguish which issues are attractive, are exposed to the winner's curse; companies and their underwriters are aware of this and underprice the stocks on average to attract the uninformed investors. The winner's curse would disappear only if investors knew what the market price was going to be⁵⁸.

All these arguments, however, do not account for 100% of underpricing. Some argue that underpricing is in the interest of underwriters who want to reduce the risk of being

⁵⁸ Brealey, R.A., Myers, S.C., Allen, F., Mohanty, P., (2018), *Principles of Corporate Finance*, 12th Edition, Mc Graw Hill

left with unwanted stocks, and if this is true, why do companies agree to sell their stocks at a lower price? According to Loughran and Ritter, the explanation lies in behavioral psychology, they argue that the cost of underpricing is outweighed in shareholders' mind by the happy surprise of finding that the stock that they bought have a greater value than they thought⁵⁹.

2.1.1 The reasons for going public

Many privately held companies aspire to go public through an IPO, but there are different reasons behind this choice. The two most obvious benefits derived from an IPO are: first, the great amount of capital that an IPO can bring into the company and, second, the tremendous wealth for company's insiders and pre-IPO investors that this decision can generate. However, going public is not an easy process and involves also considerable costs for the company. These two, so, are not the only motives that push companies to enter the IPO process.

“Why do companies choose to go public?”. Several theories have been advanced in the academic literature in order to answer to this question.

Most of such theories are based on the assumption that markets are efficient, and managers aim at maximizing the company's value. According to this, the main rationale behind IPO is to raise capital to fund new investments opportunities and in a way that minimizes the company's weighted average cost of capital⁶⁰. On the other hand, the *Pecking Order Theory* suggests that managers conduct IPOs to gain access to capital when other, cheaper sources of capital have been exhausted⁶¹.

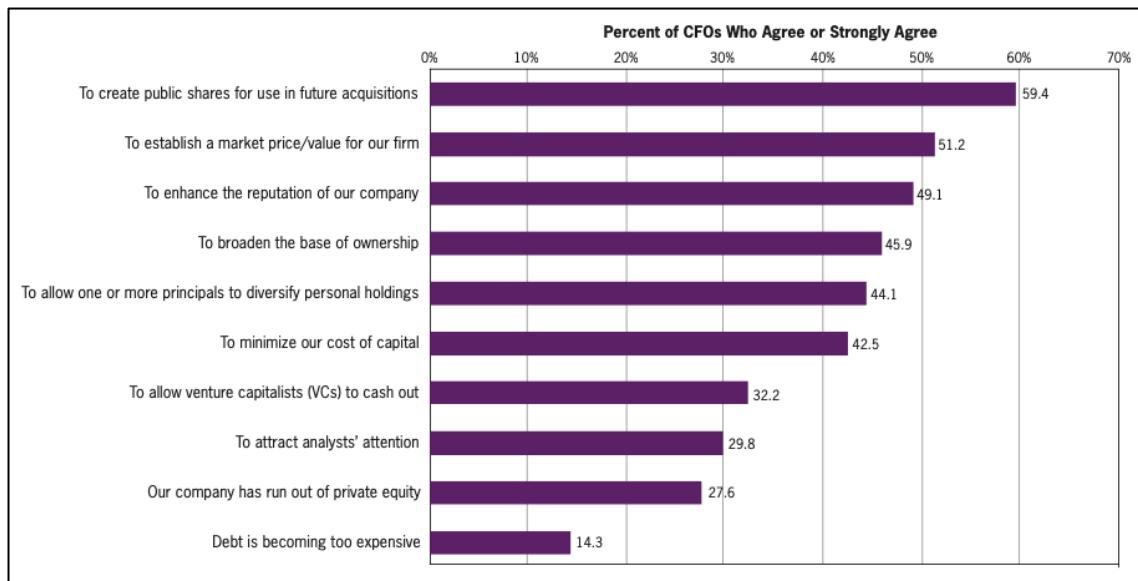
⁵⁹ Loughran, T., Ritter, J., (2002), “Why don't issuers get upset about leaving money on the table in IPO?”, *Review of financial studies*, 15, pp.413-443

⁶⁰ Scott., J., (1976), “A theory of optimal capital structure”, *Bell Journal of Economics*, 7
Modigliani, F., Miller, M., (1953), “Corporate income taxes and the cost of capital: a correction”, *American Economic Review*, 53

⁶¹ Myers, S., (1984), “The Capital Structure Puzzle”, *Journal of Finance*, 3
Myers, S., Majluf, N., (1984), “Corporate financing and investment decisions when firms have information that investors do not have”, *Journal of Financial Economics*, 13

Another motive that pushes a company to go public, which is not consistent with either market efficiency or value-maximizing behavior by the issuers, is to allow the current shareholders to cash out possibly at a higher market price and diversify their holdings. These are the grounding motives and from them, Brau and Fawcett were able to come up with ten different possible reasons for going public⁶².

Figure 9: Survey evidence on the motivations for going public



Source: Brau, C.J., Fawcett, S.E., (2006), "Evidence on what CFOs think about the process: practice, theory, and managerial implications", *Journal of Applied Corporate Finance*, 18, pp. 107-117

The motives that they have individuated are described in Figure 9. They asked 336 CFOs to evaluate the importance of each of these motives; the results of their analysis were that, generally, CFOs put low importance to the use of IPOs to minimize the company's cost of capital which was ranked only sixth in contrast with the early theories. Another surprising result is that "debt is becoming too expensive" and "the company has run out of private equity" are the least determining rationales for going public. This result is in contrast with the traditional academic trade-off between debt and equity which sees the reach of the optimal debt-equity level as one of the main reasons to sell the shares publicly and with the Pecking Order Theory which suggests that managers incur into IPOs when other sources of capital are not available.

⁶² Brau, C.J., Fawcett, S.E., (2006), "Evidence on what CFOs think about the process: practice, theory, and managerial implications", *Journal of Applied Corporate Finance*, 18, pp. 107-117

On the other hand, the most successful motive that they have individuated in their survey, is “to create public shares for use in future acquisitions” which can be easily translated into raising equity capital to fund new investment opportunities, as was found by Barclay and Smith (1999)⁶³. In their research they found that many IPOs companies were firms that were looking for equity, especially for stock swap mergers. Having publicly traded stocks, indeed, enables the companies to participate in mergers and acquisitions by providing their shares as a currency to acquire other firms⁶⁴.

The second most important rationale is “to establish a market value for the company”, this motive is also tied to the willingness of the company to engage in an acquisition process.

According to this analysis, going public is seen as a critical step in acquisition-based growth strategies for many companies.

On the other hand, there are some companies that are simply not interested in going public. Brau and Fawcett, in their survey, tried to detect also the motives which pushes companies to remain privately held. Their results are illustrated in Figure 10.

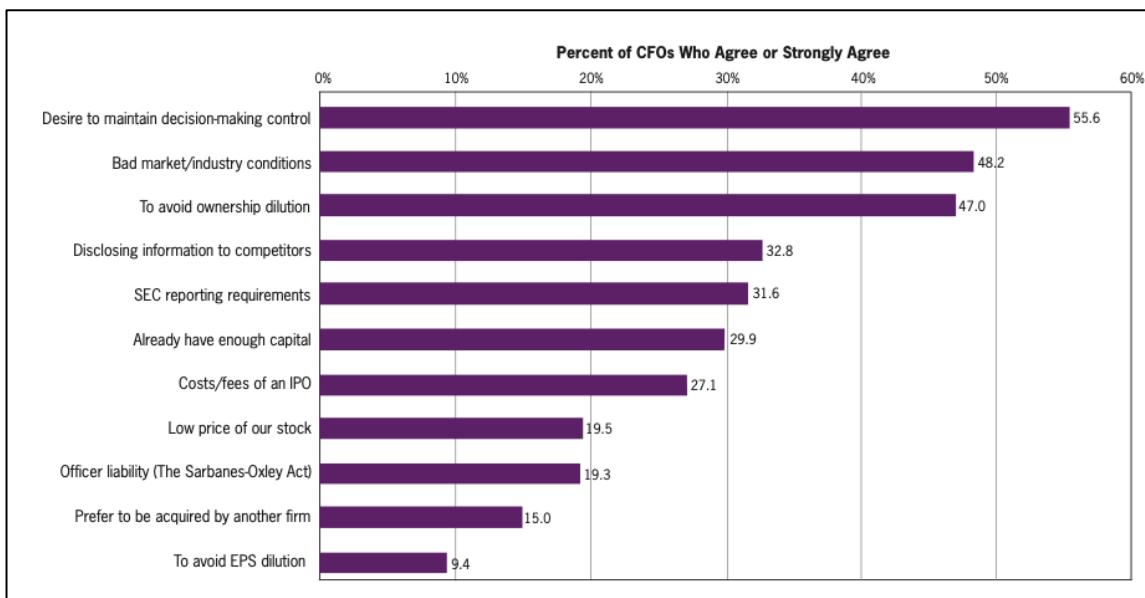
The most common reason to remain private, which have obtained 55.6% of the agreements, is “desire to maintain decision-making control”; this occurs because becoming public and diluting ownership, means also reducing the size of company controlled by insiders, reducing, as a result, their power. As long as the company has enough capital to finance its investment opportunities, it does not feel the necessity of going public. A company starts to face the trade-off between capital and control when its investment opportunities will overcome its capital reserves. The second most important motive for remaining privately held is “bad market/industry conditions”. Managers, indeed, want to go public only when the IPO will generate as much capital as possible⁶⁵.

⁶³ Barclay, M., Smith, C., (1999), “The capital structure puzzle: another look at the evidence”, *Journal of Applied Corporate Finance*, 12

⁶⁴ Brau, J., Francis, B., Kohers, N., (2003), “The choice of IPO versus Takeover: Empirical Evidence”, *Journal of Business*, 76

⁶⁵ Brau, C.J., Fawcett, S.E., (2006), “Evidence on what CFOs think about the process: practice, theory, and managerial implications”, *Journal of Applied Corporate Finance*, 18, pp. 107-117

Figure 10: Survey evidence on reasons why some firms choose to stay private



Source: Brau, C.J., Fawcett, S.E., (2006), "Evidence on what CFOs think about the process: practice, theory, and managerial implications", *Journal of Applied Corporate Finance*, 18, pp. 107-117

2.1.2 IPO trends in the last years and their performance

When a company decides to go public, an important factor that needs particular consideration is timing. According to Lowry (2003)⁶⁶, the decision to launch an IPO is influenced both by investor optimism and economic recovery. So, we can say that IPOs are influenced both by exogenous economic conditions and by the firm's financing needs, as we have seen in the previous paragraph. In a research performed by Lerner et al. (2003)⁶⁷, the results showed that, in case of unfavorable market conditions, the only companies that accept to launch an IPO are those who have urgent short-term financing needs or future high-yielding projects. As a result, since all companies look for the perfect period in which to carry out an IPO, we will end up with periods of high IPOs' concentration and periods of weak concentration. This IPO's market dynamics are better

⁶⁶ Lowry, M., (2003), "Why does IPO volume fluctuate so much?" *Journal of Financial Economics*, 67, pp. 3-40

⁶⁷ Lerner, J., Shane, H., & Tsai, A., (2003), "Do equity financing cycles matter?: evidence from biotechnology alliances" *Journal of Financial Economics*, 67, pp. 411–446.

known with the name of *IPO Waves*. According to the literature, the IPO Waves existence is due to three particular economic factors:

- *Technological change and innovation*: the arrival of a new technology requires a very fast development in order not to be left behind, this involves considerable investments on the part of the company. If the company which initiated the original technology decides to make an IPO, it provides information to the investors who are now able to evaluate the sector. Other firms operating in that market can, thus, decide to launch an IPO, obtaining profit from this opportunity⁶⁸. Moreover, a technological shock creates considerable capital needs and drives several companies to launch an IPO with the aim of raising funds⁶⁹. However, Helwege and Liang (2004) found that technological development is not the main determining factor for IPO waves as these cycles are more frequent than technological development⁷⁰. Nevertheless, this phenomenon explains the decision of going public of many firms seeking capital. An example can be seen in internet firms in 1990s, followed by biotechnology companies and more recently social network companies⁷¹.
- *Data asymmetry*: the number of IPOs increase when the market is overvalued. This occurs because initial IPOs in a determined period act as an indicator for finding the right IPO timing⁷². Companies, that subsequently decide to go public, manage to raise a larger amount of capital than was originally planned; however,

⁶⁸ Stoughton, N. M., Wong, K. P., Zechner, J., (2001), “IPOs and product quality” *Journal of Business*, 74, pp. 375-408

⁶⁹ Lowry, M., (2003), “Why does IPO volume fluctuate so much?” *Journal of Financial Economics*, 67, pp. 3-40

⁷⁰ Helwege, J., Liang N., (2004), “Initial public offerings in hot and cold markets” *Journal of Financial and Quantitative Analysis*, 39, pp. 541-569.

⁷¹ Batnini, F., Hammami, M., (2015), “IPO Waves: How market performances influence the market timing of IPO?”, *The Journal of Applied Business Research*, 31, pp. 1679-1692

⁷² Benveniste, L.M., Ljungqvist, A.P., Wilhelm, Jr. W.J., Yu, X., (2003), “Evidence of information spillovers in the production of investment banking services”, *Journal of Finance*, 58, pp. 577–608

the firstcomers still have an advantage in reputation which allows them to earn a greater market share⁷³. So, a high IPO price sends a positive signal to the market and encourages other companies to make an IPO. However, this theory has its drawbacks, the decision to make an IPO, indeed, is not short term, therefore it requires also other rationales.

- *Capital market yields*: the market conditions are the most important factor in the process of deciding whether to launch an IPO or not⁷⁴. IPO volumes decrease in bear markets; bad market conditions discourage firms from launching IPOs and make them decide to put them off. Usually, IPO waves are preceded by an increase in market yields and followed by a decrease⁷⁵. Also Loughran et al. (1994), in their research, found that market levels and volatility have a positive effect on the number of IPOs⁷⁶.

Having individuated how IPO trends work, let's now focus on the European capital markets. The trends in Europe in the last five years have almost followed the usual IPO trends. As we can see from Figure 11, there have been years in which the number and the values of IPO were particularly high, like 2015 and 2017, when the total values of IPO amounted respectively at €61.5 billions and €45.3 billions, and years in which these results decreased dramatically, like 2016, 2018 but particularly 2019 when the total IPO value reached only €22.1 billions. The 2019's peak can be explained by the considerable uncertainty in the capital market due to the US-China trade tensions and Brexit.

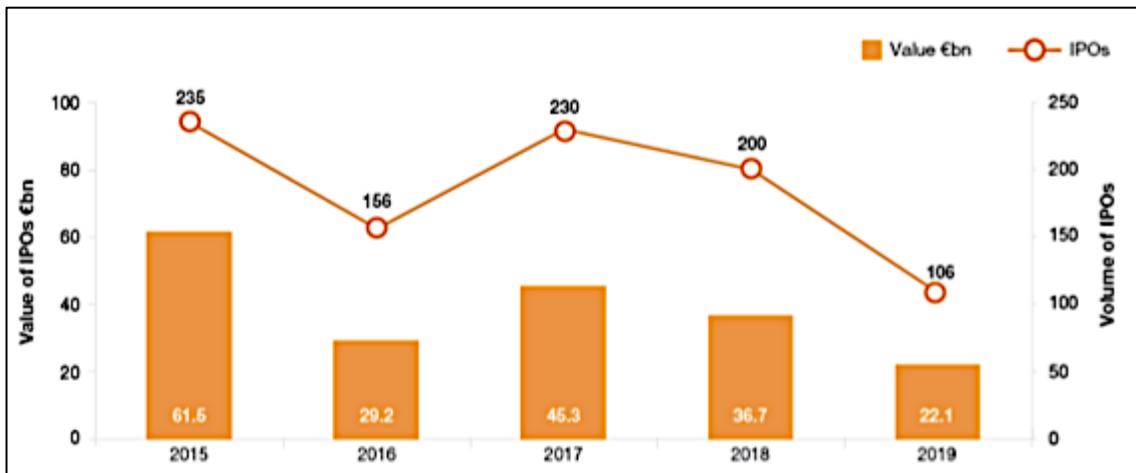
⁷³ Chemmanur, T.J., HE, J., (2011), “IPO waves, product market competition, and the going public decision: Theory and evidence”, *Journal of Financial Economics*, 101, pp. 382–412

⁷⁴ Ritter, J. R., Welch, I., (2002), “A Review of IPO Activity, Pricing, and Allocations”, *Journal of Finance*, 57, pp. 1795-1828

⁷⁵ Pastor, L., Veronesi, P., (2005). “Rational ipo waves”, *Journal of Finance*, 60, pp. 1713-1757

⁷⁶ Loughran, T., Ritter, J., Rydqvist K., (1994) “Initial public offerings: international insights”, *Pacific-Basin Finance Journal*, 2, pp. 165–199

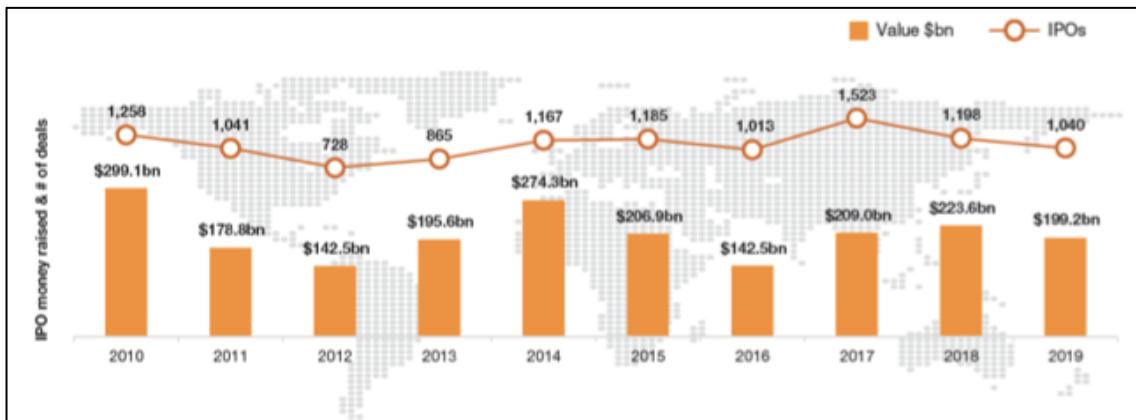
Figure 11: European IPO activity 2015-2019



Source: PwC, (2019), "IPO Watch Europe 2019", www.pwc.co.uk/ipowatch

However, this 5-years trend is coherent with the global IPO trend. Also globally IPOs have been characterized by years of particularly high IPOs' concentration and years of lower concentration, even though such waving trend has been smoother than the European capital market, as we can see in Figure 12.

Figure 12: Global IPO activity 2010-2019

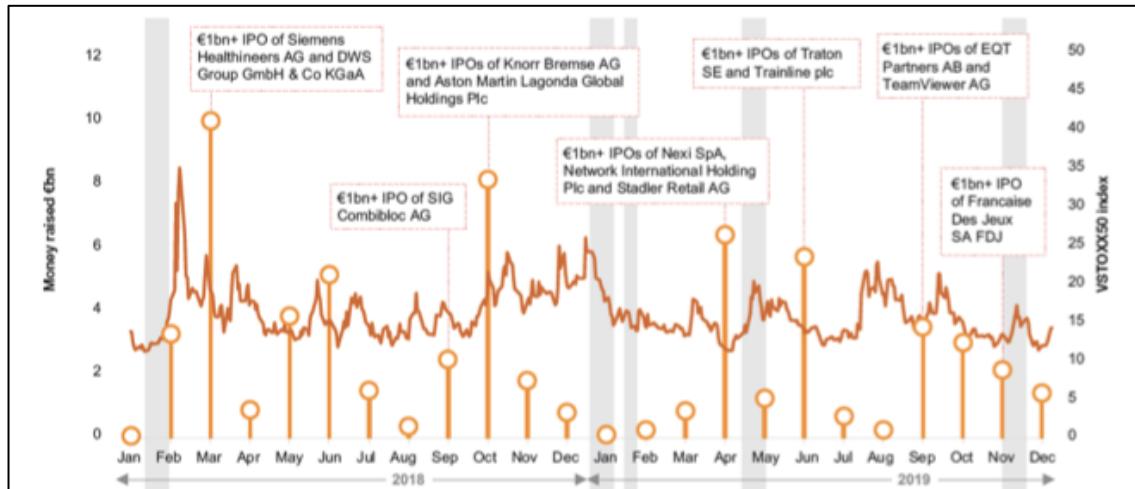


Source: PwC, (2019), "IPO Watch Europe 2019", www.pwc.co.uk/ipowatch

As for the performance of the European IPOs of the last two years, the market has experienced a particularly high volatility due to geopolitical uncertainty and global economic growth concerns. Figure 13 shows the volatility of European IPOs' values in the last two years with particular reference to the geopolitical events that causes such uncertainty. As we can see, volatility was higher in the first quarter of 2018 due to the fear of rising US bonds yields and of an increase in the inflation, this high-volatility trend

has continued for almost all the year due to an increase in Federal Reserve's rate and the fear of a global economic slowdown. In 2019 the volatility was particularly due to the uncertainty surrounding Brexit and an early general election of the UK Parliament.

Figure 13: Volatility of European IPO values



Source: PwC, (2019), "IPO Watch Europe 2019", www.pwc.co.uk/ipowatch

All these events have strongly influenced the performance of IPOs not only in Europe but also globally. As shown in Figure 14, in periods of higher volatility the major European market indexes decreased their value, on the other hand their performance went better in periods where market volatility decreased. They reached their peak between December 2018 and January 2019 with the increase of the Federal Reserve's rate and the fear of the global economic slowdown.

Figure 14: Performance of Major European Market Indexes



Source: PwC, (2019), “IPO Watch Europe 2019”, www.pwc.co.uk/ipowatch

As far as 2020 is concerned, it requires particular attention due to the economic shock that the COVID-19 Pandemic has caused. The unexpected and novel events surrounding COVID-19, in fact, have damaged dramatically the global health of equity markets and, together with other global market factors, like for example the fluctuation of oil prices, have caused a market turmoil which the world has not seen since the global financial crisis. Particularly, this event has caused the market volatility to raise dramatically, making the decision of going public even more uncertain.

Looking at the European capital market, the number of IPOs was considerably lower in the first quarter of 2020 with respect to the first quarter of 2019 which was already much lower than the first quarter of 2018, in particular, it experienced a further 25% decrease in 2020; however, as for the proceeds, Europe experienced a 225% increase over the first quarter of 2019 due to an increase in the size of the IPOs. The results are illustrated in Figure 15.

Figure 15: European IPO Snapshot



Source: EY, (2020), “Is the beginning of the decade the end of the bull?”, https://www.ey.com/en_gl/growth/ipo-trends-2020-q1

Furthermore, current predictions say that in Europe, with selected countries in quarantines and borders being closed, there is a risk of a temporary near-term recession, which may keep IPO candidates on the sidelines until the second half of 2020⁷⁷.

2.2 How do corporate governance and dividend policy change after IPO?

The decision of making an IPO and becoming a publicly traded company is not without its consequences. Making an IPO, indeed, influences either directly or indirectly both the dividend policy of the company and, above all, the corporate governance.

⁷⁷ EY, (2020), “Is the beginning of the decade the end of the bull?”, https://www.ey.com/en_gl/growth/ipo-trends-2020-q1

Moreover, these effects that IPO produces on corporate governance and dividend policy will impact also the operating performance of the company.

In the next paragraphs we will see how corporate governance and dividend policy have changed after the decision of going public and how these changes have impacted the company's performance.

In particular, we will focus on one aspect of corporate governance which is the most affected by the IPO: the ownership structure. One of the main changes that going public brings is on the shareholders' composition. A change in the shareholders' composition, moreover, affects the agency conflict between managers and shareholders and, in turn, affects the operating performance.

As far as the dividend policy is concerned, companies that decide to go public usually attract investors for their growth perspective so that they will expect to obtain some capital gains rather than dividends during the post-IPO phase. In fact, most of the IPO issuers decide not to pay dividends at least for some years after the IPO date. This is due to the fact that the companies deciding to become publicly traded usually are in the early stage of their development and belong to rapidly growing, technologically oriented industries. As a result, they are expected to invest substantial amount of capital in areas such as research and development, advertising and capital expenditures, in order to gain market share and achieve technological advance in their rapidly evolving industry. This decision of not paying dividends, in turn, will produce some effects on the operating performance.

2.2.1 The effect of IPO on ownership structure

Corporate governance is a very important and determinant factor for the company's performance as it represents "the relationship among stakeholders that is used to determine and control the strategic direction and performance of the organization"⁷⁸.

⁷⁸ Eiteman, D.K., Stonehill, A. I., Moffett, M. H., (2016), *Multinational Business Finance*, Pearson

One of the major stakeholders of the company are the shareholders, so that the ownership structure plays an important role in the organization's functioning.

The ownership structure, moreover, is the primary element of the organization that is affected by the decision of going public.

The process of an Initial Public offering, in fact, is characterized by an expansion of the company's ownership structure. Before the IPO, the shares of a company are usually held by few parties, on the other hand, with the decision of going public, ownership becomes more dispersed with the participation of a much larger number of outside investors. The main positive result achieved through the dispersion of ownership is a higher trading liquidity, which is also one of the primary objectives that the company want to achieve by making an IPO⁷⁹, as we have seen in the previous paragraph.

The illiquidity is the absence of continuous trading which is characterized by the mismatch between buyers and sellers at a given point in time and this mismatch depends on the number of shareholders. A broader shareholders base, so, provides higher liquidity for the shares⁸⁰.

According to some researches, having higher trading liquidity brings both some positive and negative results.

The first argument on the positive side is that the higher the trading liquidity is, the lower the transaction costs for raising further equity are⁸¹. Secondly, it can increase the firm value by increasing the market for the shares, pushing up the demand⁸². Thirdly, from the point of view of corporate governance, it provides a better environment to put in place

⁷⁹ Pham, P.K., Kalev, P.S., Steen, A.B., (2003), "Underpricing, stock allocation, ownership structure and post-listing liquidity of newly listed firms", *Journal of banking and finance*, 27, pp. 919-947

⁸⁰ Demsetz, H., (1968), "The cost of transactions", *Quarterly Journal of Economics*, 82, pp. 33–53

⁸¹ Ibbotson, R.G., Ritter, J.R., (1995), "Initial public offerings", *Handbooks in Operations Research and Management Science: Finance*, 9, pp. 993–1016

⁸² Amihud, Y., Mendelson, H., (1986), "Asset pricing and the bid–ask spread", *Journal of Financial Economics*, 17, pp. 223–249

managerial incentive schemes, as the company can offer shares as managerial compensation in order to align the interest of managers and shareholders, and it improves external monitoring by encouraging information disclosure. When there is a large proportion of small shareholders, indeed, the presence of asymmetric information is less substantial, reducing adverse selection costs, encouraging trading activity and enhancing second market liquidity⁸³. Finally, higher trading liquidity, together with a greater ownership dispersion, can act as a mechanism of protection for the company against hostile takeovers⁸⁴.

On the other hand, a greater trading liquidity and a dispersed ownership bring considerable drawbacks.

In fact, a more concentrated shareholders' distribution, which is associated with a lower liquidity of the company's shares, creates more value for the company than a dispersed one. This occurs because, in a concentrated ownership, shareholders have greater incentives to monitor the managerial activities reducing agency costs⁸⁵. This is particularly common when the actions of shareholders are, furthermore, easily observable by the market. Since the spread of ownership creates a collective action problem, it prevents shareholders from effectively correcting managers' activities that are not in their best interest. So, we can say that a dispersed shareholding reduces the marginal benefits of monitoring⁸⁶.

The company, thus, faces a trade-off between higher shares liquidity or more concentrated ownership.

In order to overcome this problem, some companies choose to give up to some of the liquidity in order to enhance control and monitoring; they usually do this through private

⁸³ Holmström, B., Tirole, J., (1993), "Market liquidity and performance monitoring", *Journal of Political Economy*, 101, pp. 678–709

⁸⁴ Shleifer, A., Vishny, R., (1986) "Large shareholders and corporate control", *Journal of Political Economy*, 94, pp. 461–488

⁸⁵ Jensen, M.C., Meckling, W.H., (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure" *Journal of Financial Economics*, 3, pp. 305–360

⁸⁶ Kahn, C., Winton, A., (1998), "Ownership structure, speculation and shareholder intervention", *Journal of Finance*, 53, pp. 99–129

equity sales that, according to Wruck (1989), are usually followed by an increase in ownership concentration⁸⁷.

Moreover, achieving a higher shares liquidity is particularly costly for the company, in fact, in order to create a broad shareholders base, the investors must be properly rewarded to make them willing to participate.

A classic example of reward that companies use to attract new investors, as we have seen before, is underpricing.

As we explained in the previous paragraph, several explanations of IPO underpricing rely upon the theoretical foundation of information asymmetries which exist between different participants in the offer. We have not explained, however, why it is interest of the company to offer its shares below the market price. Some studies assert that it is crucial for the issue's success to attract a certain proportion of small and less informed investors for liquidity reasons⁸⁸.

Furthermore, Booth and Chua (1996) have individuated another reason in favor of the argument that underpricing influence the shareholders' dispersion⁸⁹. They found that, since underwriters cannot disclose all the information regarding the company's true value to all potential investors, some investors may incur in additional costs in order to collect the information that they need and, therefore, they will not be willing to participate in the bid unless a certain degree of underpricing is offered.

A further evidence in support of this thesis is the fact that IPOs with a higher degree of underpricing usually result in a more diverse shareholders' base⁹⁰.

Also Pham et al., in their research, after controlling for a number of firm's characteristics, found that the level of underpricing is positively related to the breadth of the shareholding's base and negative related to the inequality of outside shareholders

⁸⁷ Wruck, K., (1989), "Equity ownership concentration and firm value: Evidence from private equity financings", *Journal of Financial Economics*, 23, pp. 3–28

⁸⁸ Koh, F., Walter, T.S., (1989), "A direct test of Rock's model of the pricing of unseasoned issues", *Journal of Financial Economics*, 23, pp. 251–272

⁸⁹ Booth, J.R., Chua, L., (1996), "Ownership dispersion, costly information and IPO underpricing", *Journal of Financial Economics*, 41, pp. 291–310

⁹⁰ Brennan, M., Franks, J., (1997), "Underpricing, ownership and control in initial public offerings of equity securities in the UK", *Journal of Financial Economics*, 45, pp. 391–413

distribution formed after the allocation process. Moreover, there is a positive relationship between the degree of underpricing and the post-listing liquidity⁹¹.

In order to sum up, the primary effect that an IPO brings to the ownership structure is a more dispersed ownership with a more diverse shareholders' base, this is particularly exacerbated when the IPO occurs through substantial underpricing. Another effect tied to the ownership structure is an increase in the shares liquidity which amplifies such dispersion effect.

As the ownership structure changes, it will also affect the operating performance of the company. There has been a long tradition of researches concerning the relationship between the ownership structure and the operating performance.

Jensen and Meckling (1976) have pointed out that the interest of managers and shareholders diverge as the ownership becomes more dispersed⁹². This argument implies that, as a result of the greater agency problems, the operating performance of the company will be negatively affected by the Initial Public Offering.

Also Jain and Kini (1994), in their research, found that operating performance showed a particular decline after IPO and argued that this could be explained by a decrease in managers' incentives to pursue shareholders' interests.

On the other hand, they also found that when IPOs are backed by Venture Capital firms, companies face higher operating performance after IPO than non-VC-backed IPOs⁹³.

In conclusion, we can say that the researches performed almost agree on the fact that, after the IPO, a more dispersed ownership influences negatively the operating performance of the company. This effect can, however, be smoothed through a VC-backed IPO, reducing shareholders' dispersion and thus the negative effect on operating performance.

⁹¹ Pham, P.K., Kalev, P.S., Steen, A.B., (2003), "Underpricing, stock allocation, ownership structure and post-listing liquidity of newly listed firms", *Journal of banking and finance*, 27, pp. 919-947

⁹² Jensen, M.C., Meckling, W.H., (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure" *Journal of Financial Economics*, 3, pp. 305-360

⁹³ Jain, B.A., Kini, O., (1995), "Venture capitalist participation and the post-issue operation performance of IPO firms", *Managerial and Decision Economics*, 16, pp. 593-606

2.2.2 The effects of IPO on dividend policy

As we have explained in the previous paragraphs, firms that decide to go public are those which experience a high growth rate. Investors that decide to purchase the stocks in an IPO, thus, expect to generate returns not through the payment of dividends but through the capital gains arising from a price appreciation of the shares. We already know, that firms experiencing a high growth rate with a lot of profitable investment opportunities usually prefer not to pay dividends and use the cashflow that they generate for new projects.

Furthermore, IPO issuing firms are usually in the early stages of their development and belong to rapidly growing and technologically oriented firms, so they have a lot of investment opportunities and usually prefer to invest their cashflow in these projects rather than distribute it as dividends.

Moreover, these companies have usually a negative cashflow at the time of an IPO and are also very likely to incur into external financing after the IPO in order to sustain their high growth rate.

This is also proved by the research performed by Ritter and Welch (2002), they found that in 1980s 19% of the companies that decided to go public showed negative earnings in the 12 months prior to the IPO and this percentage increased to 37% in the period 1995-1998, the peak was reached during the internet bubble when 79% of the issuing companies showed negative earnings in the previous year⁹⁴.

Also Fama and French (2001), in their study, reported a significant dispersion in profitability of the firms performing an IPO, moreover, they noted a tendency for left skewness of the curve representing the operating performance signifying a tendency for negative results in the first pre-IPO year⁹⁵.

Finally, even though a company, when it decides to go public, is profitable and has the ability to pay dividends, it may not be able to do it because of some loan agreements.

⁹⁴ Ritter, J.R., Welch, I., (2002), "A review of IPO activity, pricing, and allocations", *Journal of Finance*, 57, pp. 1795-1827

⁹⁵ Fama, E. F., French, K. M., (2001), "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics*, 60, pp. 3-43

Thus, we can say that IPO firms are not expected to pay dividends in the first post-IPO phase because of their high growth opportunities and low profitability, so, they are likely to use all the available internal capital to finance their investment opportunities⁹⁶.

Another evidence in support of this fact can be found in the low propensity of US firms to pay dividends due to a large number of new firms among the listed companies⁹⁷.

However, during the post-IPO phase, some companies reach a steady growth state, which is a period in which they experience a not so high but constant growth making them able to start paying dividends.

According to Fama and French (2001), 25% of companies making an IPO that survive their high growth stage, start to pay dividends after that phase⁹⁸. This decision of paying dividends is dependent on some factors like for example their ability to generate and sustain free cashflow and investor expectations.

Lipson (1998) found that dividends' initiation occurs when managers believe that the company will be able to sustain its dividends through future earnings, in order to avoid the negative market reaction that a dividends' cut could cause, moreover, managers may use the dividends' initiation in order to distinguish their company from other similar newly public firms⁹⁹.

Another important element to consider is the timing of dividends' payment. According to a study performed by McCaffrey and Hamill (2000) on UK companies, investors respond positively to most of the newly issued firms deciding to pay dividends and, among the companies that they have considered, 90% of them started to pay dividends within the first year after the IPO¹⁰⁰. On the other hand, looking at the banking sector the situation

⁹⁶ Jain, B. A., Kini, O., (1994), "The post-issue operating performance of IPO firms", *Journal of Finance*, 49, pp. 1699-1726

⁹⁷ Fama, E. F., French, K. M., (2001), "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics*, 60, pp. 3-43

⁹⁸ Fama, E. F., French, K. M., (2001), "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics*, 60, pp. 3-43

⁹⁹ Lipson, M.L., Maquieira, C. P., Megginson, W., (1998), "Dividend initiations and earnings surprises" *Financial Management*, 27, pp. 36-45

¹⁰⁰ McCaffrey, K., Hamill, P., (2000), "Dividend initiation announcements effects in initial public offerings", *Applied Financial Economics*, 10, pp. 533-542

is a lot more different, after ten year of post-IPO phase, only two thirds of the banks pay dividends and only 30% of those paying dividends have initiated them in the first year¹⁰¹. Nevertheless, according to Lipson's study, on average companies start to pay dividends two and half years after going public¹⁰². These results give us contrasting opinions about timing and the decision of paying dividends after IPO, making us think that this decision depends upon many factors that need to be considered.

To sum up, IPO firms are usually the target of high-risk profile investors such as venture capitalists, hedge funds, and institutional investors. These investors, so, do not expect to have dividends as returns, but they want to achieve above average returns in the form of huge capital gains. However, despite the lack of motivation of paying dividends, some IPO companies start paying them. This decision of paying dividends is dependent on some factors that characterize the IPO market:

- *Stage of development*: different companies tend to go public at different stages of their lifecycle, some firms decide to go public earlier than others. These firms face more uncertainty regarding their ability to sustain future profitability, so they have a tendency not to pay dividends. On the other hand, those firms which decide to go public at a later stage in their lifecycle are either profitable or are less uncertain about the future trends in profitability. These firms are more likely to be in a better position to initiate a dividend policy.
- *Size of the company*: Usually dividends payers are larger than non-dividends payers. So that, we can say that dividends' initiation is likely to be positively related to the size of the company.
- *Leverage*: The decision of paying dividends after the IPO can be heavily affected by the level of debt. Usually firms with greater growth opportunities rely less on debt financing and more on internal financing, paying lower dividends.

¹⁰¹ Bessler, W., Murtagh, J. P., Siregar, D., (2001), "Dividend policy of Bank Initial Public Offerings", *Working paper, Center for Finance and Banking, Justus-Liebig University Giessen, Germany*, <http://papers.ssrn.com/>

¹⁰² Lipson, M.L., Maquieira, C. P., Megginson, W., (1998), "Dividend initiations and earnings surprises" *Financial Management*, 27, pp. 36-45

- *Capital expenditure:* As we have seen in the previous chapter, dividends depend also on the investment decisions that the company makes. Usually firms increase significantly their capital expenditures after IPO. The more the firm decides to spend in capital expenditures, the less cash it will have available for distribution to shareholders, paying lower dividends.

Moreover, if we compare the post-IPO performance of companies paying dividends with those not paying them, usually, dividend payers have higher sales growth and better operating performance and finally, dividend payers are more likely to survive compared to non-dividend payers.

In conclusion, generally speaking, companies that decide to go public have a tendency not to pay dividends, as they have a lot of profitable investment opportunities in which to put their available cashflow. Furthermore, shareholders that decide to invest in these companies are particularly risk confident, so they prefer to receive higher returns in form of capital gains rather than dividends. However, these companies, once they reach their steady state growth and their investment opportunities start to decrease, they have more incentive to pay dividends. For some of these companies this period comes in the first years after the IPO, for others it comes later. The timing depends particularly on four factors: the stage of the development, as the later they are in their lifecycle at the moment of IPO, the sooner they will pay dividends; size of the company, the higher is the size of the issuing company, the sooner it will start to pay dividends; leverage, the greater the use of debt than internal financing, the more the company will be willing to pay dividends and, finally, the capital expenditures which are negatively related to dividends' payments.

III. The Capital Markets

3.1 The Italian Capital Market

Capital markets play an important role in the modern economy. Their functioning, indeed, affects some of the most important drivers of the economic growth. In particular, they affect the ability of a company in incurring into external sources of financing. This effect is even more amplified in this era in which companies need a ready access to equity capital in order to be able to expand themselves.

A country's capital market is composed by investors, issuers, intermediaries and marketplaces. In order to function, a capital market is subject to a broad framework of legal, regulatory and institutional provisions. All these rules, in particular, are needed to ensure that the market operates in a framework that is consistent, unambiguous and predictable for the investors, companies and entrepreneurs to engage in long-term investments.

In recent years, Italy has implemented many measures in order to improve the financial health of its corporate sector and to strengthen its capital markets as a possible and complementary source of external financing that companies can use.

Among the reforms that it has put in place, we can find the individual saving plan, the mini-bond market framework and the ELITE program that aims at providing support to companies to achieve the capital and network needed in order to scale up.

Despite all this effort, the Italian Capital Market, however, is still less developed than the other markets.

The marketplace for public equity financing is the stock market. The stock market is the place where the companies in need of external financing meet the investors that are willing to supply capital. The main stock market in Italy is the Borsa Italiana.

As we will see throughout this chapter, it is split into three different equity markets: *Mercato Telematico Azionario*, *Alternative Investment Market* and *Market for Investment Vehicles and Partnership Equity Markets*.

In the first part of this chapter we will, thus, go deeper into one of the two capital markets which are the focus of this thesis: the Italian Capital Market.

Firstly, an overview about the Italian economy is provided in order to set the context for our discussion, secondly, we will analyze the Italian stock Market: the Borsa Italiana and, lastly, we will focus on the IPO trends of the last years in Italy.

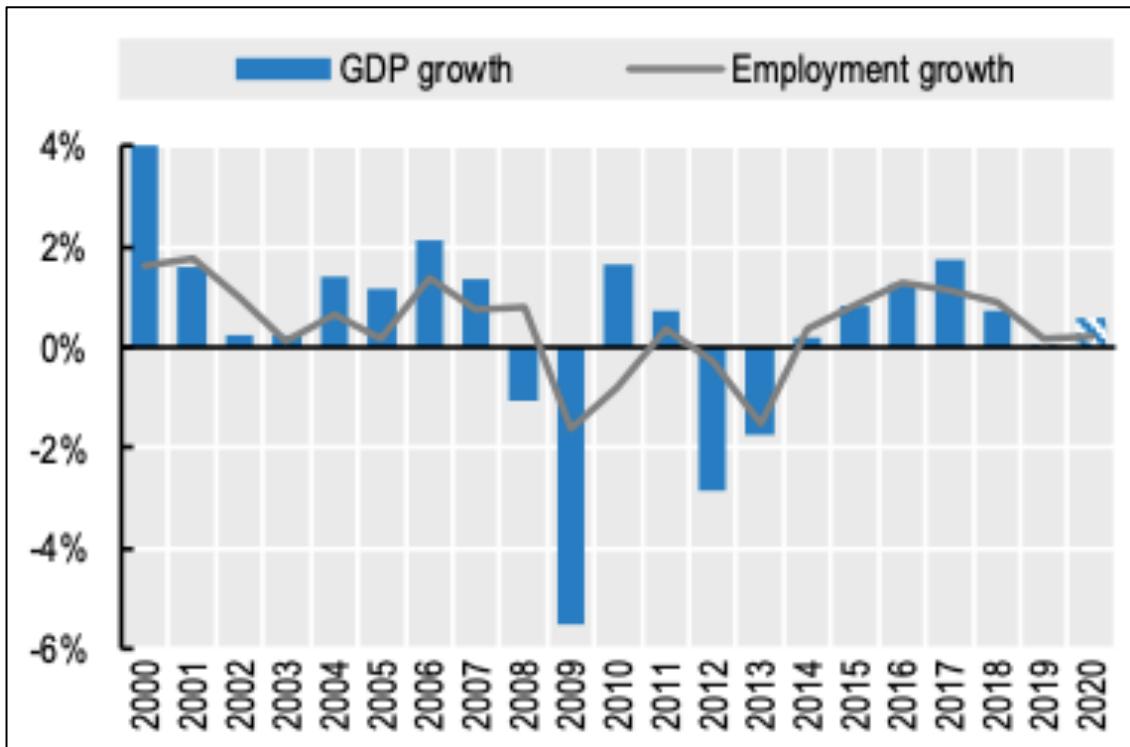
3.1.1 Overview of the Italian economy

Today, the Italian economy, according to the last OECD Review, is still suffering from the global financial crisis and the subsequent sovereign debt crisis that occurred in Europe which affected all the world economies in 2008. In particular, Italy, in the last years, has experienced the worst recession since 1960s.

In order to recover, Italy has put in place considerable reforms and programs and, thanks to these measures, the economy is experiencing a recovery path since 2014. As we can see from Figure 16, in 2017 the Italian real GDP experienced a growth rate of 1.8% and in 2018 a growth rate of 0.7%, however, this growth rate has apparently stopped in 2019 and was expected to increase again in 2020. However, the Covid-19 Pandemic seems to have made all the global economies to recess, not concretizing the perspective developed by OECD at the beginning of the year¹⁰³.

¹⁰³ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

Figure 16: real GDP growth rate in Italy

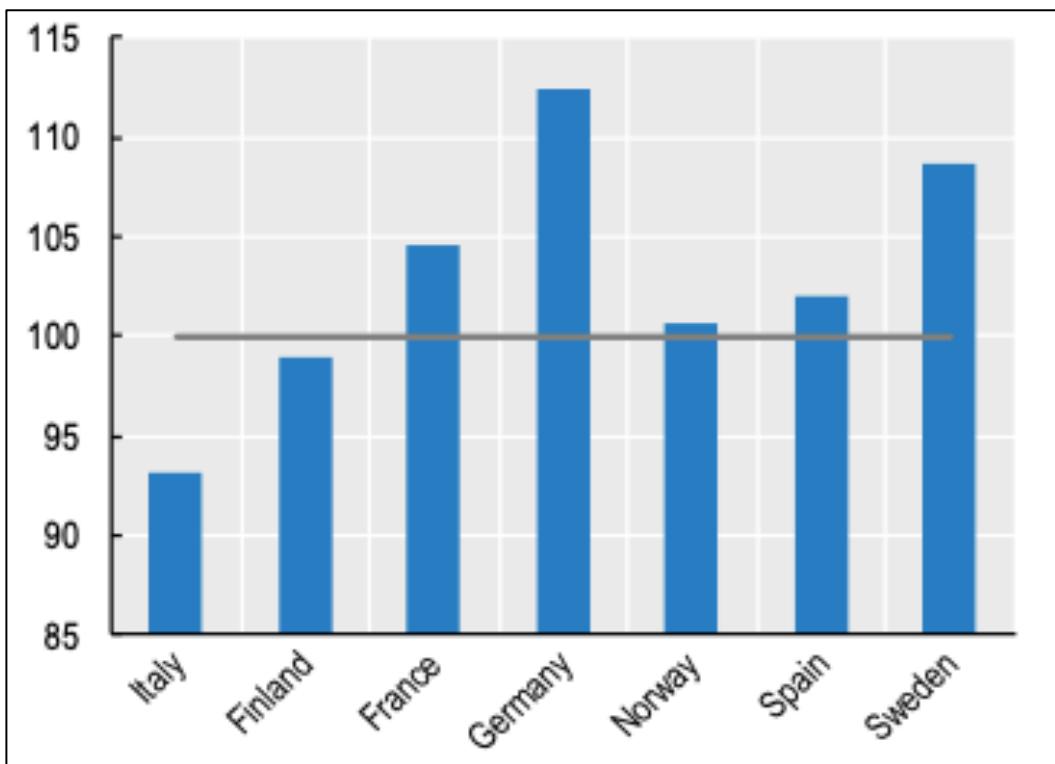


Source: OECD Economic Outlook 105 database 2019/1, OECD National Accounts

Nevertheless, the growth rate that Italy was experiencing before the explosion of COVID-19 was still far below those of most of the European countries like Germany and France which, instead, experienced an average annual GDP growth rate of 1.3% and 1.1% respectively.

Furthermore, after 10 years since the financial crisis, Italy had not yet reached its pre-crisis GDP levels, even worse, it was about 7% lower than 2007. These results are exactly described by Figure 17 which shows the Italian GDP per capita in 2018 and compares it with the major European economies keeping the prices constant.

Figure 17: GDP per capita at constant price



Source: OECD Economic Outlook 105 database 2019/1, OECD National Accounts

The slower growth of Italian economy recovery with respect to the other major European countries, has resulted in a lower business sector productivity. Indeed, after the financial crisis of 2008 and despite a small decrease in 2012, the labor and multifactor productivity growth has become positive again but very close to zero. This weak productivity, moreover, affects dramatically Italian competitiveness.

An even more curious fact is that, despite their low productivity, the most recent jobs have been created in the sectors that showed the lower labor productivity, as to say that the three top sectors that have employed 40% of new hires have a labor productivity below the average¹⁰⁴.

This phenomenon has been the subject of many researches in order to understand the reasons of this low productivity. The productivity growth depends on one key indicator: the economy's innovation capacity, which, in turn, is given by the research and development expenditures.

¹⁰⁴ OECD (2019d), OECD Compendium of Productivity Indicators 2019, OECD Publishing, Paris, <https://doi.org/10.1787/b2774f97-en>.

Generally speaking, the more an economy invests in innovation, the more it will be able to improve its productivity.

This argument can be used also to explain the Italian situation. Italy, indeed, has an average expenditure in research and development much lower than the other European countries on average; e.g. Italy on average spends 1.4% of its GDP in research and development which is low if compared with 3.3% of Sweden or 3% of Germany.

Another determining factor is that in the other European countries most of the expenses in R&D comes from the business sector while in Italy only 50% of them can be attributed to the business sector¹⁰⁵.

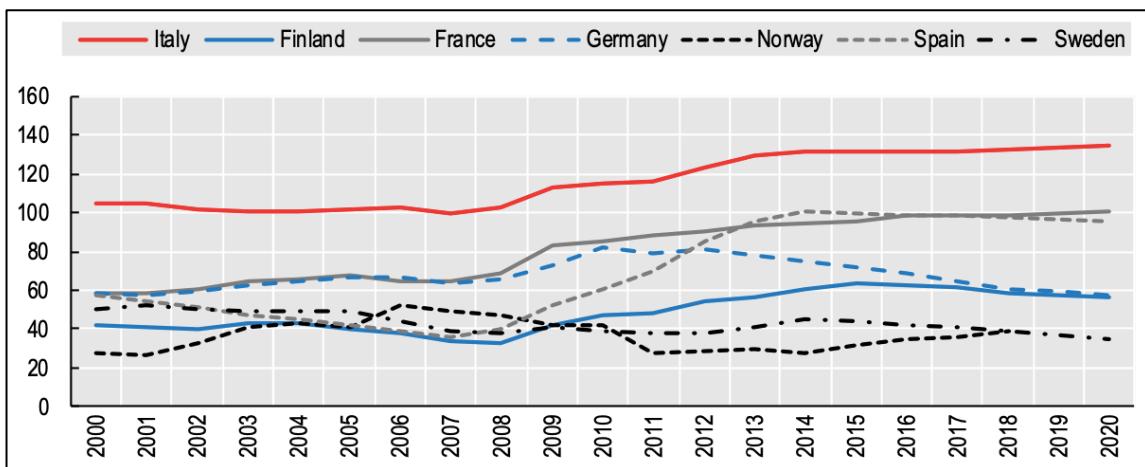
Another relevant point for the Italian economy that needs to be discussed is the high public debt level. As we can see from Figure 18, on average, the Italian public debt has been always higher than that of the other European countries, but this divergence has been even more amplified with the financial crisis. In the decade 2007-2018, the Italian public debt has increased dramatically reaching 132% of GDP in 2018, while in other European countries the average proportion between debt and GDP is generally lower than 100% (e.g. 61% in Germany, 99% in France, 97% in Spain). Another bad result is that, in 2018 Italy was the only country among G-7 countries that experienced a positive interest rate growth differential¹⁰⁶, meaning that, the interest paid on the 10-year Italian government bond exceeds the economic growth rate resulting in an increase of the debt to GDP ratio. However, the provisions for the next years are even more dramatic because they forecast a public debt to GDP ratio stable at 135% and the reality can be even more pessimistic due to the spread of the Covid-19 Pandemic.

¹⁰⁵ OECD (2017e), OECD Economic Surveys: Italy 2017, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-ita-2017-en.

OECD (2017f), OECD Compendium of Productivity Indicators 2017, OECD Publishing, Paris, <https://doi.org/10.1787/pdtvy-2017-en>.

¹⁰⁶ OECD (2019d), OECD Compendium of Productivity Indicators 2019, OECD Publishing, Paris, <https://doi.org/10.1787/b2774f97-en>.

Figure 18: Public debt in European countries



Source: OECD Economic Outlook 105 database 2019/1, OECD National Accounts

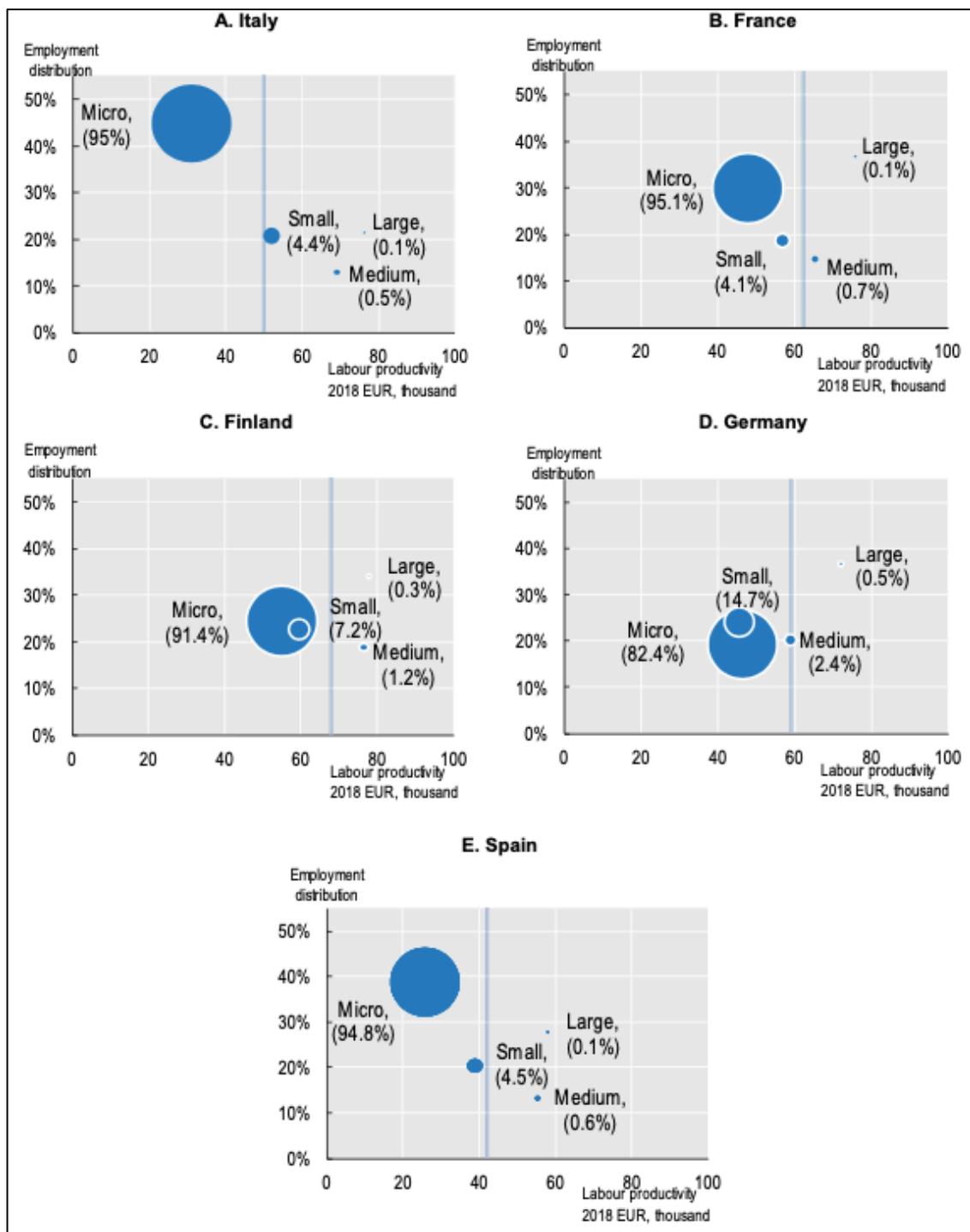
Let's now look at the demography of Italian companies. The 95% of the companies operating in the OECD area are small and medium sized enterprises (SMEs), also in Italy the composition is pretty similar.

The 95% of Italian companies are micro firms while small and medium size companies are only 4.6% and 0.5% respectively and only 0.1% of the total companies have more than 250 employees. Also the employment follows the same path, since most of the workers are employed in micro firms.

As is shown in Figure 19, Italy is the country, among the five considered with the lowest proportion of small and medium sized enterprise, and unlike the other countries it has the most of its employment share in micro firms. On the other hand, countries like Germany, France and Finland present most of its employment share in large companies. This could make some troubles to arise. Micro firms, indeed, are those with the lowest level of productivity and they employ most of the workforce, on the other hand, large firms, which double the productivity of the micro ones, have only a small percentage of the workforce employed. This may cause a depression of the Italian productivity level, so a good reform for Italy would be to shift some of the workforce toward larger and more productive companies¹⁰⁷.

¹⁰⁷ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Serie*

Figure 19: Business demographic



Source: Eurostat

As far as the business sectors are concerned, according to ISTAT statistics, the majority of Italian enterprises (25.2%) operate in the wholesale and retail industry, particularly, this is also the industry in which we find the majority of the micro-firms and small firms operating in the Italian business environment. The second most important sector is the

professional, scientific and technical activities; also this sector, like the other one, accounts for the majority of the micro-firms operating.

On the other hand, as for the large firms, they are more concentrated in the manufacturing sector with a percentage of 32.6%¹⁰⁸. These data are represented in Figure 20.

Figure 20: Italian companies by Industry

	Micro	Small	Medium	Large	Total
Accommodation and food service activities	7.2%	11.3%	3.7%	3.1%	7.4%
Administrative and support service activities	3.2%	5.0%	9.0%	12.1%	3.3%
Arts, entertainment and recreation	1.6%	1.1%	0.8%	0.7%	1.6%
Construction	11.7%	9.9%	4.8%	2.1%	11.6%
Education	0.7%	1.0%	0.8%	0.2%	0.7%
Electricity, gas, steam and air conditioning supply	0.3%	0.2%	0.5%	1.1%	0.3%
Financial and insurance activities	2.3%	1.0%	2.0%	4.9%	2.2%
Human health and social work activities	6.8%	2.8%	7.0%	7.7%	6.6%
Information and communication	2.3%	3.0%	4.0%	4.6%	2.3%
Manufacturing	7.6%	32.1%	38.3%	32.6%	8.8%
Mining and quarrying	0.0%	0.2%	0.2%	0.1%	0.0%
Other service activities	4.9%	1.8%	1.4%	0.8%	4.7%
Professional, scientific and technical activities	17.4%	4.1%	3.7%	3.6%	16.7%
Real estate activities	5.8%	0.4%	0.1%	0.1%	5.6%
Transportation and storage	2.6%	6.0%	9.1%	9.5%	2.8%
Water supply sewerage, waste management and remediation activities	0.2%	1.0%	2.2%	3.4%	0.2%
Wholesale and retail trade repair of motor vehicles and motorcycles	25.5%	19.1%	12.3%	13.3%	25.2%

Source: Italian National Institute of Statistics (ISTAT)

Despite the size of the company, the whole business sector in Italy has suffered consistently from the global financial crisis. After the crisis, indeed the sales dropped by 8% in 2009 and, after some years of slow recovery, they dropped again in 2012 and 2014. As a result, also ROE has fallen since 2008, before the financial crisis the average ROE was about 8%, while after the financial crisis it dropped to less than 4%.

In addition to this lower performance, another issue for Italian companies is the sales growth rate. Before the financial crisis, more than half of the companies in the economy reported a positive sales growth rate. Since 2009 more than 60% of the companies, on the other hand, presented a negative sales growth; this proportion started to decrease gradually since 2016 but a particular factor is the dispersion of this sales distribution. In fact, there is a big spread between the companies that present exceptionally positive growth rates and companies that present exceptionally negative growth rates¹⁰⁹. This

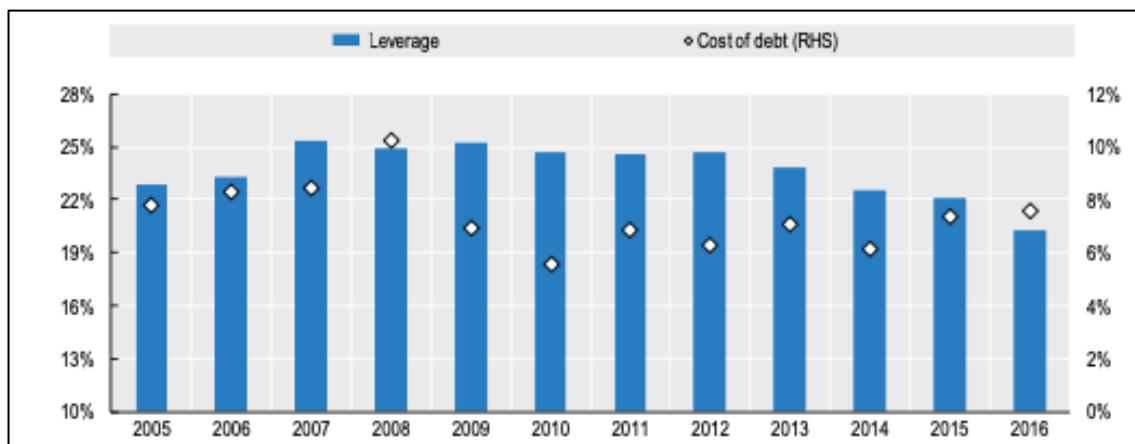
¹⁰⁸ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

¹⁰⁹ OECD (2017g), *Entrepreneurship at a Glance 2017*, OECD Publishing, Paris, https://doi.org/10.1787/entrepreneur_aag-2017-en.

phenomenon is explained by the fact that growth, in the Italian business sector, is driven by a small population of high-growth firms and it is, at the same time, hindered by a relatively large number of firms with a deep negative growth.

Another situation that the financial crisis has brought is the increase in the leverage of companies. The level of debt, in 2007, jumped to 24%; however, after the financial crisis the economy has experienced a decrease in the levels of bank lending to the corporate sector, reducing the level of leverage in the Italian business sector in favor of injections of equity¹¹⁰. Also the cost of debt, at the same time has been kept low with respect to the previous periods, as it is showed by Figure 21.

Figure 21: Leverage and cost of debt of Italian companies



Source: OECD-ORBIS Corporate Finance dataset

Despite the reforms that Italy has implemented in the last years to help the corporate sector to survive the financial crisis, the Italian economy still lags behind other large European economies. In order to grow again, Italy should, thus, improve the business environment to boost corporate investments by providing businesses with the capital they need in order to decrease the productivity gap. In particular, according to OECD review, Italy can foster its productivity by improving the allocation of capital and access to long term, market-based financing¹¹¹.

¹¹⁰ Banca D’Italia (2018d), “Financial Stability Report No. 1 - 2018”, Printing and Publishing Division Bank of Italy.

¹¹¹ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

3.1.2 *Introduction to “Borsa Italiana”*

The marketplace from which companies can obtain public equity financing is the stock market. The main participants of these markets are the stock exchanges that have the role of matching companies that needs access to external equity financing and investors that are willing to supply capital in those companies.

In Italy the major intermediary in the public equity marketplaces is the *Borsa Italiana*. It was founded on 16th January 1808 with the name of Milan Merchandise Exchange as a place where local bankers can gather and conduct personal discounting activities and for the French to have access to a highly organized market for underwriting public debt in competition with the London Stock Market. At the beginning, in fact, in the stock exchanges it was common to trade stocks as well as goods. Only in 1913 there was a separation between the stocks and goods exchanges and the Stock Markets as we know today were created¹¹².

In the last decades, most of the existing stock exchanges have experienced some structural changes. In particular, they have experienced a transformation into privately owned for-profit corporations which also have their own shares traded in their exchanges¹¹³.

Also the Italian Stock Exchange has experienced this transformation process. The first step has been the consolidation of the ten stock exchanges existing in 1996 at national level into the Milan Stock Exchange; secondly, in 1998 there has been the privatization of the exchange into a joint-stock company: *Borsa Italiana SpA*. After the privatization, in 1999, a new market aimed at high-technology companies, the *Nuovo Mercato*, was created. But the major transformation that took place was the merger with the London Stock Exchange Group in 2007, when the Italian Stock Exchange became part of the major European Stock Exchange Group.

Nowadays, the Italian Stock Exchange is split into three different markets: *Mercato Telematico Azionario* (MTA), *Alternative Investment Market* (AIM), *Market for*

¹¹² <https://www.borsaitaliana.it>

¹¹³ OECD (2016b), OECD Business and Finance Outlook 2016, OECD Publishing, Paris, <https://doi.org/10.1787/9789264257573-en>.

Investment Vehicles (MIV) together with the *Partnership Equity Markets*. In the first two markets the companies are listed, and their stocks are traded, while in the last one, financial vehicles are traded.

The *Mercato Telematico Azionario* is the leading Italian Equity Market in which mid and large size companies which meet the higher international standards are traded. Its primary function is to support companies in the process of raising domestic and international financing, it is one of the most liquid cash equities markets in Europe as it has been also ranked as first in Europe for turnover velocity.

It is composed by two segments:

- *Star*: It was created in 2001 and it is the segment dedicated to mid-size companies which are leader in their industry and represent Italy's economic diversity and competitiveness;
- *MTA International*: it is dedicated to the trading of shares of non-Italian issuers which are already listed in other EU regulated markets. It enables the trading of some of the most liquid shares in the Euro zone in an efficient and cost competitive way¹¹⁴.

The *Alternative Investment Market* is a Multilateral Trading Facility of Borsa Italiana created in 2009. It is reserved for small and medium enterprises with high growth potential. In order to be admitted to this market, it is not necessary for companies to draft a prospectus and the admission occurs through an admission-to-trading phase by means of a private placement or an exempted public offering. This market is the main focus of this thesis and will be discussed more in detail throughout this chapter.

The *Market for Investment Vehicles* is a regulated market created in order to provide capital, liquidity and visibility to investment vehicles with a clear strategic vision. It is the reference market for the listing of close-end funds and permanent capital vehicles that invest in real economy. In this market operate a lot of different investment strategies like

¹¹⁴ Borsa Italiana, (2014), "Italian Equity Markets: Liquidity, Transparency Efficiency", London Stock Exchange Group

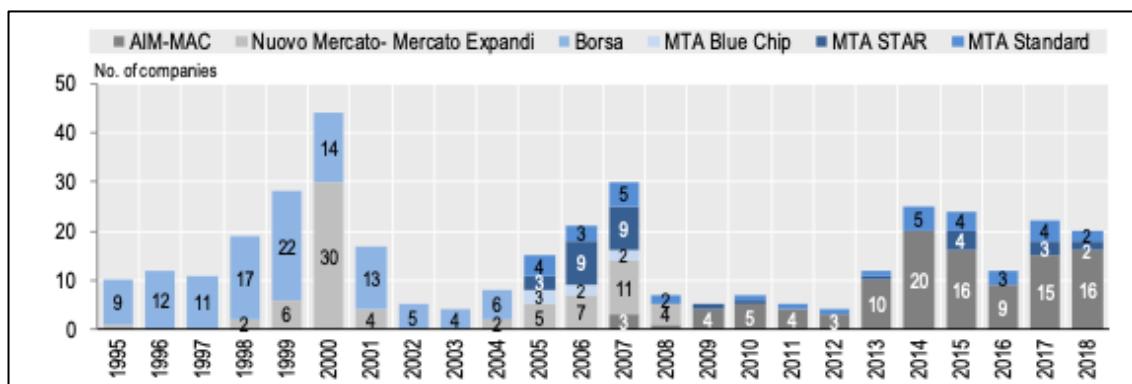
for example: private equity, public and private debt, venture capital, industry specific strategies and multi-strategy¹¹⁵.

In addition to the changes in the stock exchange's markets, also the Borsa Italiana itself, in the last decade has experienced some structural changes. In particular, new and different market segments have been created and also the number of companies listed in each segment has seen a huge change.

As is showed by Figure 22, which represents the total number of IPOs since 1995, from 2004 onwards there has been a shift from regulated markets, represented in blue, to non-regulated markets, the grey ones.

As we can see from the figure, in the period 1995-2004, there have been 113 IPOs in the regulated markets and only 45 on non-regulated markets, while since 2005 the situation has overturned and there have been only 76 IPOs in the regulated markets and 133 in non-regulated ones¹¹⁶.

Figure 22: IPOs in the period 1995-2018



Source: OECD Capital Market Series Dataset

In order to measure the performance of the Italian Stock Exchange, the London Stock Exchange Group, in 2009, has created some indexes to provide information to investors that want to access the Italian market and industry segments. Among these indexes, the most important one is the FTSE MIB which is the primary benchmark index for the Italian equity market. This index measures the performance of 40 highly liquid and leading

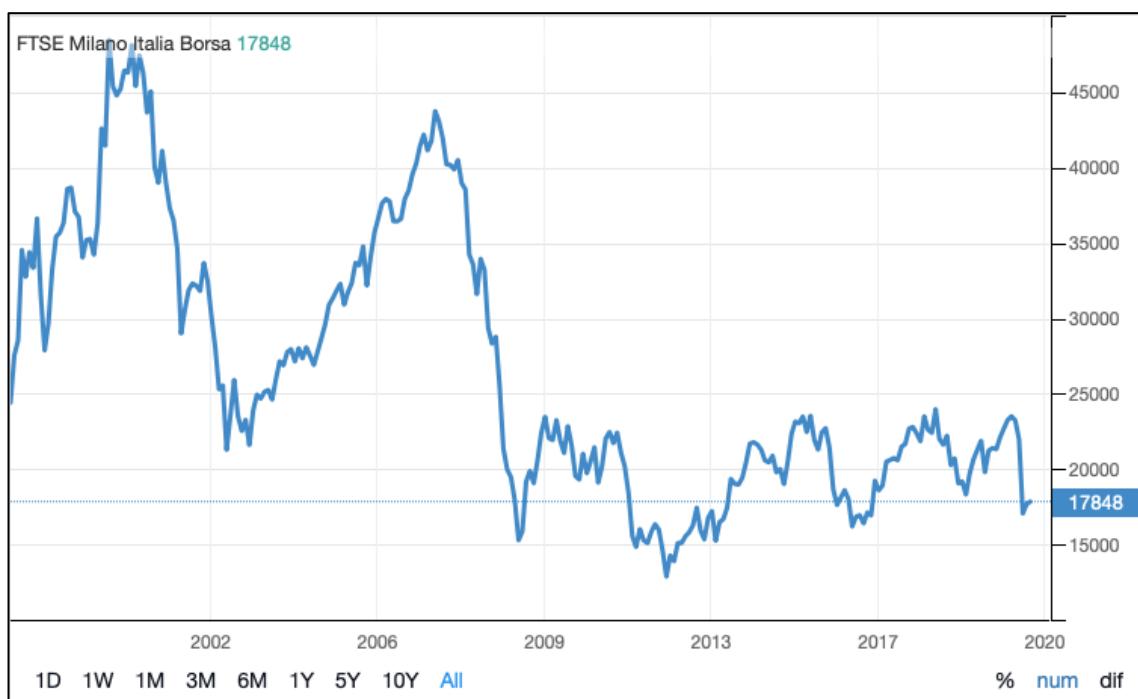
¹¹⁵ <https://www.borsaitaliana.it>

¹¹⁶ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

companies in the Industry Classification Benchmark sectors in Italy which composes approximately 80% of the domestic market capitalization¹¹⁷.

As is described by Figure 23, in the last 10 years, the performance of this index has been highly volatile. Particularly, it achieved its lowest point in 2012 and its peak of the last ten years in 2007, right before the financial crisis. However, these performances have never reached the 1990s level, when this index, that was before called S&P MIB, outdid the threshold of 45000 points. Since 2009, the negative trends of the performance are due mostly to the negative performance of the companies in the banking sector.

Figure 23: FTSE MIB performance



Source: Bloomberg

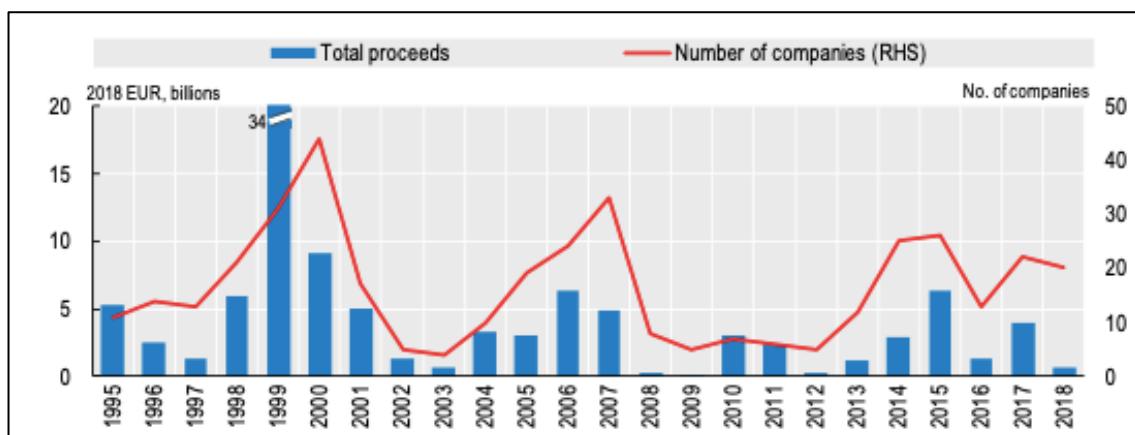
3.1.3 Trends of Initial Public Offerings

As we have already discussed in Chapter 2, in order to reduce their exposure to macroeconomic shocks, companies try to reduce their leverage raising money in form of equity rather than incurring into new debts. There are two main sources of equity capital: injections from shareholders and the company's earnings. Shareholders, as we already

¹¹⁷ Borsa Italiana, (2014), “Italian Equity Markets: Liquidity, Transparency Efficiency”, London Stock Exchange Group

said, can give money to the company by buying the shares in a public equity offering and, when a company sells for the first time its shares publicly, we have an Initial Public Offering. Also Italian companies in the last decades have carried on some IPOs in order to raise the capital needed to pursue their objectives. If we take a look at Figure 24, we can notice that, also in the Italian equity market, the IPOs have followed their waving trends, with periods of higher IPOs concentration and periods of poor IPO activity. Italian companies reached their peak of IPO activity in 1999 and 2000 with a maximum of 75 companies which manage to raise €43 billion, after that year, until 2007 the amount of equity raised has been on average €2.6 billion per year. Other two periods of high concentration have been recorded in 2006-2007 and in 2014-2015 with more than 50 listings and an average of €10 billion in proceeds in each period. On the other hand, during the period of the financial crisis and in 2012 when there was the European sovereign crisis it has been recorded a weak IPO activity¹¹⁸.

Figure 24: IPO activity in Italy



Source: OECD Capital Market Series Dataset.

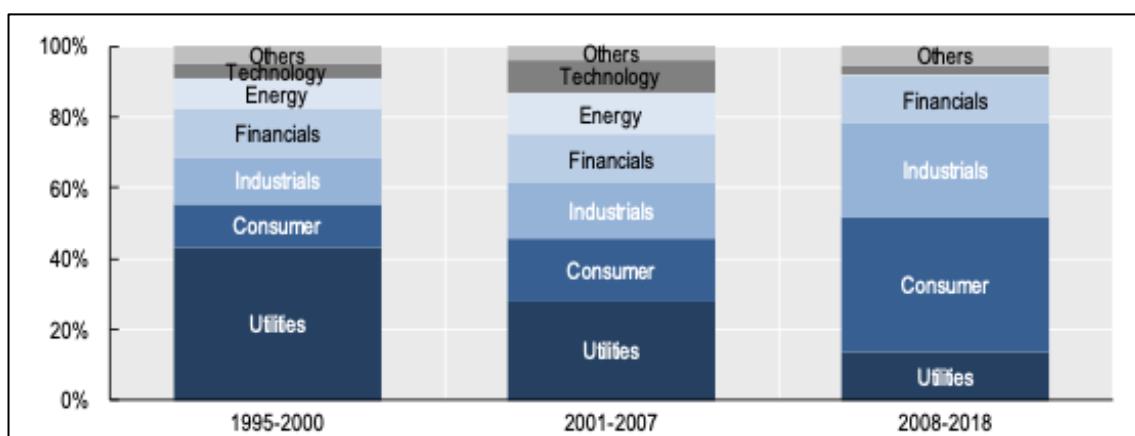
However, by going deeply into the sectorial distribution of the IPOs of the Italian companies in the last two decades we can note, as is illustrated in Figure 25, that, differently from other European countries, the financial sector has not dominated the IPO activity, and its share has remained pretty constant at about 14% in the last years. On the

¹¹⁸ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

other hand, the IPO's panorama has been taken over by the utilities and consumer goods sectors' companies.

Another point which is worth of attention is that only a small part of the total proceeds raised through IPOs in the last twenty years (3%) has been given to high technology firms; this is a particularly important sector for the development of the Italian economy as it includes technology, healthcare, pharmaceuticals and biotechnology companies. More investments in these sectors mean also greater productivity for the economy since they are typically associated with a high degree of innovation, research and development.

Figure 25: Italian IPOs by industry



Source: OECD Capital Market Series Dataset

Another trend that has to be considered that has characterized the IPO's activity in the last decades both in the European Stock Markets and in the United States is a decrease in non-financial companies' IPOs; this decrease has been associated with a contemporaneous increase in the total amount of equity raised by Asian non-financial companies after the financial crisis¹¹⁹.

The companies that need the most to incur into IPOs in order to raise new equity capital, as previously discussed, are growth companies that need to invest the most into human resources and innovation. However, the average annual number of growth companies that

¹¹⁹ OECD, (2017h), “OECD Equity Markets Review: Asia 2017”, <https://www.oecd.org/corporate/OECD-Equity-Markets-Review-Asia-2017.pdf>.

made an IPO and the share of growth company proceeds from all non-financial company IPO proceeds have declined globally since 2000.

In particular, in the European Union area, there has been a huge decline in the small non-financial IPOs (smaller than \$87 million). During the period 1997-2000 there were recorded 362 small IPOs, this number fell to 221 in the period 2001-2007 and further to 138 since 2008. In addition, also the average proceeds of European non-financial growth companies fell deeply in these periods. The same trend has been recorded also in the United States.

In Italy, on the other hand the number of IPOs of small companies have been recovered in the last five years even though the total proceeds raised are far below the Asian markets' ones¹²⁰.

3.2 The UK capital market

The second economic background on which this thesis focuses is the United Kingdom economy. It is the sixth largest economy in the world and one of the world's largest producing countries, particularly important in civil and military aerospace and pharmaceutical industries. This economy has experienced a great recovery since the global financial crisis, managing to reach a GDP of 9% above the maximum level reached before the financial crisis. However, in the last years, it has been subject to huge changes due to the decision to go out from the European Union. The consequences that it has experienced are a decrease in the growth rate below all the G-7 countries in 2017 and an increase in uncertainty creating some pressure to relocate the financial activities overseas. It is under these circumstances that the London Stock Exchange operates. The London Stock Exchange is the primary stock exchange in the United Kingdom and the largest in Europe, moreover it is one of the oldest stock exchanges in the world. It is based in

¹²⁰ OECD, (2020), “OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers”, *OECD Capital Market Series*

London and, as we have already seen in the previous sections, in 2007 it has merged with the Borsa Italiana and together they have composed the London Stock Exchange Group. It operates on three markets: the *Main Market*, the *Alternative Investment Market* and the *Professional Securities Market*.

Throughout this section we will better explore the economic context in which the London Stock Exchange operates, providing an overview of the UK economy, then a deeper discussion into the operation of the London Stock Exchange is provided and, lastly, we will see in more detail the IPO activity in this market in the last years.

3.2.1 Overview of the UK economy

The UK economy is the sixth largest economy in the world, and it is one of the world's largest producing countries particularly important in civil and military aerospace and pharmaceutical industries. The last years' economic outlook of this country is particularly uncertain due to the decision of exiting the European Union. The uncertainty related to this decision has led to a reduction in the investments in particular in 2017, immediately after the decision has been taken, because of the lack of clarity about future trading arrangements. This downward trend in investments, in particular has continued for many years and this persistency is starting to erode the long-term prospects of the country.

On the other hand, consumption growth has not been subject to great deterioration, thanks to the continuous growth in real household incomes. At the same time, in the last year also the labor market is in threat, as the unemployment rate has increased, and the number of vacancies decreased¹²¹.

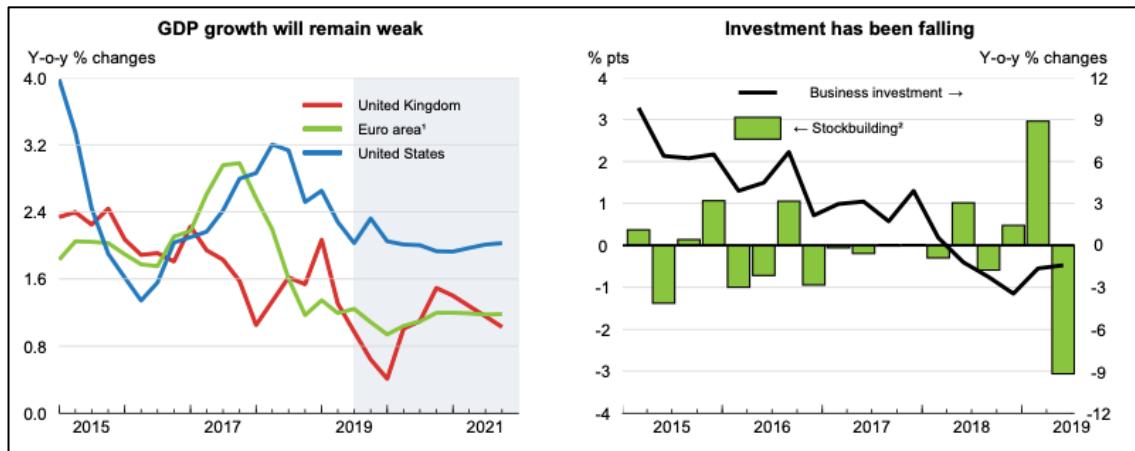
As is illustrated in Figure 26, in the last 5 years the UK's GDP has decreased dramatically, especially after Brexit, it has later seen a slow recovery in 2018 with a growth rate of 1.3% but it was expected to fall again after 2019, and this prediction has been even worse verified due to the spread of the COVID-19 Pandemic. According to the updated IMF forecasts, GDP growth is expected to fall to -6.5% in 2020 and pick up to

¹²¹ OECD, (2019), "OECD Economic Outlook", Issue: 2, pp. 219-221

4% in 2021, subject to the post-pandemic global economic recovery, conclusion of a broad free trade agreement with the EU and a smooth post-Brexit transition period.

The second panel of this figure shows us also how the level of investments has decreased since Brexit because of the uncertainty surrounding such decision.

Figure 26: UK GDP and investments level in the last 5 years

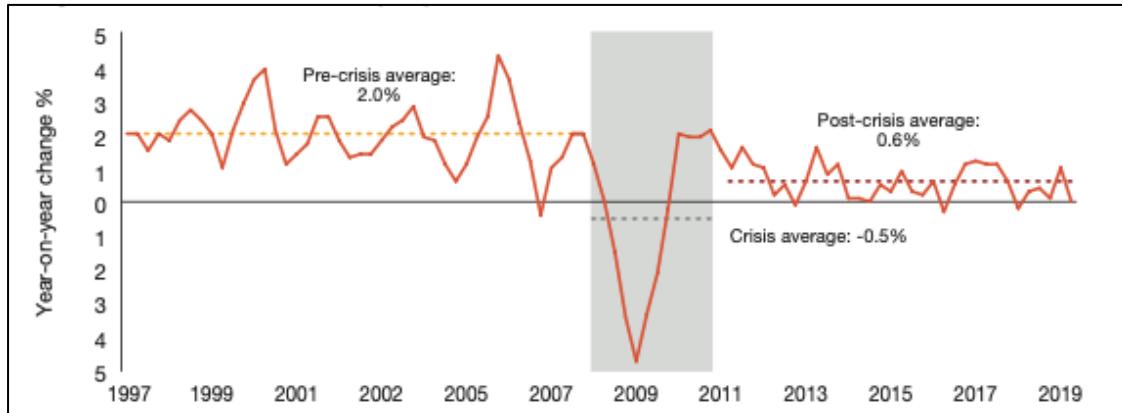


Source: OECD Economic Outlook 106 Database

As far as labor productivity is concerned, it has consistently lagged behind most of the other advanced economies like France, Germany, Sweden and the US. Labor productivity in the UK, in fact, has grown more slowly since the financial crisis of 2008 than before, as we can see from Figure 27, if the average growth before the crisis was 2%, it has grown only a little in the recovery period averaging only 0.6% since 2011. Most of the advanced

economies, as we can imagine, have experienced a similar trend but managed to perform better results¹²².

Figure 27: Output per worker growth



Source: ONS

Another factor of interest is that the average level of labor productivity has been persistently lower in the UK than in the other leading advanced economies. This *productivity levels gap* has existed since 1970s and it has never been recovered.

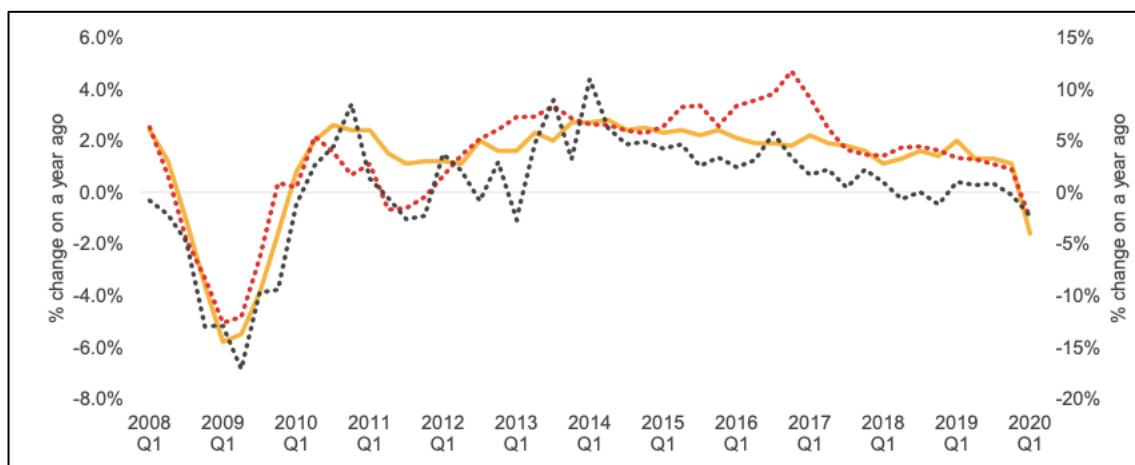
There are different reasons that can help to explain the reasons behind this gap. One reason is related to how the workforce is spread among the different industries, if we take in consideration a high productive economy, like the German one, and the UK economy, we can see that most of the workforce in Germany is employed in manufacturing which is a sector of high productivity, while in the UK most of the workforce is employed in constructions or service sectors industries with lower productivity. But this is not the main issue because on average, UK has a lower productivity than Germany in almost all the industry with the exception of Finance, Extraction and Utilities and Arts and Entertainment. As a result, every strategy that would promote a shift from less productive industry to more productive industry will not help UK to solve this gap. UK, so, needs to increase its average productivity levels in all the industries in order to achieve a higher productivity. The country could do it through a labor-intensive business model with the

¹²² PWC, (2019), “UK Economic Outlook”

implementation of higher investments levels in research and development, a stronger education and an improved adoption of existing technologies¹²³.

As for the future prospects of the economy, with the Coronavirus spread, the UK has experienced a 2% decrease in GDP in the first quarter of 2020, the biggest since the financial crisis, but this is not the end, since the Bank of England has forecasted a much bigger decline in the following quarter of 2020 as it will experience the full impact of the lockdowns which have been put in place only in the last part of the first quarter, later than the Italian country that we have analyzed before. However, after this extraordinary crisis that the whole world is experiencing, it is predicted to take place a recovery period and the GDP level is expected to reach 1.5% below the pre-crisis level by 2021.

Figure 28: GDP trends 2008-2020



Source: ONS- GDP first quarterly estimate

3.2.2 London Stock Exchange

It is under this panorama that the London Stock Exchange, one of the oldest stock exchanges in the world, operates. Its history goes back to 1698 at Jonathan's Coffee House, where John Castaing used to publish a list of currency, stock and commodity prices. This was the first presence of a stock exchange in London. After that moment, the

¹²³ PWC, (2019), “UK Economic Outlook”

London Stock Exchange has begun to evolve, some rules have been created and new technologies have been introduced, becoming the institution that we know today.

In 1984, in partnership with the Financial Times, the London Stock Exchange created a real time index of the 100 biggest companies for market capitalization: the *Financial Times Stock Exchange 100* (FTSE100).

Other three main steps in the history that are worth to be mentioned are the sudden deregulation of the financial markets that took place in the UK and is known with the name of “Big Bang” because of the increase in the market activity that occurred after that moment. This reform included the abolition of fixed commission charges and of the distinction between stockjobbers and stockbrokers and a shift toward electronic and screen-based trading. The main consequence of this deregulation has been the strengthening of the position of London as a financial capital.

The second important event has been the creation of the Alternative Investment Market in 1995 that we will discuss in the last part of this chapter, which gave smaller growth companies access to investor capital.

Lastly, in 2007, the London Stock Exchange merged with the Borsa Italiana, creating the London Stock Exchange Group, the biggest stock exchange in Europe.

However, the London Stock Exchange has never stopped evolving, particularly in the last years. In 2015 it has launched its Green Bond Segments and it has been one of the first exchanges in the world to issue Green Bonds¹²⁴. A green bond is a type of fixed-income instrument that is specifically aimed at raising money for climate and environmental projects¹²⁵.

The last step in the history of this stock exchange is its partnership with the Shanghai Stock Exchanges completed in 2019 with the aim of enabling the companies listed in London to access Chinese investors directly and, in turn, they can benefit from China’s growth through London¹²⁶.

¹²⁴ <https://www.londonstockexchange.com>

¹²⁵ <https://www.investopedia.com/terms/g/green-bond.asp>

¹²⁶ <https://www.londonstockexchange.com>

The London Stock Exchange is composed by three different markets:

- The *Main Market* which is one of the world's most international and diverse capital markets, it is the most important market of the London Stock Exchange and it includes the larger and more established companies, moreover, it is the home market for some of the world's largest and most well-known companies.

This market is subdivided into four different segments:

- *Premium*: in this segment the world's leading companies which respects the highest standards are quoted, these are all potential companies that may join the FTSE UK Index Series.
 - *Standard*: in which the main European companies are listed.
 - *High Growth*: in this segment are listed the companies that have high growth potentials in order to reach the standards required to join the *Premium* segment.
 - *Specialist fund*: this segment is designed for investment funds that wish to target institutional investors or professionally advised investors.
-
- The *Alternative Investment Market*, that we will discuss in the last part of this chapter, is a Multilateral Trading Facility which hosts small and medium size growth companies in the early stages of their development in need of access to capital in order to realize their growth and innovation potentials.
 - The *Professional Securities Market* which is a Multilateral Trading Facility in which both plain vanilla bonds and specialist debt products are sold to “professional investors”¹²⁷.

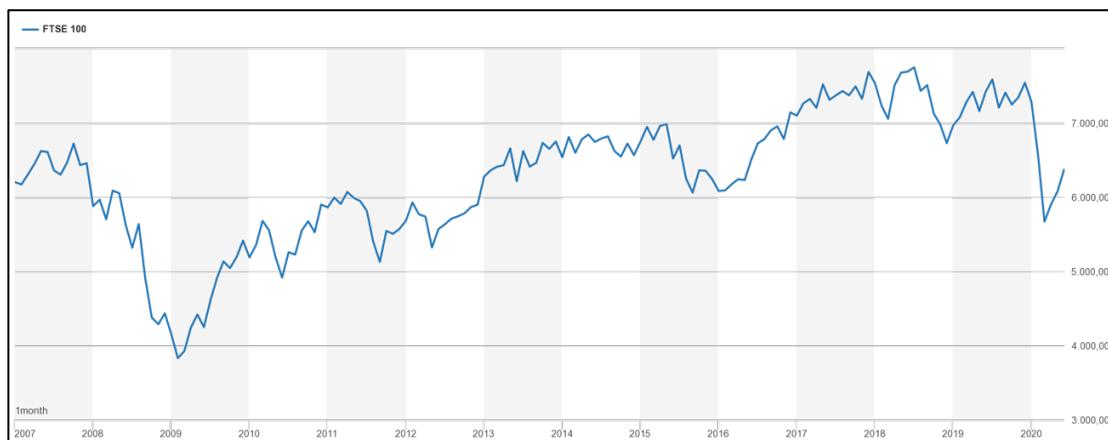
As for the Italian Stock Exchange, also the London Stock Exchange performance are measured using FTSE Indexes. In particular, the most widely used index is the FTSE100 which includes the 100 companies listed in the London Stock Exchange with the highest market capitalization. These companies represent 81% of the entire

¹²⁷ <https://www.londonstockexchange.com>

market capitalization of the London Stock Exchange and it is the most widely used stock market indicator.

As we can see from Figure 29, also FTSE 100 in the last 13 years have showed a certain degree of volatility, even though in a smoother way than FTSE MIB. This index reached its minimum in 2008, due to the global financial crisis which affected all the world's economies, and since that time it has experienced a great recovery period which have been interrupted only in 2012 with less dramatic effects than the Italian one and in 2016 with the decision of UK of exiting the European Union. After that, it has seen particularly high performance until 2020 with the spread of the COVID-19 Pandemic which caused the steepest fall ever happened to this index (about 30%). However, after this testing period in which the markets have experienced huge volatility, the first day after the lockdown, on the London Stock Exchange there were 2.9 million trades, the highest number ever recorded¹²⁸.

Figure 29: FTSE100 Performance 2007-2020



Source: <https://www.londonstockexchange.com>

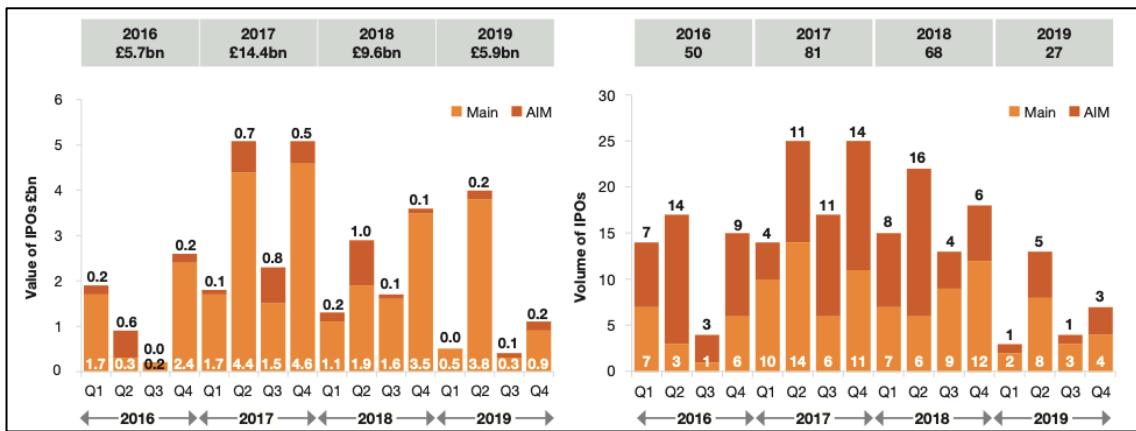
¹²⁸ <https://www.londonstockexchange.com>

3.2.3 *IPO's trends in the last years*

The London Stock Exchange is, since many years, at the first place for the number of IPOs in Europe in both values and volumes. However, despite its predominance, also in this stock exchange, IPOs have showed their waving trends, with periods of higher IPOs intensity and periods of lower concentration.

If we take a look at Figure 30, we can notice this trend particularly in the IPO volumes. Periods of lower intensity are those associated with the Brexit due to the higher uncertainty that this decision have brought; followed by higher concentration in volume of IPOs during 2017-2018. In 2019 the total proceeds raised through IPOs have decreased by 39% with respect to the previous year and also the number of IPOs has consistently decreased both in the Main Market and AIM, in line with the European trends¹²⁹.

Figure 30: UK IPO trends



Source: PWC, (2019), “IPO Watch Europe”

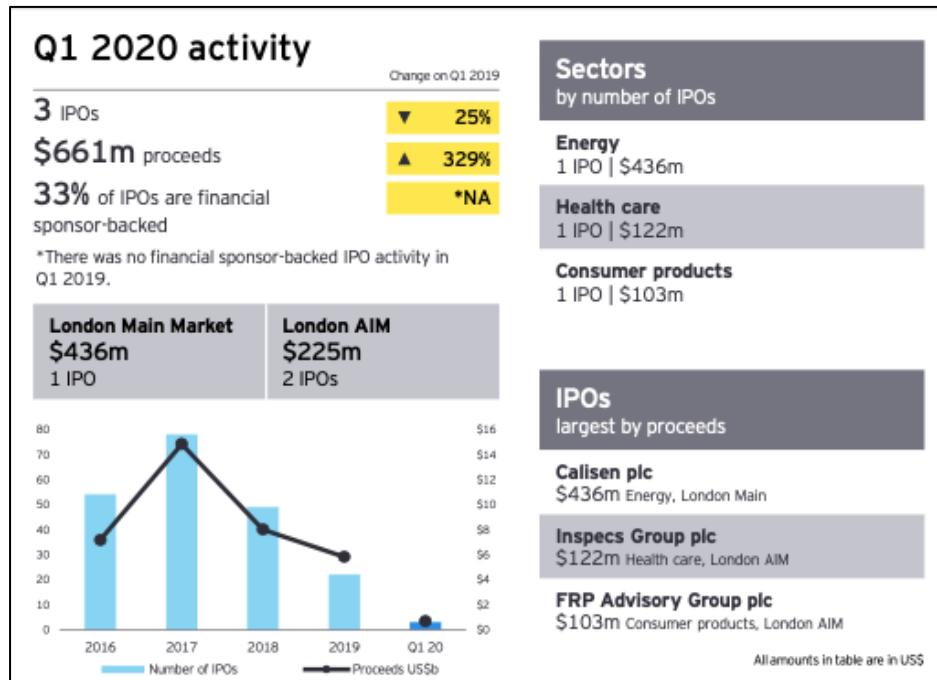
As for the 2020, the UK markets began to stabilize at the beginning of 2020 after years of uncertainty caused by UK general elections and Brexit. Just when IPOs that have been postponed for years started to see light, the market volatility increased again due to COVID-19 and tensions among competing oil nations.

So, despite the positive forecasts at the end of 2019, IPO activity in the first quarter of 2020 has been a lot quieter than it was expected with 25% of IPOs less than the first quarter of 2019 but 329% higher proceeds than the first quarter of the previous years due to larger average size deals, as is illustrated by Figure 31. However, since many

¹²⁹ PWC, (2019), “IPO Watch Europe”

companies have waited years in order to go public, there are positive forecasts about IPO activity once the market volatility will be stabilized¹³⁰.

Figure 31: UK IPO activity



Source: EY, (2020), “Is the beginning of the decade the end of the bull?”, https://www.ey.com/en_gl/growth/ipo-trends-2020-q1

In order to react to the economic crisis caused by the spread of the Pandemic, the UK government is responding with stimulus programs aimed at protecting the economy, while the Bank of England has reduced interest rates. However, in order to adapt to this new environment, the forecasts have predicted that it will be required at least other two quarters¹³¹.

¹³⁰ EY, (2020), “Is the beginning of the decade the end of the bull?”, https://www.ey.com/en_gl/growth/ipo-trends-2020-q1

¹³¹ EY, (2020), “Is the beginning of the decade the end of the bull?”, https://www.ey.com/en_gl/growth/ipo-trends-2020-q1

3.3 The Alternative Investment Market

The Alternative Investment Market (AIM) is a sub-market of the London Stock Exchange created in order to help smaller and more risky companies with high growth opportunities to have access to investor capital from the public market. The AIM exchange has a greater flexibility than the Main Market, making it possible to participate also for smaller companies¹³².

This segment was created in 1995 by the London Stock Exchange and it has emerged as one of the most successful growth markets in the world. This success is based on a simplified regulatory environment designed for the needs of small and emerging companies¹³³.

Since 2009, after the merger with Borsa Italiana it was introduced also in Italy with the name of AIM-Italia in substitution of the segment called “Expandi”. The AIM-Italia was regulated and managed by the Italian Stock Exchange. In 2012, after the merger with the MAC segment, was created a unique market called *Alternative Investment Market Italia - Mercato Alternativo del Capitale*.

From now on with the acronym AIM we will mean both AIM and AIM Italia.

Companies that decide to make an IPO on the AIM, are usually small companies that do not have access to private capital but, at the same time, do not satisfy the standard necessary to make an IPO on the regulated markets. On the other hand, investors, who decide to invest in companies listed on AIM, bear considerably more risks than those who decide to invest in bigger exchanges. This risk is derived from the fact that underlying regulations associated with the AIM's listing require lower standards to be respected than larger marketplaces. One example concerns the financial statements disclosure because, while the Main Market requires at least three years of audited financial statements to be disclosed, no such requirements exist for companies that want to make an IPO on AIM. As a result, shareholders who decide to invest in these companies have less information about the company they are investing in.

¹³² <https://www.investopedia.com/terms/a/alternative-investment-market.asp>

¹³³ PWC, (2019), “A guide to floating on AIM”

Moreover, the risk is even amplified by the fact that there is no minimum requirement with respect to public ownership, while in the main markets at least 25% of the shares must be owned by public investors. The lack of this requirement has a negative effect on liquidity, increasing the risk of investors¹³⁴.

How can companies make an IPO on AIM? The process of listing on the AIM is very similar to that of other marketplaces. These companies are regulated by AIM Rules for Companies which establish the requirements for the companies that are quoted or wish to be quoted on the Alternative Investment Market¹³⁵.

In particular, it establishes some requirements that companies have to follow:

- Appointment and retention of a Nominated Advisor (NOMAD) that has the duty of ensuring that the company is appropriate to be quoted and respects the AIM Rules for Companies. The period in which the NOMAD assesses the company appropriateness is called due diligence.
- Production of an admission document which provides useful information for investors about the company, the management, the shareholders and financial performance.
- Preparation of financial information for inclusion in the admission document. There is no obligation of disclosing at least three years of audited financial information, but the company can disclose the information that it has available.
- Sufficient working capital for at least 12 months after the admission date.
- Adequate financial reporting procedures.
- Profit forecasts and a plan¹³⁶.

As we can see there are much lower requirements than bigger markets reducing the costs of going public for smaller companies.

¹³⁴ <https://www.investopedia.com/terms/a/alternative-investment-market.asp>

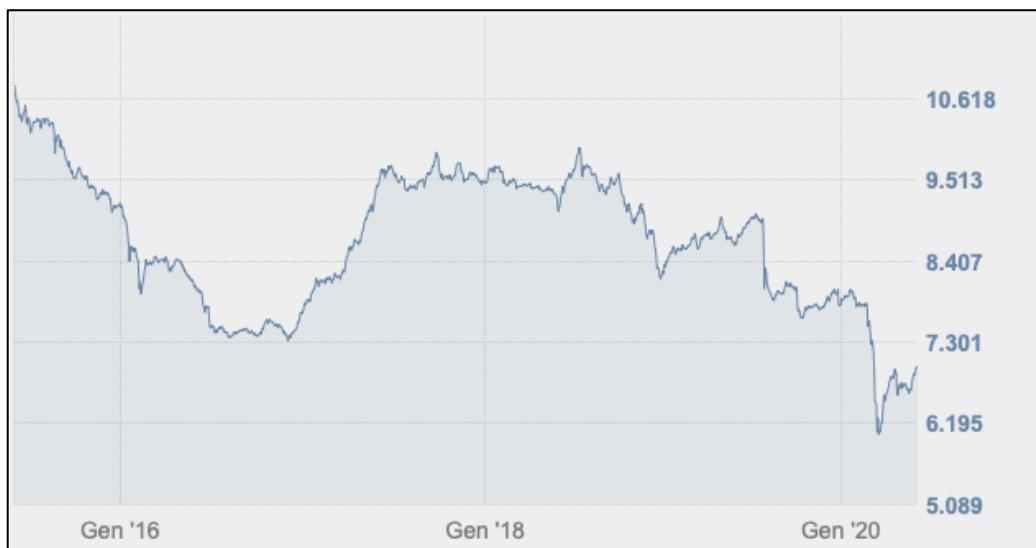
¹³⁵ PWC, (2019), “A guide to floating on AIM”

¹³⁶ PWC, (2019), “A guide to floating on AIM”

As of today, AIM Italia presents 130 companies operating in 10 different sectors with €3.9 million raised through IPO¹³⁷, on the other hand, AIM UK has more than 850 companies listed with a market capitalization of £104 billions¹³⁸.

The performance of the two AIM markets are evaluated using the FTSE AIM Italia, for the Italian market, and FTSE AIM UK Index, for the London Stock Exchange market. As we can see from Figure 32 and Figure 33, in the last 5 years these two markets have experienced pretty similar trends, which are also the same trends experienced by the bigger marketplaces, as we have seen in the previous sections. In particular, after the Brexit decision both markets have experienced a negative trend in performance which have been followed by a recovery period reaching its peak in the second half of 2018. After that, both markets faced a downturn in performance, accentuated by the economic shock brought by the COVID-19 Pandemic at the beginning of 2020.

Figure 32: AIM Italia Performance 2016-2020

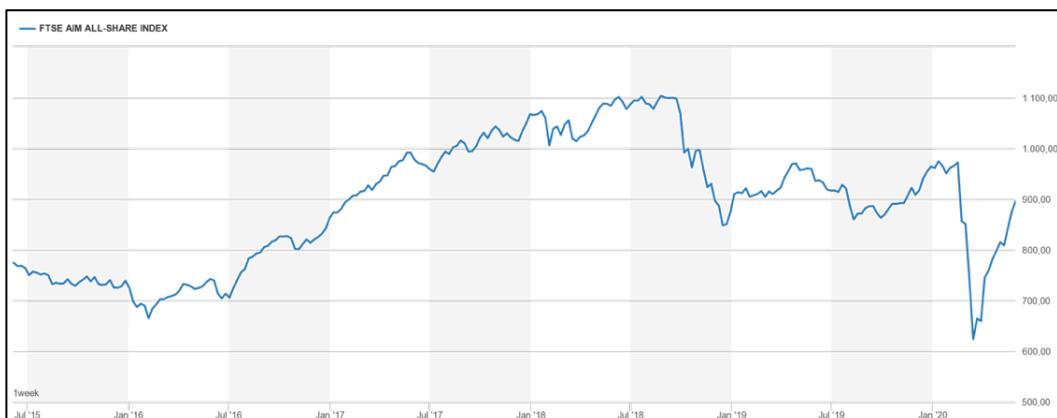


Source: <https://www.borsaitaliana.it>

¹³⁷ <https://www.borsaitaliana.it>

¹³⁸ <https://www.londonstockexchange.com>

Figure 33: AIM UK Performance 2016-2020



Source: <https://www.londonstockexchange.com>

3.3.1 AIM Italia- Mercato Alternativo del Capitale

As introduced in the previous paragraph, AIM Italia is the Multilateral Trading Facility of Borsa Italiana which is aimed at small and medium enterprises with high growth potential. This market was created in March 2012 through the merger of two preexisting markets of the Italian Stock Exchange: AIM Italia and MAC, in order to provide a better offer to small and medium companies with a single Italian market for the more dynamic and competitive SMEs.

This market has assumed a great importance in Italy because its economy is composed for the majority by small and medium enterprises which provide for 80% of the total employment and two thirds of the added value for the manufacturing sector, where these companies are more concentrated¹³⁹.

These companies, so, can find in AIM a public market in which to raise capital in order to finance their growth projects. Moreover, the decision of going public is associated by many advantages like a greater visibility and an enhanced reliance for stakeholders, the compliance with Borsa Italiana regulation, in addition, leads to the adoption of best practices which strengthen the company's position. Other advantages are to expand the company's horizon and obtain an international dimension, to obtain an objective market

¹³⁹ Borsa Italiana, (2013), “AIM Italia, the market of doing business”

valuation of the company's performance and to attract new talents who want to start a career in a competitive and professional environment¹⁴⁰.

On the other hand, in order to be listed in these markets, companies need to comply with some requirements.

These requirements can be subdivided into two subgroups: substantial requirements and formal requirements. The formers refer to the real growth process and the company's internal control while the latter are those directly formulated by Borsa Italiana for AIM Italia which is the equity market with the greatest flexibility in terms of requirements.

The substantial requirements are qualitative requirements about the company which are assessed once it expressed its intention to be listed on the AIM Italia market and are:

- Ability for value creation;
- Sustainable and reliable strategy;
- Transparent accounting;
- Strong and competitive positioning;
- Independent management control system;
- Growing revenues and margins;
- Experienced management;
- Strong financial structure.

All these characteristics are required in order to allow the access only to the most competitive and the most growth-oriented companies among SMEs and to ensure investors about the reliability of the companies in which they want to invest.

As far as the financial requirements are concerned, they are divided between the requirements that the company has to possess at the moment of IPO and those that it needs to maintain after the IPO.

The companies which want to be listed onto AIM Italia need to respect the following requirements at the moment of the IPO:

- It must have a Free Float of 10%, meaning that it needs to have 10% of its existing shares available to be publicly traded and not restricted.

¹⁴⁰ <https://www.borsaitaliana.it/azioni/mercati/aim-italia/perche-aim-italia/percheaimitalia.htm>

- It must present one Certified Financial Statement, but only if it exists.
- It needs to follow either the Italian, the American or the International accounting principle for the production of its financial statements.
- It needs to provide an admission document which provides useful information to investors but not a Prospectus.
- It is required to possess a website in which investors can gather information about the company.

Once the IPO process has been completed, in order to remain listed the companies need to fulfill some further requirements.

Firstly, the company must nominate a Nomad which assists and support the company both through the IPO phase and as long as it remains publicly traded on the market. Usually a Nomad can be a bank, an investment firm or even a company included in a network of auditing firms. Its functions involve to supervise the due diligence process for the issuer in order to release the compliance declaration which certifies that the company complies with all the formal and substantial requirements, it supports the issuer in the process of managing the IPO, in particular to prepare the admission document. After the IPO, the Nomad assists and supports the company to comply with all the requirements and responsibilities coming from AIM Italia Regulation.

The second requirement regards the appointment of a specialist who act as liquidity provider who has the duty of granting the market liquidity of the shares.

It is not required for the company to disclose quarterly financial statements, as it is required for companies listed on the main market instead, but they need to provide Half Year Data within three months after the half year closing, and Annual Data within 6 month after the year closing. The financial statements must be inspected within six months, while the Half Year Data are not mandatorily inspected, but they may be subject to elective legal inspections within 3 months.

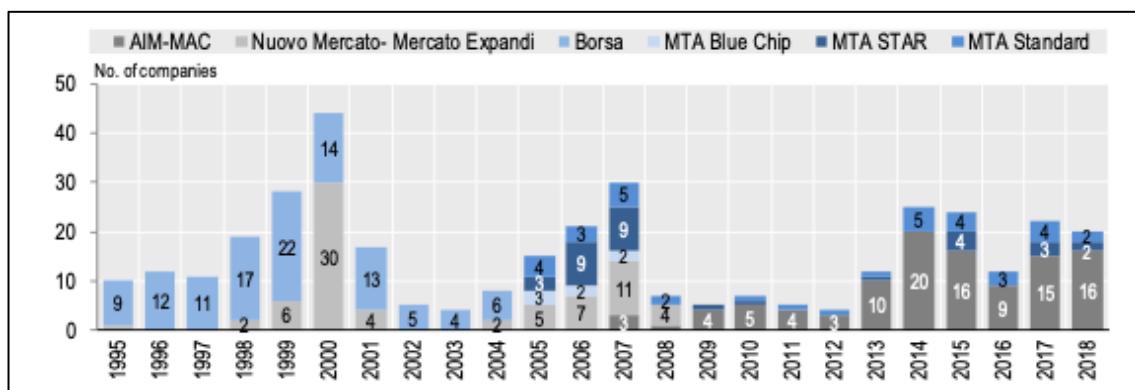
Among the other legal requirements that the company has to respect after the IPO there is the obligation to communicate, as soon as possible, all the information that might affect the market price of the shares, like for example acquisition or sale of assets, changes in key managers, etc., and, in case of operations of important impact on the issuer, also informative documentation in support of the operation is required.

Moreover, in order to have a correct and clear market management the issuer must communicate all the technical information like for example: calendar of company's events, change of company name or change in share capital¹⁴¹.

Thanks to these lower requirements, it is possible and, above all, less costly also for SMEs to be listed and to have access to the capital needed to pursue their growth opportunities. As of today, the AIM Italia hosts 130 companies distributed into 10 different sectors with 3.9 billion of euros raised through IPO and a total capitalization of 6.1 billion euros.

In order to look at the incidence of the IPO on the AIM market over the total IPO performed in Borsa Italiana we propose again a figure already used to discuss previous topics during this thesis.

Figure 22: IPOs in the period 1995-2018



Source: OECD Capital Market Series Dataset

By looking again at Figure 22 we can see how the incidence of IPOs in AIM market, previously MAC, has increased in the last 10 years overpassing the number of IPOs in the other segments of the Italian Stock Exchange. More precisely, in 2007 there were only 3 IPOs on this market compared with the total number of IPO of 30, meaning 10% of the IPOs occurred in the MAC market. On the other hand, since 2013, year of introduction of the AIM, the number of IPOs increased considerably, just think that 10 out of 10 IPOs occurred on this market. This trend has been maintained during the last 8 years where the total number of IPOs on the AIM market has remained higher than the IPOs on all the other markets, highlighting the importance that this market has particularly in Italy.

¹⁴¹ <https://www.borsaitaliana.it/azioni/mercati/aim-italia/requisiti-aim-italia/requisiti-aim-italia.htm>

3.3.2 Alternative Investment Market – London Stock Exchange

The Alternative Investment Market has a pretty longer history in the London Stock Exchange. It was created in 1995 with only 10 companies and an aggregate value of £82 million and it has managed to become the world's most successful and established market for dynamic high growth companies. Differently from AIM Italia, this market as of today hosts a pretty larger variety of companies; it counts with more than 850 companies, and has supported more than 3,700 companies in total over its lifetime, the companies come from more than 90 different countries and 40 different sectors with a combine market capitalization amounting at about £95 billion. Moreover, it is important to remark that 60% of all the money raised on this market come from secondary issues proving the long-term relationships that have been created with the investors.

Thanks to this market high-growth and dynamic companies which seek to prioritize innovation and growth can have access to the capital needed without incurring into loans which could be suitable for big and established companies but not for these companies¹⁴². Small and medium enterprises, with high growth potential, moreover, are able to raise cash from the AIM market at considerably lower costs than the main market due to the low requirements that these companies need to fulfill.

The listing requirements for this market are non-prescriptive, meaning that there is neither a minimum public float required nor minimum initial equity, furthermore, it is not required a minimum market capitalization or a minimum level of profitability.

The only requirement is the appointment of a Nominated Adviser who is in charge of evaluating the suitableness of the company in order to be listed on this market. The Nomad must be retained in the company for all the period in which it intends to remain listed on this market as it has the function of providing advice in order to comply with all the requirements arisen during the listing period¹⁴³.

In the case in which the company do not have such Nomad the Exchange will suspend the trading of its securities on the AIM market; moreover, if, within one month since the

¹⁴² London Stock Exchange Group, (2018), “A Guide for Entrepreneurs: how to access the world's most successful growth market”

¹⁴³ <https://www.londonstockexchange.com/raise-finance/equity/how-list-equity-listing-journey/role-of-advisers-on-aim>

suspension, the company has not yet appointed a new Adviser, the admission to the AIM market will be revoked.

In order to compensate to these lower requirements, AIM companies must fulfill some disclosure obligations.

The company that wish to enter the AIM market must prepare, together with the Nomad, an admission document with all the relevant information about the company and its shares, like for example the company's website, the name of the Nominated Adviser, a description of any significant change that has occurred since the publication of the last financial statement, etc..

After being listed, the company must communicate to the Exchange any development which is not public knowledge which may affect the price of the company's shares, these events can include: changes in financial conditions, changes about the sphere of activity, in the current performance or in the expectations about future performance. In addition, it must communicate every relevant change which occurs to the significant shareholders, information about resignation, dismissal or appointment of new directors, the resignation, dismissal or appointment of the Nomad or broker and any change on the company's website address.

As for the financial information, before the IPO the company must disclose the audited financial information covering the last three financial years, while, after the IPO, the company must disclose its first half-yearly report within six months after the end of the financial period for which financial information has been disclosed in the admission document and at least every subsequent six months thereafter.

Moreover, an AIM company must publish annual audited accounts which must be sent to the shareholders not later than six months after the end of the financial year.

As far as the standards to be adopted are concerned, all the companies which are incorporated in an EEA country must present its financial information according to the International Accounting Standards, on the other hand, the companies incorporated in any other country must present its financial statements in accordance with either: International Accounting Standards, US GAAP, Canadian GAAP, Australian International Financial Reporting Standards or Japanese GAAP¹⁴⁴.

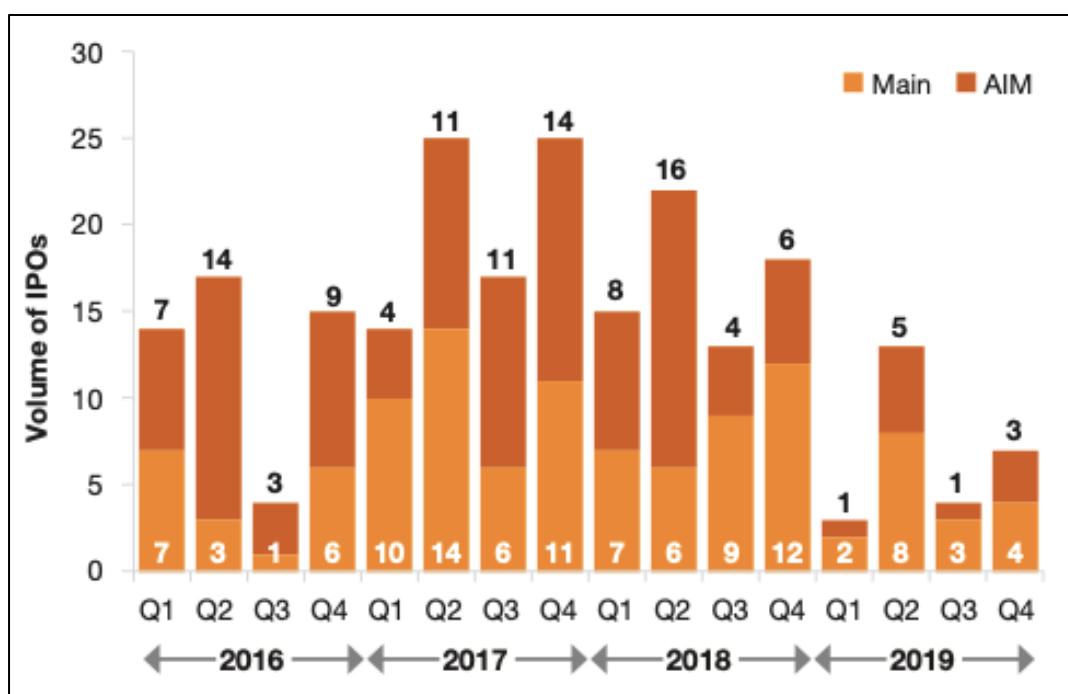
¹⁴⁴ London Stock Exchange Group, (2018), "AIM Rules for Companies"

The last requirement concerns the Corporate Governance: a company admitted to AIM is expected to adhere to a Corporate Governance Code, usually they decide to adopt the Quoted Companies Alliance governance code for small and mid-sized companies.

This code requires that the board of directors is composed by a minimum of two independent non-executive directors and for the audit committee to be chaired by an independent director with recent relevant experience¹⁴⁵.

Thanks to its flexibility, this market has gained a relevant position for new companies that want to raise capital to support their high growth projects. This can also be seen by the high incidence that IPOs in this market have to the total number of IPOs.

Figure 34: AIM IPOs Incidence in the last 4 years



Source: PWC, (2019), “IPO Watch Europe”

If we look at Figure 34, we can see how in the last 4 years the number of IPOs on this market have exceeded the number of IPOs in the Main Market in almost all quarters, except for 2019, when the number of IPOs have decreased generally.

The greatest concentration can be individuated in particular during 2017 and 2018 when the AIM IPOs concentrations were respectively 60.49% and 47.06%.

¹⁴⁵ London Stock Exchange Group, (2015), “A Guide to AIM”

IV. Empirical Analysis

The last chapter of this thesis concerns the empirical analysis that have been developed in order to individuate how the corporate governance and the performance have influenced the dividend policy before and after the Initial Public Offering.

In particular, this analysis is focused on the companies listed on the two Alternative Investment Markets in order to individuate eventual differences that may arise between these two Exchanges. The AIM stock exchanges are not widely considered by the existing literature and represent an interesting starting point for our analysis.

Starting from the existing literature that has been analyzed in the previous chapters about the effects of corporate governance and IPO on dividend policy and how they change after the IPO, it has been created four datasets containing both financial and non-financial data of the period 2013-2019 about all the companies that have made an IPO in the last five years on the two AIM markets, all the information have been obtained both by the ORBIS database and the annual reports disclosed by the companies. The data have later been analyzed using R Studio in order to discover the possible existing effects that the different variables have on dividends and if and how these effects have changed after the IPO, the results of the two different Exchanges have been compared in order to detect the existing differences between the two markets. Finally, some hints for future researches have been provided.

4.1 Methodology

In order to provide an analysis which reflects as much as possible the reality, it has been decided to include in the research all the companies that have made an IPO during the period 2015-2019 both on AIM Italia and AIM-London Stock Exchange. The information, in order to individuate such companies over which to construct the dataset for the analysis, have been taken from the official website of Borsa Italiana¹⁴⁶ and London Stock Exchange¹⁴⁷ respectively in the section dedicated to AIM IPO.

¹⁴⁶ <https://www.borsaitaliana.it/borsa/azioni/ipo/tutte-le-ipo.html?lang=it>

¹⁴⁷ <https://www.londonstockexchange.com/live-markets/new-issues>

The results obtained are 101 companies for the AIM Italia market and 173 companies in the AIM-LSE market. The companies will be introduced more precisely in the next section.

After having individuated the companies that will be the subject of our analysis, some information about the country and the year of incorporation, their size and the sector in which they operate have been gathered that will be useful in order to give an explanation to some of the differences that may result from the analysis.

After having analyzed the literature and detect how dividends are influenced according to the generally accepted theory, 16 variables of interests have been selected that will compose the dataset. These variables are presented in the next section.

The fourth and clearly more difficult and time-consuming step has been the data gathering one, the data have been collected using ORBIS database (edited by Bureau van Dijk) which allows the user to collect homogeneous financial data about a selected period of time. The missing data have been filled, where possible, with the information disclosed by the company in their financial statements available on the respective company's website.

As for the data related to the corporate governance, they have been collected, as much as possible through the ORBIS database which does not allow to have access to any historical data about corporate governance. Moreover, the spread of the Covid-19 Pandemic and the subsequently derived quarantine has not provided any opportunity to find alternative solutions to gather such missing data.

Due to the lack of availability of some information it has been necessary, in order not to influence the analysis, to exclude from the datasets those companies for which no pre-IPO information were available and those with 2 or less years of information available.

The data have been subdivided into 4 datasets:

- *AIM Italia pre-IPO*: containing all the pre-IPO data gathered about the companies that have made an IPO in the last 5 years in the AIM Italia Exchange;

- *AIM Italia post-IPO*: containing all the post-IPO data gathered about the companies that have made an IPO in the last 5 years in the AIM Italia Exchange;
- *AIM London Stock Exchange pre-IPO*: containing all the pre-IPO data gathered about the companies that have made an IPO in the last 5 years in the AIM Stock Exchange;
- *AIM London Stock Exchange post-IPO*: containing all the post-IPO data gathered about the companies that have made an IPO in the last 5 years in the AIM Stock Exchange.

The post-IPO datasets contain all the companies information from the year of the IPO until the fourth year after the IPO has been completed, on the other hand the pre-IPO dataset contain all the available information from the sixth year before the IPO to the year immediately antecedent the listing process have been completed.

Once all the datasets have been created, the data have been analyzed performing first some descriptive statistics analysis and then running some multiple regressions using R Studio, in order to identify which, among the 16 variables, have the most statistically significant influence on dividends and how this effect changes after the IPO, these tests have been performed for each of the four datasets and the results have been compared and discussed. Among the different regressions, it has been taken the most significant ones by looking to the R-squared coefficient. Then, it has been deeply tested the linearity assumptions and assured that no multicollinearity biased the models. The results for each dataset have been discussed making comparisons both across time in the same exchange and across the two different stock exchanges.

At the end of the discussion, further issues for future researches have been provided.

4.2 Datasets and descriptive statistics

4.2.1 AIM Italia datasets

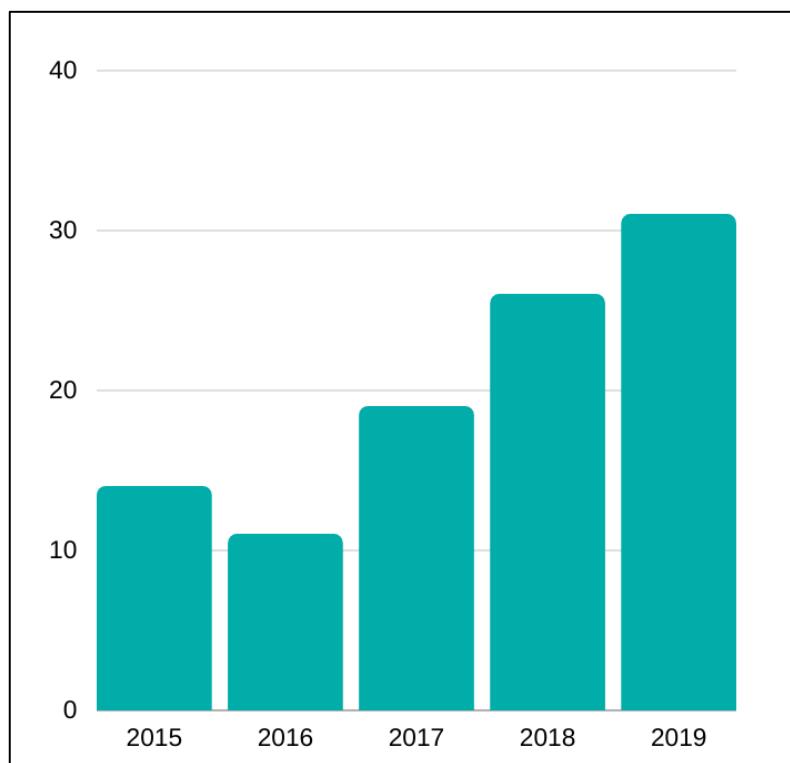
As previously mentioned, as far as the AIM Italia is concerned, according to the Borsa Italiana official website, there has been 101 companies that have performed an IPO in the

5-year-period 2015-2019 (A complete list of all the companies can be found in the Appendix A of this thesis).

Among these companies, some analyses have been performed in order to individuate differences and complementarities among the different datasets.

The first aspect of interest has been to individuate how the IPOs have been distributed over the 5 years. How can be seen from Figure 35, 56.44% of the IPOs have been concentrated in the last two years of observation with respectively 26 and 31 IPOs and the year of lower IPO concentration has been 2016 with only 11 IPOs performed. Another curious information that has been deducted from this dataset is that all the companies which made an IPO in this market are incorporated in Italy.

Figure 35: Year of IPO

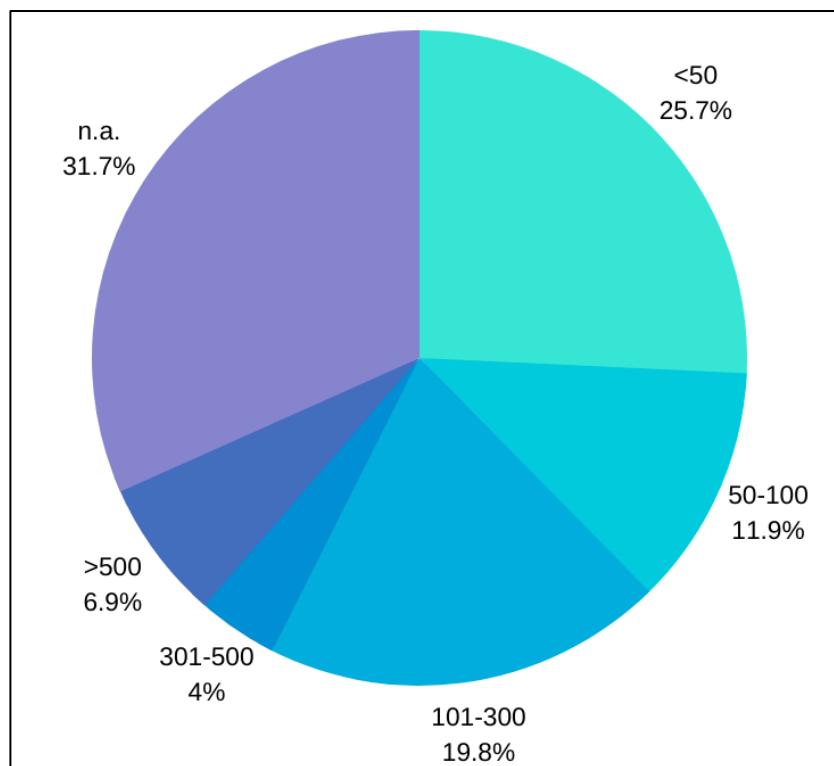


The second aspect of relevance has been to consider how many of these companies are currently still in activity, otherwise it will create a bias on our analysis. From this test has emerged that 5 companies are currently inactive while 6 companies have been delisted in the last years; these companies have been removed from our databases to avoid any possible influence.

It has been then considered the maturity of our companies, subdividing for simplicity among the companies with more than 10 years of operations and those with less than 10 years. The results are pretty in balance with 57 out of 101 (56.43%) companies that have been incorporated before 2010 and 44 (43.56%) companies incorporated after 2010, providing evidences, not surprisingly given the characteristic of this exchange, that a great part of these companies is on early stages of its maturity.

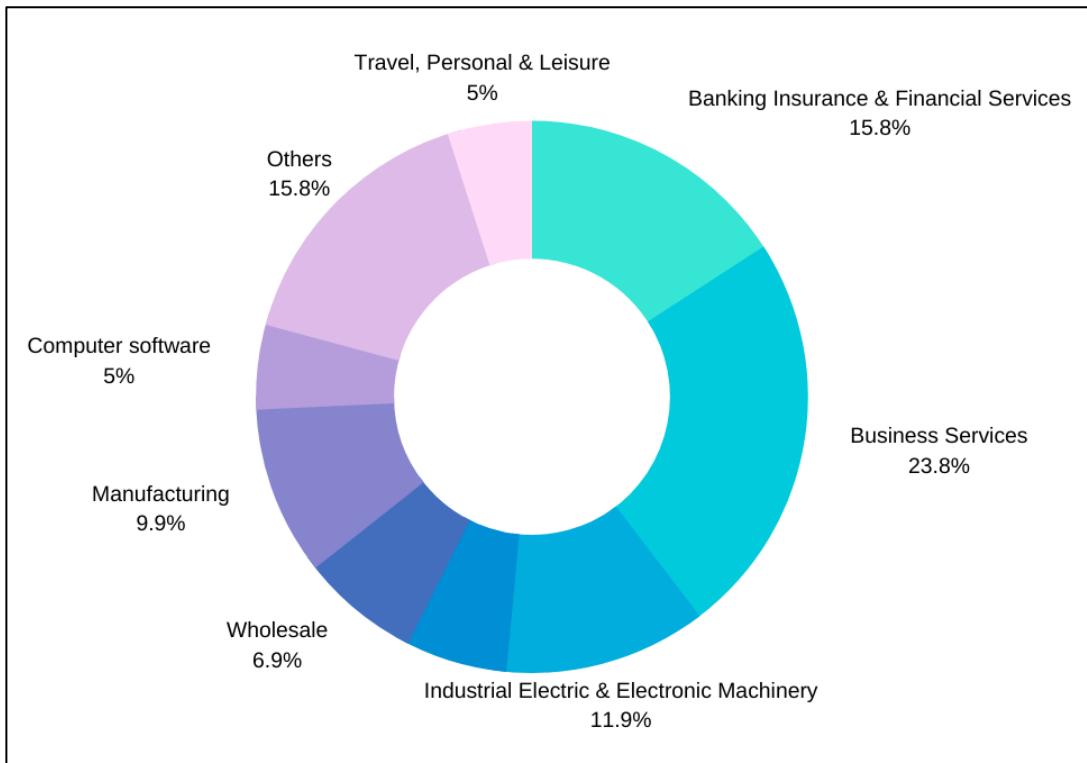
Moreover, for what concerns the sizes of the companies, it has been considered the number of employees at year end 2019 as main determinant for their sizes and, despite the lack of considerable amount of data as 32 companies have not such data available in ORBIS database, most of the companies have less than 50 employees, still a not surprising result given the propension to SMEs of AIM, this result is also illustrated by Figure 36.

Figure 36: Company size



As for the activity the companies are equally subdivided between services providers (50.50%) and providers of goods (49.50%), but, more precisely, by looking into the sector of operation, a more detailed analysis can be performed.

Figure 37: Industry subdivision



The companies composing the two Italian datasets have been reorganized according to BvD sectors developed by ORBIS database. According to what described by Figure 37 and more in detail by Table 57 in Appendix A, the majority of the companies that have made an IPO in the last 5 years on AIM Italia operate in the Business Services sector thanks in particular to the technological development that has made different and more complicated companies' needs to arise, making it possible for more companies in this sector to grow, this sector is then followed by the Banking Insurance & Financial Services, while the Manufacturing sector, where most of the Italian SMEs operate, has attracted only 9.9% of the companies subjects of this analysis.

Having individuated and analyzed the qualitative characteristics of the first two datasets, some choices have been needed concerning whether to exclude some of these companies from the analysis.

In order to avoid any possible bias, it has been decided to exclude only those companies which provided less than 2 years streams of data or do not provide any data concerning the pre-IPO period making it impossible to make the comparison between the two phases.

As a result, the resulting dataset, so contains 82 companies with a quite complete package of data useful for the analysis.

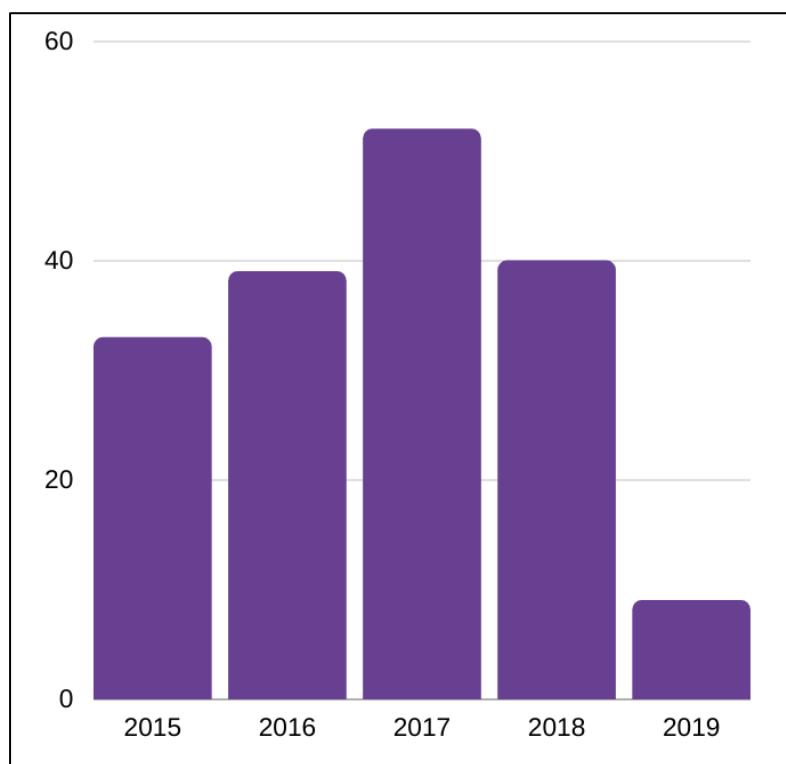
4.2.2 Alternative Investment Market Dataset

In the Alternative Investment Market regulated by the London Stock Exchange, there has been a considerably higher number of IPO in the last 5 years due also to the variety of provenience of the different companies in this market and the longer and outstanding existence of this market in the London Stock Exchange.

Also for this dataset, some qualitative analyses have been provided in order to detect the main characteristics of the data.

This dataset is composed by 173 companies that have made an IPO on the AIM-London Stock Exchange Market in the period from 2015 to 2019. Among these companies, only two of them are currently inactive while 11 of them have been delisted in the last years. In order to avoid any kind of bias to the analysis, it has been decided to exclude such companies from the dataset.

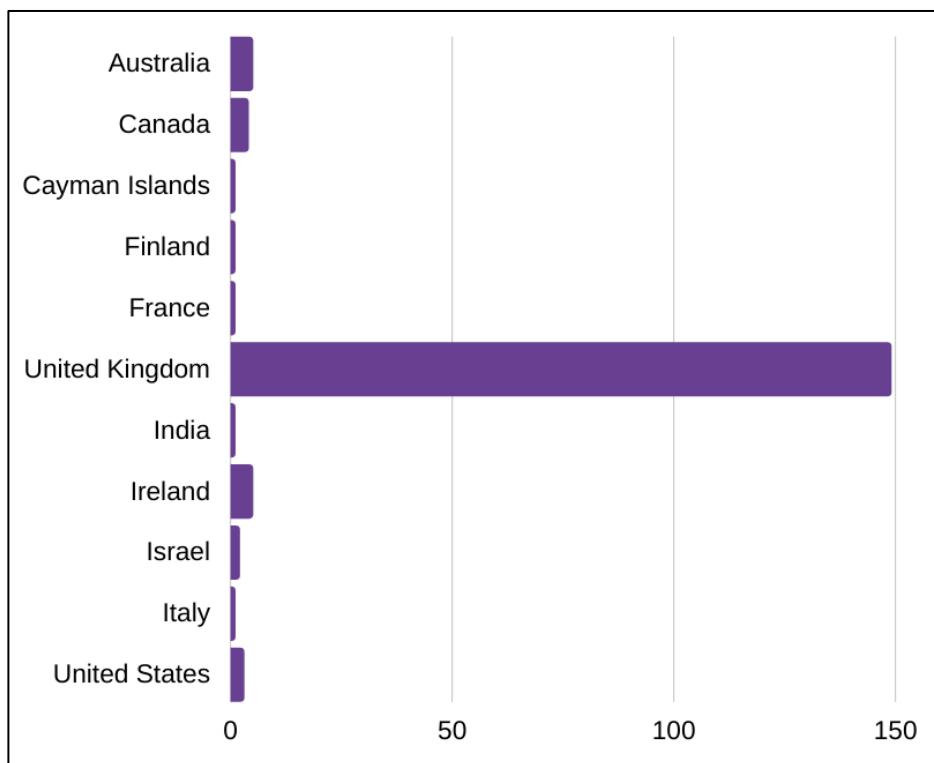
Figure 38: Year of IPO



According to Figure 38, the last 5 years trend of IPOs have been pretty different by the Italian one, while the Italian AIM have seen an increasing trend in the last five years, this market showed a peak in 2017 with 52 companies listed and its lowest point in 2019 with only 9 companies.

As for the country of incorporation, while in the Italian market only Italian companies were founded, in this market, as already mentioned there is a greater variety.

Figure 39: Companies' by Country



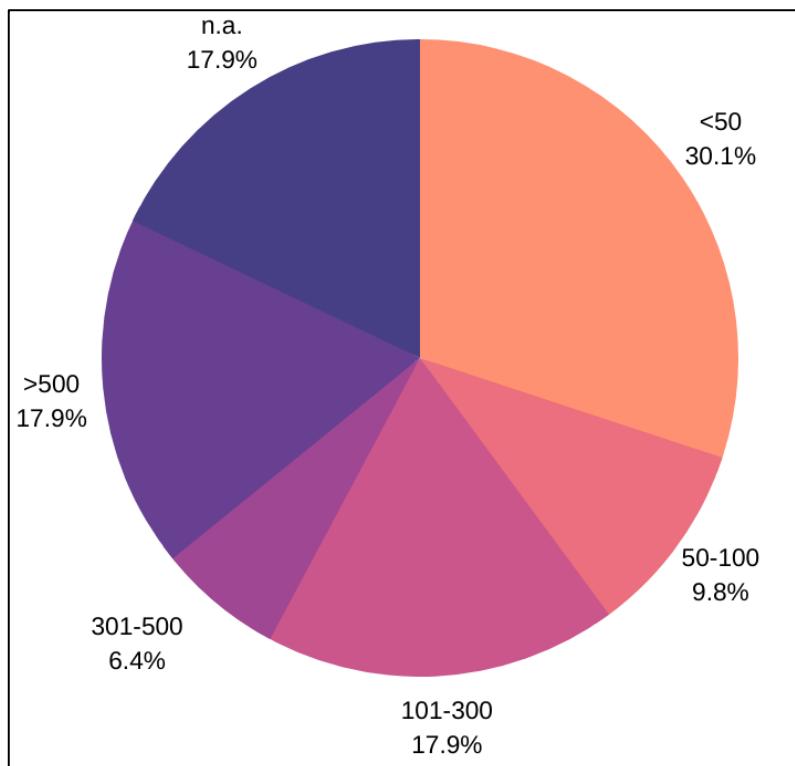
By looking at the graph in Figure 39, it can be noticed that even though, unsurprisingly, the majority of the companies that made an IPO on this market are from the United Kingdom, there is a minority of them coming from different countries like: Australia, Canada, Ireland or the United States.

Also for this dataset, it has been analyzed the maturity stage of the companies subdividing them into two groups: those that have been incorporated less than 10 years ago and those incorporated before 2010.

From this analysis a different result has been obtained as 64.74% of the companies have less than 10 years of activity demonstrating that they are at an early stage of their lifecycle. This characteristic is clearly explained by the absence of particular requirements needed in order to have access to this market making it possible and less costly also for companies at early stages of their growth to have access to this market.

For what concerns the size of the companies composing the dataset, also in this case it has been used the number of employees at the end of 2019 but a substantial amount of data (31) was not available in the ORBIS database, as a result, it has been possible to produce only a partial analysis. Despite the lack of information, it can be seen by Figure 40 how there is a great predominance of small companies with less than 50 employees, due to the main characteristic of this market of supporting SMEs in their growth opportunities.

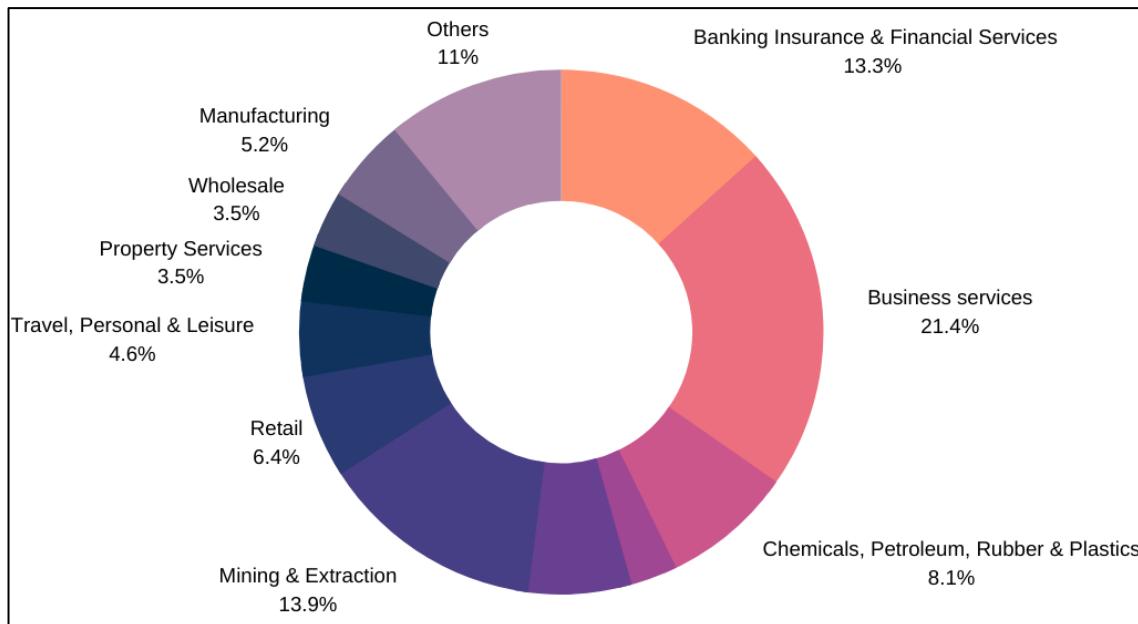
Figure 40: Company Size



As far as the activity in which these companies are employed, there is still a difference compared to the Italian market, 56.07% of them are good providers while only 43.93% of them are engaged in the sector of providing services.

In order to be more specific, also this dataset has been subdivided according to BvD sectors developed by the ORBIS database, in order to have a greater understanding about the sectors in which these companies operate.

Figure 41: Industry Subdivision



By looking at Figure 41 and Table 97 of Appendix B, it can be noticed a peculiarity with the Italian Market about the predominance of companies employed in the Business Services sector, due to the greater importance that this sector is having in the last years, on the other hand the second most important sector is the Mining & Extraction one due to the soil richness of some of the countries where the companies listed in this market have been incorporated. Moreover, not surprisingly, 13.3% of the companies that have made an IPO in the last 5 years are employed in the Banking Insurance & Financial Services sector, a sector of considerable importance for both the markets subjects of the analysis.

In order to avoid any possible bias, it has been decided to exclude only those companies which provided less than 2 years streams of data or do not provide any data concerning the pre-IPO period making it impossible for the comparison between the two phases to be made.

As a result, the final dataset contains 146 companies with a quite complete package of data useful for the analysis.

4.2.3 *Descriptive Statistics*

In order to detect which effects performance and corporate governance have on dividends and how these effects change after the IPO and to compare these effects across the two Alternative Investment Markets, the following variables have been considered:

- Variables describing dividends' effect:
 - *Dividend Payout Ratio (payout)*: this variable has been obtained as the proportion between the total dividends paid by the company and the net income of the relative financial period, this has been used as the dependent variable for the analysis as it is the most descriptive indicator of the amount of dividends that the company's has paid during the period;
 - *Total Cash Dividends paid (div)*: this variable represents the total amount of dividends paid during the financial year of reference, it has been used as dependent variables for some of the analyses when it has demonstrated to be a more significant indicator, it will be better described in next paragraphs.
- Variables describing the financial performance:
 - *Operating Revenues (oprev)*: it represents the total amount of operating revenues that the company has recorded during the financial year;
 - *Net income (netinc)*: it is composed by the records of all the companies' net income gained in the period of reference;
 - *Return on Asset (ROA)*: it has been computed as the percentage of the net income over the total assets, it is an indicator of how profitable a company is relative to its total assets, this variable has been considered as it is a very predictive indicator about the company's management actions, in particular it shows how efficient the management is at using its assets to generate earnings;
 - *Total Assets (totasset)*: this variable represents the amount of assets that the company has recorded in its financial statements at the end of the financial period;
 - *Equity ratio (eqratio)*: it is the percentage of shareholders' funds over total assets. This variable has been considered as it describes the strength of equity's

owners in making decisions regarding the company. Governance mechanisms, in fact, may affect the level of indebtedness of a firm, because managers may prefer less leverage than is optimal, as debt limits managerial flexibility¹⁴⁸. Therefore, the higher the equity ratio is, the higher the strength of company's owners. Moreover, the level of debt can represent an effective corporate governance mechanism, as mentioned in the first chapter, because creditors' monitoring prevents managers from accepting excessive debt financing to finance unprofitable investments¹⁴⁹. However, this is true only when there is a clear separation between ownership and control¹⁵⁰, meaning that when ownership is highly concentrated, the effectiveness of debt as control mechanisms is considerably reduced¹⁵¹;

- *Leverage (leverage)*: this variable is computed as the percentage of net debt over the total equity of the company, as the equity ratio, this variable is a very useful indicator of corporate governance as it represent the amount of debt that the firm uses to finance its assets, so it is an indicator of the level of indebtedness of the company, providing strong insights on the level of control;
- *Shareholders' funds (sharefund)*: this indicator provides information about the total amount of funds provided by the shareholders of the company, together with equity ratio and leverage, it represents the strength of controlling shareholders;
- *Return on Equity (ROE)*: computed as the proportion of net income over the company's total equity, it is also considered as the return on net assets, since equity is derived by subtracting to the total amount of assets the total debts assumed by the company. It is an efficient indicator of the goodness of corporate governance, and a useful predictor of company's performance, as it

¹⁴⁸ Jensen, M. C., (1986), "Agency costs of free cash flow, corporate finance and takeovers" *American Economics Review*, 76, pp. 323-339

¹⁴⁹ Mantovani, G.M., Moscato,G., (2019), "Shareholder composition, corporate governance and their monitoring effects on firm performance"

¹⁵⁰ McConnel, J., Servaes, H., (1995), "Equity Ownership and the Two Faces of Debt", *Journal of Financial Economics*, 39, pp. 131-134

¹⁵¹ Mantovani, G.M., Moscato,G., (2019), "Shareholder composition, corporate governance and their monitoring effects on firm performance"

measures how efficient management is using the company's net assets to produce earnings.

- *Net debt (netdebt)*: it is an indicator of how well a company can pay all its debts if they were due immediately, more precisely, it shows how much cash would remain if all the debts were to be paid immediately;
- *EBITDA (EBITDA)*: also known as earnings before interests, taxes, depreciation and amortization, is a measure of the company's overall financial performance as an alternative to earnings or net income, on the other hand, it can also be a misleading indicator as it does not consider the cost of capital investments. Moreover, EBITDA is a rough approximation of the company's cashflow.

- Variables' describing corporate governance:

- *Number of Shareholders (shareholders)*: this variable is an indicator of the ownership dispersion, as the more the shareholders are, the less ownership is concentrated. Furthermore, this indicator is highly influenced by the IPO decision, as when the company decides to go public, this number increases leading to a greater dispersion;
- *C-3 Index (c3)*: This is another useful variable in order to measure the degree of ownership concentration as it is computed by summing up the percentage of direct control of the three largest shareholders of the company. As for its interpretation, the larger the resulting number is, the more the shares are concentrated in the hands of a few shareholders, resulting in a more concentrated ownership¹⁵². As far as its effect is concerned, there is still not a clear understanding of the kind of relationship that exist between ownership concentration and corporate governance. As a greater concentration means less separation between ownership and control, but, on the other hand, it would result in a better

¹⁵² Mantovani, G.M., Moscato,G., (2019), "Shareholder composition, corporate governance and their monitoring effects on firm performance"

control against agency problems, as it has been widely discussed in the first chapter¹⁵³;

- *Percentage of Institutional Investors (instinv)*: this variable shows the percentage of institutional investors over the total amount of shareholders of a company. For institutional investors, it has been meant, according to the ORBIS database, all the investors who fall in one of the following categories: Banks, Financial Companies, Public Authority, State and Government Mutual & Pension funds, Insurance companies, Trade & Industry organizations, Foundations/Research Institutes, Private Equity Firms, Venture Capital and Hedge Funds. Since institutional investors are expected to be highly skilled and well- resourced professionals, the higher this variable is, the better the corporate governance of the company. Moreover, the higher the stake of the institutional investor over the company, the larger its influence over corporate governance¹⁵⁴.

As far as the corporate governance is concerned, there has been a set of other variables that should have been included in the analysis which would have allowed to reach a more significant result, but it has not been possible to have access to historical data of such variables like for example: Bvd Independence Index, CEO Duality, presence of managers in the ownership structure and Board of Directors' size.

All the variables, for simplicity, are expressed in Euro in order to make possible their comparison across country.

To study the dataset, it has been performed some descriptive statistics with the help of the R Studio software. First of all, attention must be put to the five-number summary, which is a set of descriptive statistics that provides information about measures of positions of the variables. It consists in the five most important sample percentiles: the sample minimum (smallest observation), the lower quartile or first quartile, the median (the middle value), the upper quartile or third quartile and the sample maximum (largest

¹⁵³ Jensen, M.C., Meckling, E.W., (1976), "Theory of the Firm: Managerial Behavior, Agency Costs and Capital Structure", *Journal of Financial Economics*, 3, pp. 305-360

¹⁵⁴ Mantovani, G.M., Moscato,G., (2019), "Shareholder composition, corporate governance and their monitoring effects on firm performance"

observation). By subtracting the first quartile from the third quartile it can be obtained the interquartile range, which helps to describe the spread of the data, and determine whether or not any data points are outliers (values outside the upper and lower limits of the datasets $Q_1 - 1.5 \times IQR$; $Q_3 + 1.5 \times IQR$). All the boxplots are presented in the Appendixes A and B. Looking at the boxplots in the Appendixes A and B, it can be seen that there are very high or low values with respect to the other ones, meaning that there are some outliers.

Some variables have several outliers due to the fact that different companies have different sizes and, in absence of particular requirements for entering in this market, present different levels of performances. All these results are perfectly correct and expected, because it is true that this high or low numbers are due to some particular features of the companies under observation, that are visible only with a simple and basic analysis of the datasets. The five-number-summaries are presented for comparison in the following figures.

Figure 42: Descriptive Statistics- AIM Italia pre-IPO

Descriptive Statistic- AIM Italia pre-IPO															
Variable	oprev	netinc	totasset	sharefund	eqratio	payout	ROE	ROA	Leverage	netdebt	EBITDA	div	shareholders	c3	instinv
Minimum	54,93	-141002,00	456,00	63,00	0,01	-24,95	-2,44	-0,67	-2,79	-347766,00	-106692,00	0,00	1,00	0,44	0,00
1st Quartile	3625,26	26,29	5516,00	1230,00	0,16	0,00	0,02	0,00	0,00	-16,50	636,00	0,00	2,00	0,91	0,00
Median	13218,91	294,00	13804,00	3138,00	0,26	0,00	0,11	0,03	0,00	1241,00	2476,00	0,00	3,00	1,00	0,00
Mean	22460,43	-310,60	28291,00	9824,00	0,29	0,39	0,12	0,03	0,79	1438,70	2475,00	245,50	9,84	0,93	0,08
3rd Quartile	31893,21	1248,00	24390,00	7209,00	0,39	0,00	0,28	0,06	0,43	5742,00	4788,00	0,00	6,00	1,00	0,08
Maximum	258994,00	10766,00	695105,00	411321,00	0,81	39,97	1,55	0,23	38,58	61867,00	34144,00	11056,00	303,00	1,00	1,00

Figure 43: Descriptive Statistics- AIM Italia post-IPO

Descriptive Statistic- AIM Italia post-IPO															
Variable	oprev	netinc	totasset	sharefund	eqratio	payout	ROE	ROA	Leverage	netdebt	EBITDA	div	shareholders	c3	instinv
Minimum	0,00	-6288,00	2298,00	1663,00	0,10	-1,58	-0,55	-0,38	-1,10	-31816,00	-5354,00	0,00	2,00	0,00	0,00
1st Quartile	8002,00	76,00	12129,00	7097,00	0,34	0,00	0,01	0,00	-0,17	-2038,00	804,00	0,00	8,00	0,80	0,17
Median	22513,00	720,00	29354,00	12077,00	0,48	0,00	0,06	0,03	0,04	550,00	3330,00	0,00	10,00	0,96	0,33
Mean	37417,00	1654,00	48179,00	20711,00	0,50	1,44	0,06	0,02	0,15	3372,00	4695,00	631,00	23,07	1,00	0,39
3rd Quartile	41502,00	2414,00	53330,00	21305,00	0,66	0,21	0,13	0,06	0,38	5360,00	5526,00	500,00	17,00	1,00	0,50
Maximum	364833,00	20249,00	327379,00	149165,00	1,00	142,50	0,47	0,20	1,64	46910,00	75423,00	27139,00	308,00	1,00	1,00

By looking at Figures 42 and 43, it can be noticed that the results for the two Italian datasets are aligned with the theory developed in the first chapter. The operating revenues, net income, total assets and shareholders are higher in the post-IPO period than before as the company has obtained more funds in order to finance its operations and achieve higher performance.

Also Equity Ratio has generally increased as a result of the IPO, unsurprisingly, since the IPO leads the company to achieve funds from the shareholders' increasing the amount of

funds with respect to the total amount of assets. ROE and ROA, on the other hand, presents a slight decreasing trend due to a greater increase in the total amount of assets and equity with respect to the increase in net income. Despite the increase in net debt, leverage has decreased as the companies, through IPO has taken advantage of equity to finance their operations rather than incurring in new debt.

As for the corporate governance, the number of shareholders has increased but, the C-3 Index not, meaning that some of the shares issued through IPO have been bought by the three most important controlling shareholders, while the presence of institutional investors which was almost zero in the pre-IPO period, has shown a greater incidence in the post-IPO period, resulting in a better corporate governance.

Dividends have been almost absent in pre-IPO period, as discovered in the theory, companies aimed at pursuing a growth strategy and, particularly, in early stages in their lifecycle, tend not to pay much dividends. Also in the post-IPO period, despite a slight increase, there has not been any considerable payment, apart from some exceptions, as the companies prefer to reinvest their income into profitable projects opportunities.

Figure 44: Descriptive Statistics- AIM LSE pre-IPO

Descriptive Statistic- AIM LSE pre-IPO																
Variable	oprev	netinc	totasset	sharefund	egratio	payout	ROE	ROA	Leverage	netdebt	EBITDA	div	shareholders	c3	instinv	
Minimum	-538,00	-55876,13	0,00	-117845,00	-83,27	-0,34	-1396,12	-63,16	-247,33	-60289,80	-20787,70	0,00	1,00	0,00	0,00	
1st Quartile	1562,00	-1445,00	2992,00	134,30	0,02	0,00	-2711,00	-0,23	0,02	-1101,10	-788,20	0,00	2,00	0,38	0,00	
Median	11588,00	135,47	12557,00	2469,40	0,32	0,00	15,22	0,11	0,32	261,70	799,00	0,00	4,00	0,82	0,00	
Mean	65416,00	-64,49	48576,00	12820,60	-0,61	0,41	10,19	-0,89	-0,61	10745,40	4283,50	453,50	9,96	0,66	0,22	
3rd Quartile	41399,00	2241,80	51594,00	14414,10	0,64	0,00	53,67	0,10	0,64	6560,10	5505,40	18,60	10,00	1,00	0,40	
Maximum	1418244,00	80911,70	544890,00	309282,50	1,00	71,01	828,57	2,10	1,00	242158,60	93055,90	22267,20	107,00	1,00	1,00	

Figure 45: Descriptive Statistics- AIM LSE post-IPO

Descriptive Statistic- AIM LSE post-IPO																
Variable	oprev	netinc	totasset	sharefund	egratio	payout	ROE	ROA	Leverage	netdebt	EBITDA	div	shareholders	c3	instinv	
Minimum	-4613,00	-90858,20	831,00	-36574,00	-1,26	-14,63	-1527,61	-3,36	-10,75	-396877,00	-82028,00	0,00	1,00	0,00	0,00	
1st Quartile	1939,00	-4944,00	14179,00	8179,00	0,41	0,00	-40,42	-0,30	-0,72	-9435,00	-3506,70	0,00	13,00	0,23	0,40	
Median	18525,00	-437,20	34957,00	17117,00	0,59	0,00	-0,83	-0,10	0,22	-2385,00	708,60	0,00	19,00	0,41	0,62	
Mean	100755,00	915,50	141038,00	48641,00	0,57	0,16	-11,16	-0,18	0,23	2765,00	4261,00	1844,00	24,28	0,46	0,56	
3rd Quartile	60158,00	4488,00	91656,00	50509,00	0,80	0,21	16,25	0,06	0,19	4680,00	7175,10	1430,00	30,50	0,68	0,75	
Maximum	265857,00	175649,00	4382892,00	835086,00	0,99	13,31	7646,02	1,00	33,82	586453,00	27860,00	73127,00	133,00	1,00	1,00	

Figure 44 and 45 show that, also for the AIM of the London Stock Exchange the variables have reacted in the same way to the IPO. All the financial performances have increased, as a result of the acquisition of the listed status, in an even more substantial trend than in the Italian market. On the other hand, both C-3 Index and the number of shareholders, in this case have delineated an increased shareholders' dispersion after the IPO and also the

presence of institutional investors have been more substantial in the post-IPO period, these are all indicators that the corporate governance has improved after the IPO.

Dividends, on the other hand, in contrast with the Italian results, have presented a decreasing trend after the IPO, even though most of the companies both in the pre- and post- IPO phases have decided not to pay dividends and reinvest earnings in profitable opportunities.

The next step is to look if the variables have a relationship among each other, and in particular, if they are associated with the companies' cashflows. To see this, it has been used a colored correlation matrix which shows how strong correlation is among each pair of variables.

Figure 46: Correlation Matrix AIM Italia pre-IPO

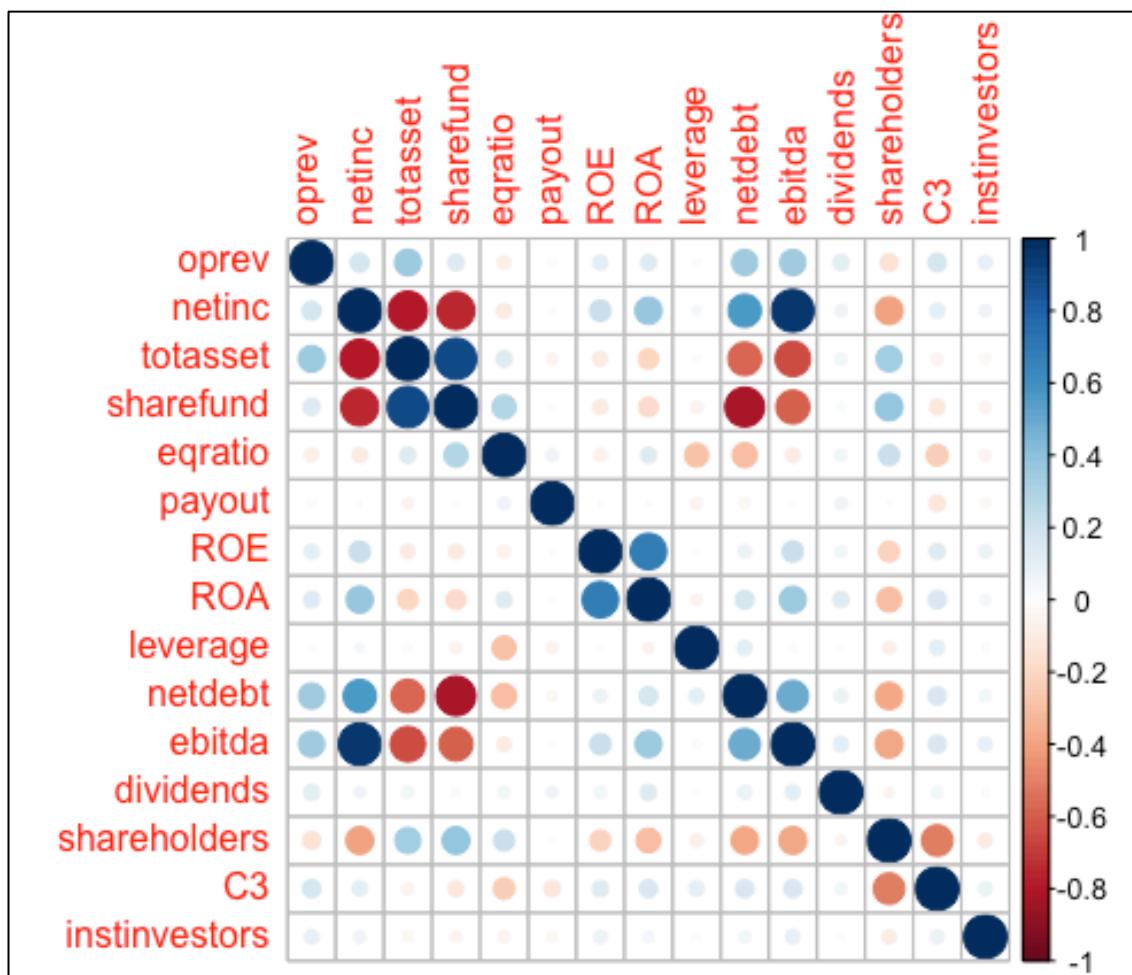


Figure 47: Correlation Matrix AIM Italia post-IPO

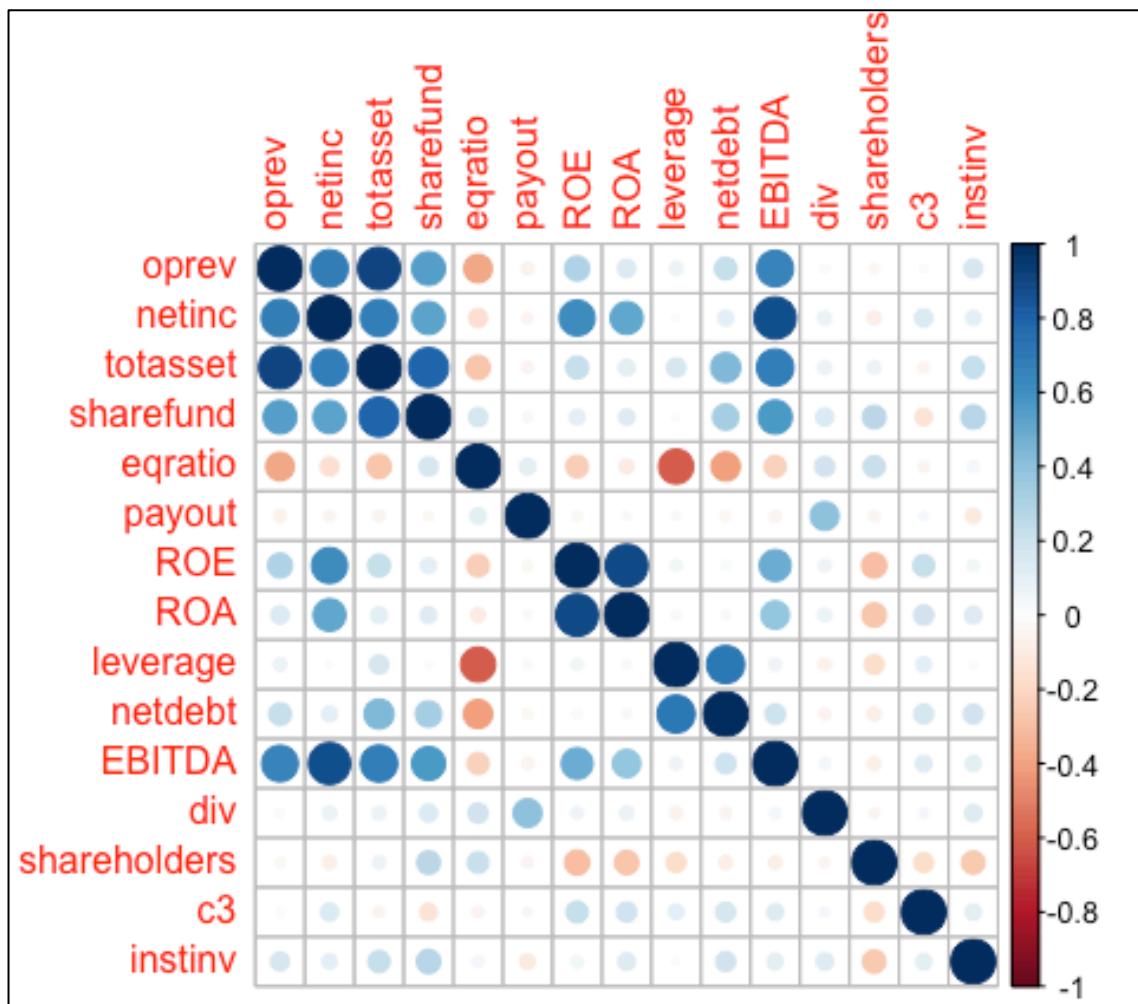


Figure 48: Correlation Matrix AIM LSE pre-IPO

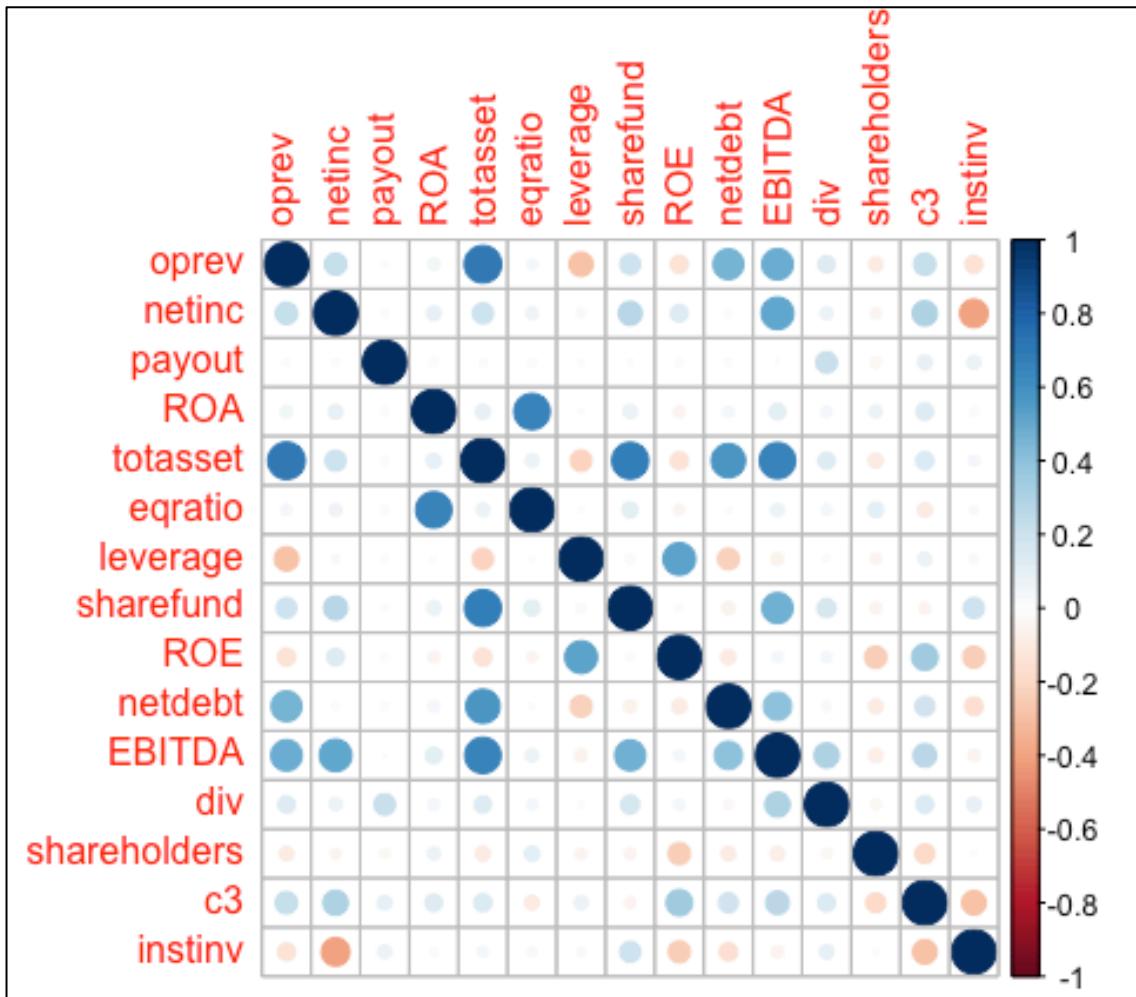
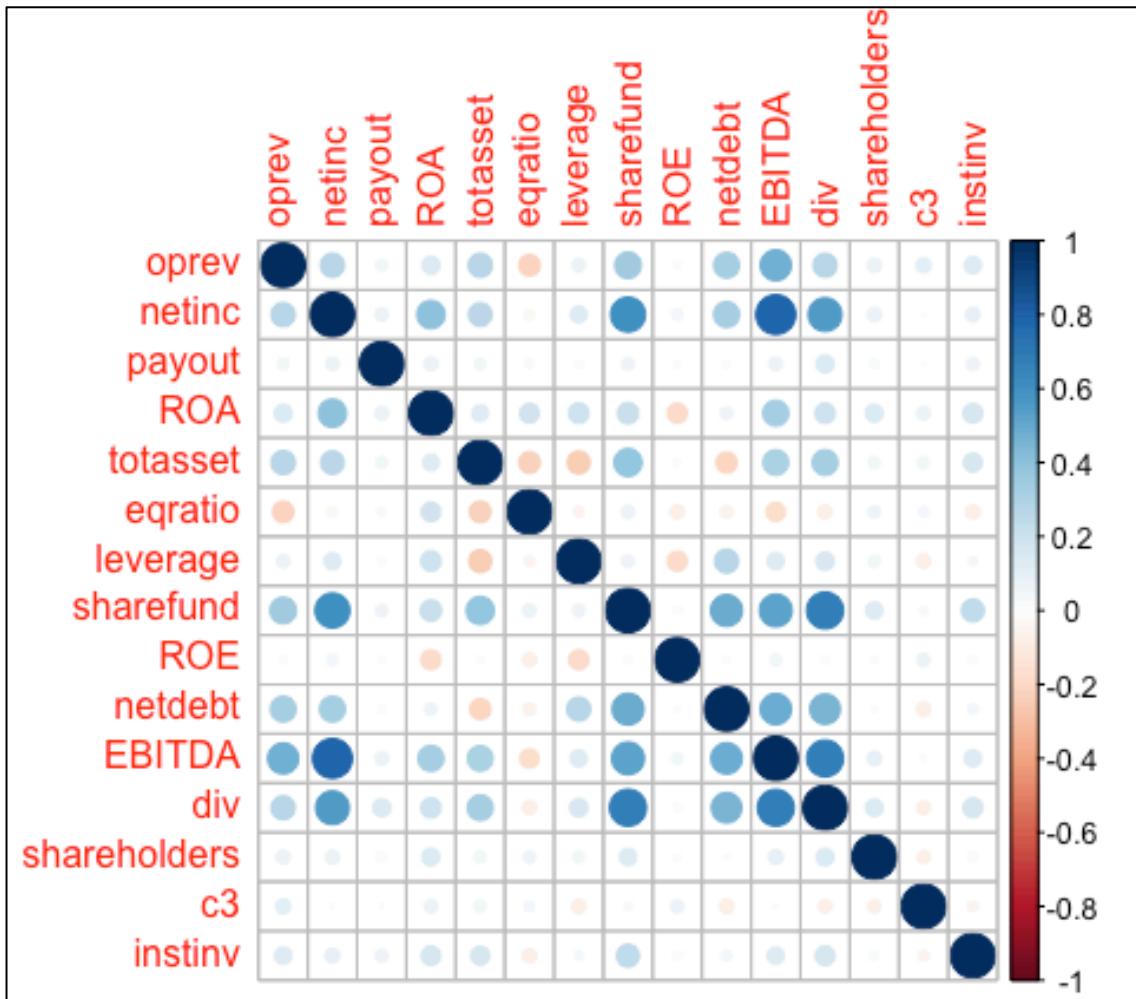


Figure 49: Correlation Matrix AIM LSE post-IPO



Some patterns are more evident than others in the figure above. As it is known, when the correlation coefficient is zero there is no correlation between two variables, when it lies below ± 0.29 they are little correlated, if it lies between ± 0.30 and ± 0.69 they are moderately correlated, starting from ± 0.70 they are highly correlated and perfectly correlated if it is ± 1 .

Looking at these figures we can see how in the AIM Italia the payout ratio is very poorly correlated with all the variables that have been considered, even though this low correlation seems to increase slightly in the post IPO period. Moreover, also for the total amount of dividends, this correlation matrixes do not show any substantial relationship. On the other hand, by looking at AIM LSE correlation matrixes, we can also notice that the payout ratio is not correlated with any variable; however, more substantial and all

negative relationships can be found by looking at the total amount of dividends paid, especially in the post IPO period.

4.3 Econometric Analysis

Correlation does not imply causation, hence, even if a few variables are found to be correlated with dividends, it does not absolutely mean that the formers cause the latter. To test how these variables affect companies' dividends payouts and how these influences have changed after the IPO, different econometric models have been created in order to test the significance of the different independent variables in each model, and then the best one describing the relationship for each dataset has been identified and further analyzed. In the following pages will be presented the best one for each of the four datasets, which incorporates some of the statistically significant variables that appeared in the preceding models and that revealed to be the most appropriate and precise.

The results have been presented in the following figures.

Figure 50: AIM Italia pre-IPO Regression Table

	Results		
	Dependent variable: payout		
	(1)	(2)	(3)
c3	-4.894*	-4.955*	-3.723
	(2.861)	(2.840)	(2.430)
totasset	-0.00000	-0.00000	-0.00000
	(0.00001)	(0.00001)	(0.00000)
eqratio	1.551	1.301	1.167
	(2.028)	(1.862)	(1.823)
oprev	0.00000	0.00000	
	(0.00001)	(0.00001)	
ROE	0.239		
	(1.241)		
ROA	-1.912		
	(5.701)		
shareholders	-0.012	-0.011	
	(0.014)	(0.013)	
instinv	-0.829	-0.816	
	(1.888)	(1.877)	
Constant	4.712	4.814*	3.635
	(2.887)	(2.853)	(2.467)
Observations	190	190	191
R ²	0.026	0.026	0.020
Adjusted R ²	-0.017	-0.006	0.005
Residual Std. Error	4.239 (df = 181)	4.217 (df = 183)	4.183 (df = 187)
F Statistic	0.612 (df = 8; 181)	0.804 (df = 6; 183)	1.292 (df = 3; 187)
Note:	*p<0.1; **p<0.05; *** p<0.01		

As is presented in Figure 50, the first two regressions are those that represent the better fit since the R-squared coefficient is higher, however, the second model has a higher adjusted R-squared and more significant variables. It is needed to say that it has not been encountered any significant regression in running this analysis, meaning that, in the pre-IPO period, the companies in AIM Italia are not influenced in the decision of paying dividends by any of the variable considered. The only variable that has presented the greater significance is C-3 Index, in particular, it shows a negative relationship, meaning that, the higher the concentration of ownership, the lower will be the amount of dividends that the company will be willing to pay.

Figure 51: AIM Italia post-IPO Regression Table

Results			
	Dependent variable: payout		
	(1)	(2)	(3)
oprev	0.00001 (0.00002)	0.00000 (0.00002)	-0.00003 (0.0001)
eqratio	8.626* (5.178)	9.047* (5.065)	9.931 (6.082)
ROE	-8.699 (17.955)		
ROA	9.502 (33.227)		
shareholders	-0.037 (0.026)	-0.033 (0.025)	
c3	3.119 (5.603)	2.408 (5.445)	
totasset			0.00005 (0.0001)
sharefund			-0.0001 (0.0001)
instinv	-8.161* (4.563)	-7.664* (4.393)	-5.422 (4.292)
Constant	-1.954 (5.802)	-1.945 (5.746)	-1.573 (3.551)
Observations	161	161	161
R ²	0.042	0.040	0.031
Adjusted R ²	-0.002	0.009	-0.001
Residual Std. Error	11.664 (df = 153)	11.602 (df = 155)	11.656 (df = 155)
F Statistic	0.954 (df = 7; 153)	1.277 (df = 5; 155)	0.978 (df = 5; 155)
Note:	*p<0.1; **p<0.05; ***p<0.01		

As is illustrated by Figure 51, the first regression is the most significant one, as its R-squared coefficient is the greatest one among the three, however, none of the regressions have proved significant relationships among the variables, meaning that, in the first 4 years after the IPO, none of the variables considered have influenced significantly the decisions of the company to pay dividends.

However, by looking at the obtained regressions, it can be seen that ownership concentration, even if not significant, has the opposite effect in the post- IPO phase.

Among the most significant variables in this phase can be individuated the percentage of institutional investors with a negative effects over dividends payout meaning that the more institutional investors there are among the company's shareholders the fewer dividends are paid by the company; and equity ratio meaning that the more funds are contributed by the shareholders, the more they are compensated through dividends' payments.

Figure 52: AIM LSE pre-IPO Regression Table 1

	<i>Dependent variable:</i> payout		
	(1)	(2)	(3)
oprev		-0.00000 (0.00000)	0.00000 (0.00000)
netinc		0.00002 (0.00004)	0.00001 (0.00004)
c3	1.802* (1.028)	1.808 (1.134)	1.805 (1.159)
instinv	2.023 (1.242)	2.308* (1.381)	2.456* (1.446)
totasset			-0.00000 (0.00001)
sharefund			-0.00000 (0.00002)
Constant	-1.078 (0.875)	-1.076 (0.941)	-1.041 (0.952)
Observations	203	194	194
R ²	0.022	0.024	0.025
Adjusted R ²	0.012	0.003	-0.007
Residual Std. Error	5.075 (df = 200)	5.214 (df = 189)	5.239 (df = 187)
F Statistic	2.233 (df = 2; 200)	1.148 (df = 4; 189)	0.792 (df = 6; 187)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01		

By looking at Figure 52 it can be noticed how in pre-IPO phase, the companies' payout decisions in AIM LSE market have not been substantially influenced by the variables considered for our analysis.

Looking at the three most significant regressions developed using R Studio software, the two variables having the most significant effect also in this case have been the C-3 Index and the percentage of Institutional investors. Both variables have a positive effect over the dividend payout, meaning that the more concentrated the ownership is, and the more institutional investors participate in the company's ownership, the more dividends are paid.

Figure 53: AIM LSE pre-IPO Regression Table 2

	<i>Dependent variable:</i>	
	div	
	(1)	(2)
oprev	0.003*	0.004** (0.002)
netinc	-0.005 (0.015)	-0.043** (0.017)
c3	969.655** (441.871)	836.626* (428.153)
instinv	885.497 (552.480)	440.860 (538.678)
EBITDA		0.075*** (0.016)
totasset	-0.005 (0.004)	-0.015*** (0.004)
sharefund	0.018*** (0.007)	0.024*** (0.006)
Constant	-528.280 (362.593)	-367.425 (350.157)
Observations	197	193
R ²	0.122	0.213
Adjusted R ²	0.094	0.184
Residual Std. Error	2,011.115 (df = 190)	1,927.997 (df = 185)
F Statistic	4.406*** (df = 6; 190)	7.174*** (df = 7; 185)
<i>Note:</i>		* p<0.1

As the total amount of dividends paid has demonstrated a stronger correlation with the other variables composing the dataset than dividends payout, a regression using *div* as dependent variable has been run. This regression has a greater R-squared than the one with payout as dependent variable. The most influencing variables, in this case have been found to be EBITDA, total assets and shareholders' funds. EBITDA has a positive effect on dividends, as the better the financial performance of the company are, the more dividends it is able to pay. Also shareholders' funds have a positive effect on the amount of dividends paid by the company as they compensate shareholders for their contribution. On the other hand, the amount of total assets has a negative effect over dividends, maybe due to the fact that when a company decides not to pay dividends, it reinvests the earnings into new profitable investments increasing the assets at disposal of the company. The next most significant variables, resulting from this regression are net income and operating revenues, the first one with a negative effect over dividends, the second one with a

positive effect. C-3 Index is still a significant variable with a positive influence over dividends also considering *div* as dependent variable.

Figure 54: AIM LSE post-IPO Regression Table I

<i>Dependent variable:</i>		
	payout	
	(1)	(2)
oprev	0.00000 (0.00000)	
netinc	0.00000 (0.00001)	
ROA	0.152 (0.145)	0.153 (0.154)
totasset		0.00000 (0.00000)
sharefund		0.000 (0.00000)
EBITDA	0.00000 (0.00000)	0.00000 (0.00001)
instinv	0.284 (0.269)	0.267 (0.283)
Constant	0.027 (0.170)	0.026 (0.173)
Observations	375	372
R ²	0.013	0.013
Adjusted R ²	0.005	-0.006
Residual Std. Error	1.228 (df = 371)	1.239 (df = 364)
F Statistic	1.573 (df = 3; 371)	0.709 (df = 7; 364)
<i>Note:</i>		
*p<0.1; **p<0.05; ***p<0.01		

Also for the post-IPO dataset it has been performed a first regression using *payout* as dependent variable but, with no variable as significant, it has demonstrated to be the regression with the lowest R-squared, meaning that the variables considered for our analysis have no influence over the payout ratio in the post-IPO phase.

Figure 55: AIM LSE post- IPO Regression Table 2

	Dependent variable:		
	(1)	(2)	(3)
oprev	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
instinv			230.623 (803.135)
netinc	-0.059*** (0.019)		-0.059*** (0.019)
shareholders		12.914 (9.560)	
totasset	0.001 (0.001)	0.001** (0.001)	0.001 (0.001)
sharefund	0.028*** (0.003)	0.023*** (0.003)	0.028*** (0.003)
netdebt	0.004 (0.004)	0.008** (0.004)	0.004 (0.004)
EBITDA	0.141*** (0.016)	0.104*** (0.011)	0.141*** (0.016)
Constant	47.782 (228.241)	-9.417 (309.034)	-68.734 (473.028)
Observations	360	358	357
R ²	0.615	0.607	0.615
Adjusted R ²	0.609	0.600	0.607
Residual Std. Error	3,475.037 (df = 353)	3,523.634 (df = 351)	3,494.432 (df = 349)
F Statistic	94.158*** (df = 6; 353)	90.176*** (df = 6; 351)	79.701 *** (df = 7; 349)
Note:	*p<0.1; ** p<0.05; *** p<0.01		

However, particularly after the IPO, the variables considered in our analysis has demonstrated a particular influence on total dividends payments. As the first regression in Figure 55 illustrates, the amount of dividends paid by a company after the IPO in this market is dependent on four variables: operating revenues, net income, shareholders' funds and EBITDA.

In this case, in contrast with the pre-IPO phase, companies with higher revenues tend to pay lower amount of dividends, considering that these companies are in a high growth phase this is understandable as they want to reinvest their income in profitable projects to increase their future revenues. Also net income has a negative effects over the payment of dividends, meaning that less profitable companies pay more dividends than the more profitable ones; this effect could be counter-intuitive but it could be due to the fact that less profitable companies have also lower investment opportunities in which to put their earnings, so they decide to distribute them.

As for shareholders' funds and EBITDA, they have both positive effects over dividends payments. The first variable, as already mentioned, can generate a positive influence as if shareholders provide greater contribution to companies' projects, they expect to achieve higher compensation for them. As for EBITDA, being considered as a rough approximation of companies' cashflow, the greater the cashflow at disposal of the company, the more dividends it is able to pay.

To sum up the findings of the analysis, as for AIM Italia, it has emerged that the companies have not been influenced neither in the pre- nor in the post- IPO phase by the variables used to perform the analysis. A plausible explanation for this result could be the fact that, being these companies at the beginning of their lifecycle, and in a phase of high growth, most of them have decided not to pay dividends in order to have more funds available to invest in other profitable projects and sustain growth.

On the other hand, in the AIM of the London Stock Exchange, the payout ratio still has proved not to be influenced by the variables considered in the datasets, however, these variables have a more substantial effect over the total amount of dividends paid, particularly after the IPO, when these companies have decided to increase their dividends' payments significantly.

Finally, to complete the analysis of the models and to evaluate the reliability of the results, some diagnostic tests have been run. The test of linearity assumptions of the econometric models that ensures the reliability of the regressions is presented in the Appendixes.

4.4 Discussion

In order to understand the results of this analysis, it is necessary to start from the descriptive statistics results. Descriptive statistics, indeed, gives us a wide overview of the peculiarities and differences between the four datasets.

In particular, by looking at the descriptive statistics analyses performed in the previous paragraph some peculiarities and some differences can be individuated in the pre- and post-IPO phases between AIM Italia and AIM LSE companies.

Starting from Figure 42 to Figure 45, we can already delineate which kinds of companies compose the datasets.

A primary point of interest is the sizes of such companies, considering the level of revenues as a determinant for firms' size, it can be noticed that companies composing the Italian datasets are much smaller than AIM LSE companies. Indeed, operating revenues in AIM Italia datasets are €22,460.00 pre-IPO on average and €37,417.00 after the IPO, on the other hand in the AIM-LSE datasets it can be easily understood that operating revenues are much higher reaching an average of €65,416.00 pre-IPO and €100,755.00 post-IPO.

This is not a surprising result as in the Italian economy, as widely discussed in the previous chapter, there is a big presence of micro companies, as they compose 95% of the Italian companies.

The same is true for all the other financial indicators like total assets, shareholders' funds and net income.

However, despite the market considered, operating revenues, together with all the indicators of financial performance, have increased after the decision of going public in both markets, surely due to the larger amount of funds at disposal of the companies to be used for profitable projects to sustain their high growth opportunities.

The only two indicators with a post-IPO trend against the tide are ROE and ROA. These two indicators, in both markets, have been subject to a decreasing trend, due to the more than proportional increase in equity and assets through the IPO process with respect to the increase in net income.

Ownership concentration has experienced contrasting results in the two markets after the IPO: C-3 Index has seen an increasing trend in AIM Italia and a decreasing one in AIM LSE, however the number of shareholders has increased in both markets.

AIM Italia, even presenting companies with a higher number of shareholders on average, has higher concentration indexes which increase also after the IPO, this is a surprising result given the minimum 10% of free float requirement existing in the Italian market, but it has been possible if most of the newly issued shares have been purchased by existing controlling shareholders. However, it is important to be reminded that Italian companies

by definition have higher ownership concentration as most of the companies coming from this country are family companies or with a highly concentrated ownership in the hand of a few people without a clear distinction between ownership and control.

In both markets the IPO has led to a greater attraction of institutional investors which have demonstrated to be particularly interested in investing in such companies rather than individual investors. This factor is derived from the high risks of these markets due to the low requirements to participate in them and the low level of disclosure required, making them attractive only for wealthy and knowledgeable investors.

As for dividends, in both markets, dividend payments are very low, both in pre and post-IPO phases as the companies participating in such markets are high growth and usually at early stages of their maturity.

However, despite the low payments, the payout of AIM Italia companies has experienced a positive trend after IPO, on the other hand, in the AIM LSE this ratio has decreased when the companies became listed. According to the theory, in fact, after the IPO companies tend to pay low dividends due to the reinvestment process of earnings in future profitable projects to sustain the high technological development that their environment is experiencing; moreover, investors that decide to purchase the stocks in an IPO, thus, expect to generate returns not through the payment of dividends but through the capital gains arising from a price appreciation of the shares.

Once the trend of the different variables has been analyzed, an outstanding aspect of the analysis which requires a detailed discussion is how such variables are related to each other, in particular how the variables are related to the payout ratio and to dividends.

To investigate such relationships some correlation matrices have been created.

These matrices are represented by Figure 46 and 47 for the AIM Italia datasets and Figure 48 and 49 for the AIM-LSE dataset.

By looking at the first two matrices the first curious result is that none of the variables seems to be correlated with both dividends and the payout ratio both in pre- and post- IPO phase. This result can be better explained by just having a look at the dataset. Almost all the companies taking part of AIM Italia have adopted a *No Dividend Payout Policy*,

which, as discussed in the first chapter, occurs when the company decides to retain and reinvest all the earnings for future growth and it is very common for companies in the early stages of their lifecycle as they are constantly growing and expanding.

The companies which made an IPO on AIM-Italia, indeed, are young companies as half of them have less than 10 years of activity so they are still in the early stages of their development, with high opportunities to invest their earnings and lower incentives to pay dividends as their investors will probably gain from a price appreciation of their shares.

On the other hand, by looking at the Alternative Investment Market correlation matrices (Figure 48 and 49), it can be noticed a different outcome.

With respect to the payout ratio, also in these two matrices it can be noticed that there is a very poor correlation with the other variables. However, there is a higher correlation with respect to the total amount of dividends paid, especially in the post-IPO dataset.

Already in Figure 48, before the IPO it can be noticed a low negative correlation between dividends and shareholders' funds and equity ratio. This means that the more the shareholders contribute to the company the lower are the dividends paid. This could seem counterintuitive at first sight, but, firstly, it is important to keep in mind that correlation does not imply causation and secondly it is only a little correlation that could be due to the fact that the companies are in a pre IPO period where they put most of their resources in financing good projects opportunities.

However, the most significant correlation can be seen in Figure 49, the post IPO phase. Dividends, after the IPO, are negatively correlated with almost all the variables of interest, but, in particular, they are negatively correlated with net income, EBITDA and shareholders' funds. Moreover, a less strong correlation can be noticed with operating revenues, total assets and net debt.

This seems to be a contrasting result with the theories developed over dividends, because it demonstrates that the more the company is profitable and the more cash it has, the less it pays dividends. However, in post IPO phase it is very common to find companies that pay low or zero dividends because they require the funds raised to sustain growth in order to be even more profitable in the future.

If we compare pre and post IPO matrices, we can notice how on AIM Italia market companies did not change their dividends policies after the IPO , while on the other hand,

in AIM-LSE, after the IPO the dividend policy is more subject to changes of the variables considered in the analysis.

Starting from the results of these matrices, in order to see if, in addition to the correlation, there is also causation between the variables, some regressions have been run.

However, from the regression analysis no substantial results have been obtained, as the variables considered have proved not to be significant determinants of the payout ratio both in pre- and post-IPO phase in AIM Italia. It can be noticed from Figure 50 and 51 how in all the regressions there is a very low if not negative R-squared coefficient. This result has led to the conclusion that, on AIM Italia, both for their listing process and for their young maturity, companies' dividends decisions are not affected by any of the variables considered, however there could be other determinants of dividends that could lead to more significant results, not considered in this analysis, like behavioral influence.

On the other hand, in AIM LSE, despite these variables still have proved low significance in influencing dividends' payout, they have demonstrated a stronger effect over the total amount of dividends paid, like was illustrated in the correlation matrices.

Particularly, total amount of dividends has proved to be stronger influenced by predictor of financial performance rather than corporate governance variables and this influence is particularly important after the IPO. We can notice from Figures 53 how in the pre-IPO phase dividends depend significantly on EBITDA, total assets and shareholders' funds but, still, this regression is not significant to explain how dividends are determined. However, a greater significance can be found in Figure 55, in the post-IPO phase, where dividends depend significantly over operating revenues, net income, shareholders' funds and EBITDA. From this result we can say that in pre-IPO period also in LSE companies are not widely influenced in their dividends decisions by the variables considered in our analysis, however, after the IPO, financial performance become major determinants of the dividend policy of these companies, while not much influence is exerted by corporate governance factors.

Dividends depend on a lot of factors and it is very difficult to simplify them in a single regression model, each company has its own method of setting dividends and its own

strategy to manage their resources which in turn depend on a multitude of different factors.

Also in this case the famous statement of Fischer Black returns useful: “the harder we look at the dividends picture, the more it seems like a puzzle, with pieces that just do not fit together”¹⁵⁵.

This analysis, maybe, would have surely been more predictive if it had been possible to include a complete set of corporate governance variables, but still a lot of research can be done, and a lot of different analyses can be performed by simply changing the variables subject of the analysis.

Moreover, it would be a curious subject for other projects to evaluate how the results of this analysis would change 10 years after the IPO, when these companies will be surely more established and more stable dividends will be paid.

¹⁵⁵ Black, F., (1976), “The Dividend Puzzle”, *Journal of Portfolio Management*, 2, pp.5-8

Conclusion

Starting this thesis, the main purpose has been that of identifying how dividends change after the IPO and by which factors companies are influenced when setting their dividend policy.

In particular, the focus of this document is on small and medium enterprises which have made an IPO on one of the two existing Alternative Investment Markets in the last 5 years. These markets have not been widely covered by previous researches and, moreover, they present particular characteristics that could lead to interesting results.

Alternative Investment Markets are characterized by the absence of any financial requirement and very low disclosure requirements in order to be listed; these particular features make these two markets very advantageous for small and medium enterprises with high growth opportunities to have access to the capital needed to finance them.

The objective has been more than accomplished.

In order to reach a proper result, firstly, the existing literature about dividends and the factors affecting them have been analyzed. Among such factors, corporate governance has been particularly considered as one of the primary components. Then, a wide research about how dividends and corporate governance, particularly shareholders' composition, change after the IPO has been performed.

After the literature review, some variables have been chosen as more relevant and they have been applied to AIM companies in order to see if they follow the same pattern as developed in the theory. In order to do so, it has been decided to consider all the companies that made an IPO since 2015 both on AIM Italia and AIM LSE.

The resulting datasets are composed by 101 companies for AIM Italia and 173 for AIM LSE; a wide variety of results which makes it possible to make the analysis as objective as possible.

With all the data gathered 4 datasets have been composed, distinguishing between pre- and post-IPO phases and the market of reference. Pre-IPO datasets are composed by data of 6 years before the IPO, while post-IPO datasets consider the 4 years after the IPO.

The information obtained have then been analyzed, using R Studio, through some descriptive statistics analyses in order to individuate the trend of these variables and the relationship among them and a regression analysis in order to individuate possible causation relationships with dividends.

The results, however, have been satisfying. The descriptive statistics has shown that, under the financial aspect, the two markets are very similar.

Generally, financial results have improved after the IPO, however, this has not led to substantially higher dividends due to the young nature of the companies composing these markets. In fact, half of the companies listed on AIM Italia and 65% of those listed on AIM-LSE are less than 10 years old.

Companies at early stages of their maturity have a lot of profitable investment opportunities and, thus, prefer to reinvest their earnings into their projects in order to sustain future growth; moreover, investors, who purchase their shares, expect to receive profit not through dividends distribution but through the capital gain generated by a price appreciation of their shares.

The main distinction between the two markets concerns the ownership concentration, indeed, AIM Italia, despite the larger number of shareholders, have recorded higher ownership concentration on average which has increased also after the listing process. This phenomenon can be explained by the family orientation of Italian companies which have a tendency for greater concentration which has even increased, surprisingly, after the IPO due to the fact that most of the buyers of these companies' newly listed shares were the existing shareholders. As a result, in order to avoid an extreme shareholders' concentration tendency, AIM Italia has put a requirement of 10% of free float in order to be listed.

On the other hand, AIM LSE companies which come from different mostly English-speaking countries have reduced their ownership concentration after the IPO due to the issuing of new shares which have been sold in the capital market.

The analysis of the existing relationships between dividends and the different variables chosen in this analysis has shown that the payout ratio is poorly correlated in both markets both in pre- and post- IPO period. This is due to the fact that most of these companies have decided not to pay dividends during the period under consideration and reinvest both

the earnings and the proceeds received by the IPO in profitable projects, in order to sustain their high growth expectations. For this reason, dividends payout is not well-established yet and are not widely influenced both by financial performance and corporate governance factors but are more dependent on the existing opportunities in the market. However, in AIM LSE datasets a greater correlation can be found considering the total amount of dividends paid. This correlation is particularly strong in the post-IPO period. Indeed, even if the payout ratio does not change substantially between pre- and post-IPO period, the higher net income makes it possible for these companies to set their dividends as they prefer in the post-IPO phase making them more related to the financial results.

Furthermore, since correlation does not imply causation also some regressions have been run, the results of this analysis has further supported the results of the correlation matrices. From the regression analysis can be seen how, in addition to a poor correlation between the variables and the payout ratio, there is also a poor causation, meaning that the payout ratio decisions do not depend on any of the variables considered.

Also in this case, the previous assertion is valid. Being these companies on early stages of their maturity, they have not a clear and well-established dividend policy, so the payout ratio depends primarily on their projects opportunities.

However, also the regression analysis has shown a particularly strong relationship in AIM LSE post-IPO dataset between the total amount of dividends paid and the indicators of financial performance. These relationships, moreover, are primarily negative because these companies reduced their dividends after the IPO in order to have more funds available to foster growth.

For what concerns corporate governance indicators, this has not demonstrated particular influence neither in pre-IPO period nor in the post-IPO phase.

In conclusion of this research, we can say that companies listed on Alternative Investment Market have the primary characteristic of being young and high growth companies, for this reason their payout ratio is not so high and often zero and it is not subject to the influence either of financial performance nor corporate governance factors; moreover, this effect is not different also in the post- IPO phase.

However, as these companies grow and reach their mature stage, they will start to set their dividends patterns which will be dependent on such variables individuated by the existing literature.

As a continuance of this analysis, therefore, it would be interesting to evaluate how dividends will change and how they will be affected by the variables considered in this analysis when the companies will reach their maturity stage.

Appendix A - AIM Italia Dataset

Company name	IPO process starting date
Doxee	19/12/19
Gismondi 1754	18/12/19
Nvp	05/12/19
Fos s.p.a.	26/11/19
Ucapital24	19/11/19
Matica Fintec	11/11/19
Arterra Bioscience	28/10/19
Cyberoo	07/10/19
Websolute	30/09/19
Copernico	08/08/19
Iervolino Entertainment	05/08/19
Confinvest	01/08/19
Farmae	29/07/19
Radici	26/07/19
Friulchem	25/07/19
Cleanbnb	24/07/19
Shedir Pharma Group	23/07/19
Pattern	17/07/19
Marzocchi Pompe	16/07/19
Relatech	28/06/19
Officina stellare	26/06/19
Gibus	20/06/19
Eles	19/06/19
Sirio	10/06/19
Amm	30/04/19
Crowdfundme	25/03/19
Società editoriale il Fatto	14/03/19
Maps	07/03/19
Gear 1	26/02/19
Neosperience	20/02/19
Ilpra	15/02/19
Powersoft	17/12/18
Ediliziacroistica	19/11/18
Digital Value	08/11/18
Circle	16/10/18
Renergetica	09/08/18
Sciuker Frames	03/08/18
Thespac	02/08/18
Vimi Fasteners	02/08/18
Sostravel.com	01/08/18
Sg Company	26/07/18
Intred	18/07/18

Portobello	13/07/18
Monnalisa	12/07/18
Askoll Eva	11/07/18
Esautomotion	06/07/18
Longino&Cardenal	04/07/18
Grifal	01/06/18
Archimede	21/05/18
Somec	14/05/18
Gabelli Value For Italy	20/04/18
Fervi	27/03/18
Kolinpharma	09/03/18
Life Care Capital	07/03/18
Vei 1	27/02/18
Alp.I	01/02/18
Spaxs	01/02/18
Illa	22/12/17
Gel	20/12/17
Dba Group	14/12/17
Ideami	11/12/17
Portale Sardegna	16/11/17
Industrial Stars Of Italy 3	19/10/17
Spactiv	27/09/17
Neodecortech	26/09/17
Capital For Progress Single Investment	04/08/17
Icf Group	01/08/17
Alfio Bardolia	28/07/17
Sicit Group	21/07/17
Cft	19/07/17
Culti Milano	17/07/17
Digital360	13/06/17
Finlogic	09/06/17
Tps	28/03/17
Telesia	20/02/17
Health Italia	09/02/17
Fope	30/11/16
Fine foods & Pharmaceuticals Ntm	19/10/16
4aim Sicaf	29/07/16
Vetrya	29/07/16
Solutions Capital Management Sim	28/07/16
Dominion Hosting Holding	27/07/16
Industrial Stars of Italy 2	27/05/16
Smre	20/04/16
Abitare in	08/04/16
Siti- B&T	31/03/16
Energica motor company	29/01/16
Blue financial communication	11/12/15

Gambero rosso	23/11/15
H-Farm	13/11/15
Capital for progress 1	04/06/15
Assiteca	27/07/15
Masi Agricola	20/06/15
Bomi Italia	26/06/15
Biodue	20/05/15
Cover 50	13/05/15
Elettra Investimenti	21/04/15
Clabo	31/03/15
Caleido Group	24/03/15
Digitouch	16/03/15
Mobyt	05/03/15

Figure 56: AIM Italia 2015-2019 IPO

Industry	n. companies
Banking, Insurance & Financial Services	16
Biotechnology and Life Sciences	1
Business Services	24
Chemicals, Petroleum, Rubber & Plastic	6
Communications	2
Computer Software	5
Construction	1
Food & Tobacco Manufacturing	3
Industrial, Electric & Electronic Machinery	12
Media & Broadcasting	2
Miscellaneous Manufacturing	1
Printing & Publishing	2
Property Services	1
Public Administration, Education, Health Social Services	3
Retail	2
Textiles & Clothing Manufacturing	3
Transport Manufacturing	2
Transport, Freight & Storage	2
Travel, Personal & Leisure	5
Wholesale	7
Wood, Furniture & Paper Manufacturing	1

Figure 57: AIM Italia Industry

Pre-IPO Descriptive Statistics

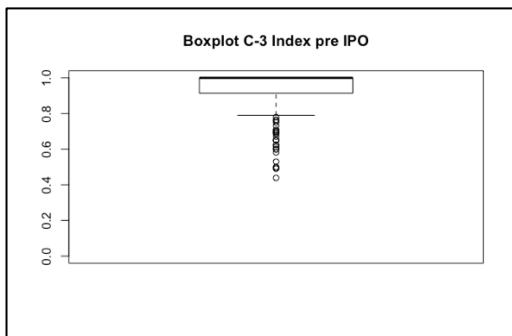


Figure 58: Boxplot C-3 Index pre-IPO

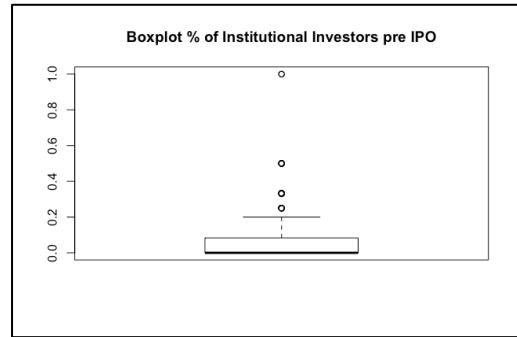


Figure 62: Boxplot Institutional Investors pre-IPO

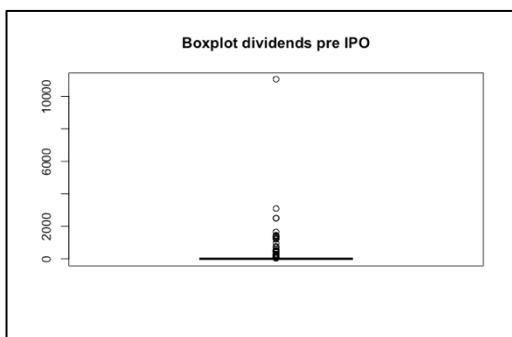


Figure 59: Boxplot dividends pre-IPO

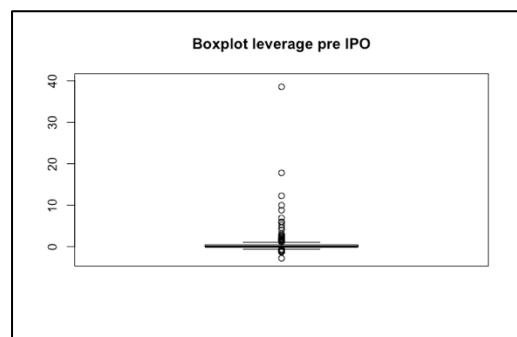


Figure 63: Boxplot Leverage pre-IPO

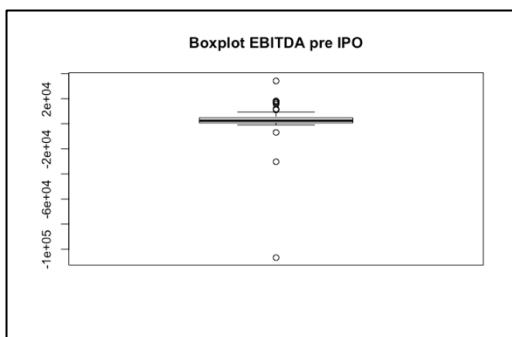


Figure 60: Boxplot EBITDA pre-IPO

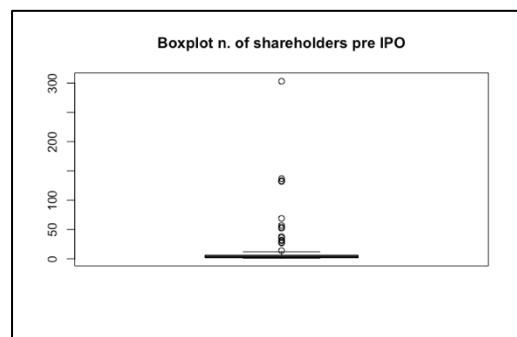


Figure 64: Boxplot n. of shareholders pre-IPO

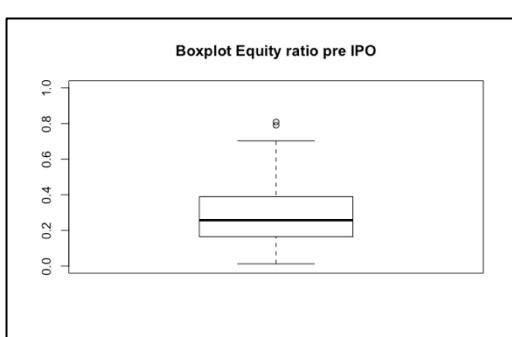


Figure 61: Boxplot Equity Ratio pre-IPO

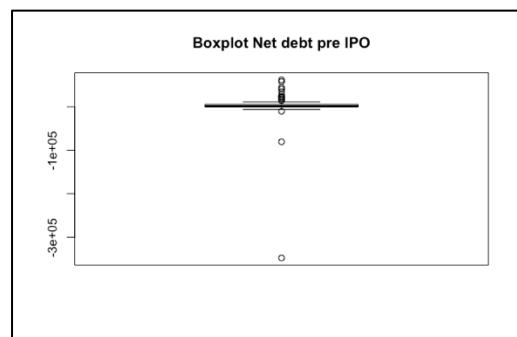


Figure 65: Boxplot net debt pre-IPO

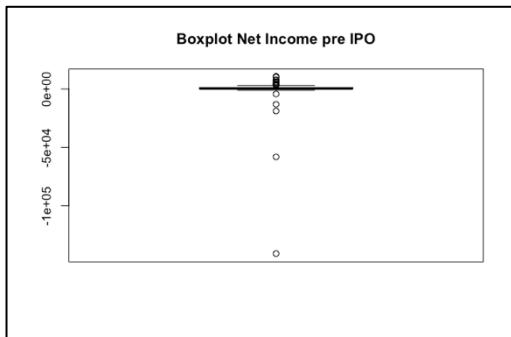


Figure 66: Boxplot net income pre-IPO

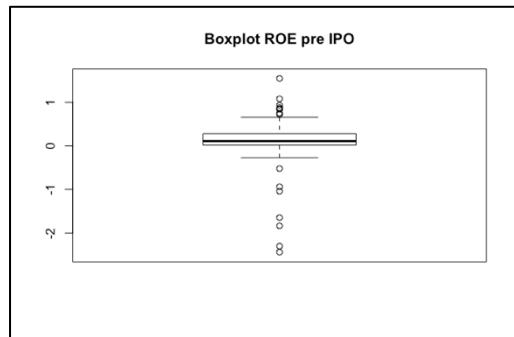


Figure 70: Boxplot ROE pre-IPO

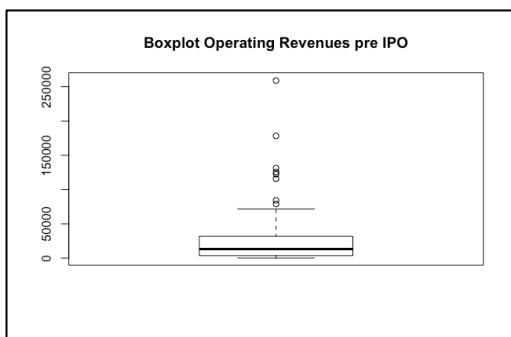


Figure 67: Boxplot Operating revenues pre-IPO

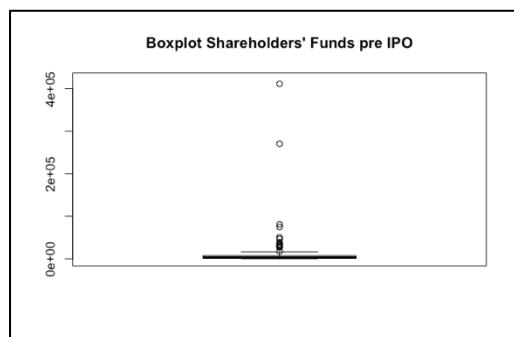


Figure 71: Boxplot Shareholders' funds pre-IPO

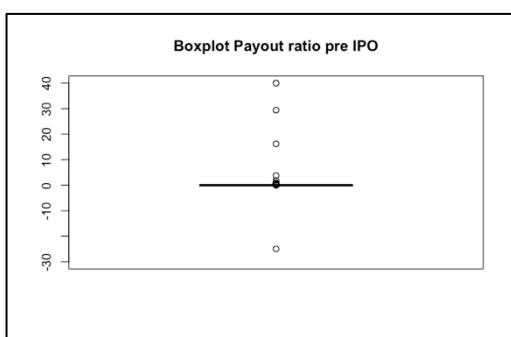


Figure 68: Boxplot Payout Ratio pre-IPO

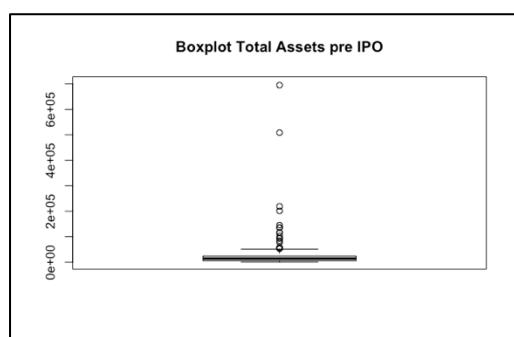


Figure 72: Boxplot Total Assets pre-IPO

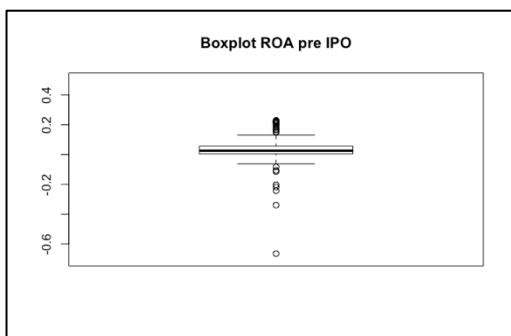


Figure 69: Boxplot ROA pre-IPO

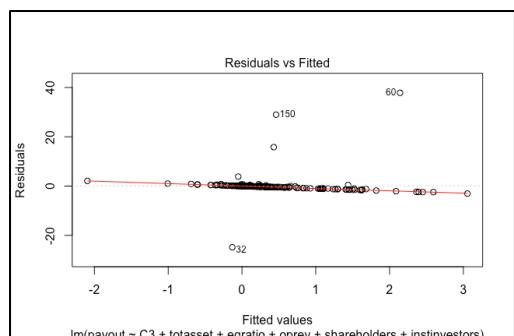


Figure 73: Residuals vs Fitted plot pre-IPO
 $\text{lm}(\text{payout} \sim \text{C3} + \text{totasset} + \text{eqratio} + \text{oprev} + \text{shareholders} + \text{instinvestors})$

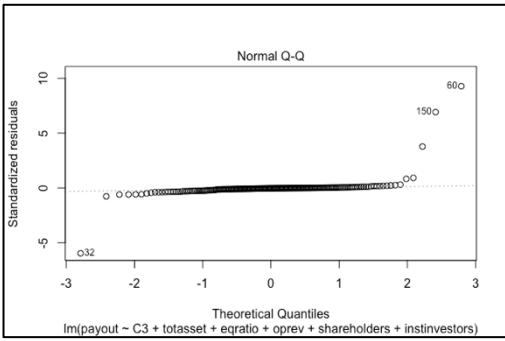


Figure 74: Normal qq plot pre-IPO

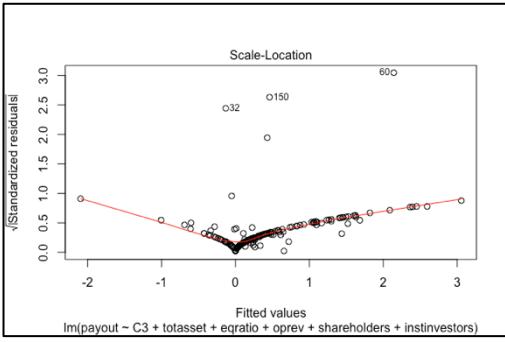


Figure 75: Scale Location pre-IPO

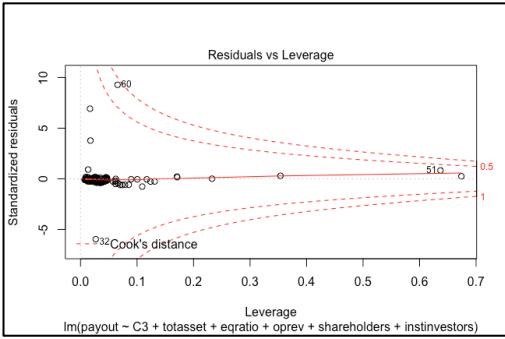


Figure 76: Residual vs Leverage pre-IPO

Post IPO Descriptive Statistics

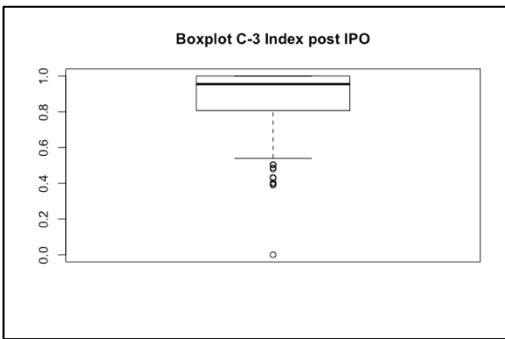


Figure 77: Boxplot C-3 Index post IPO

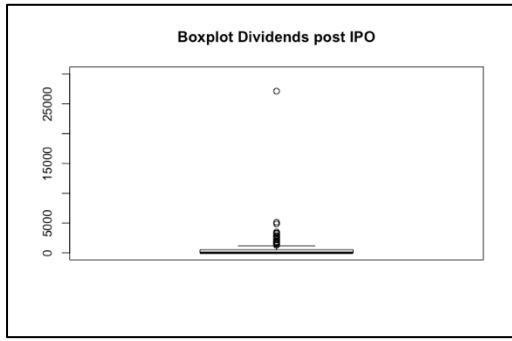


Figure 78: Boxplot Dividends post IPO

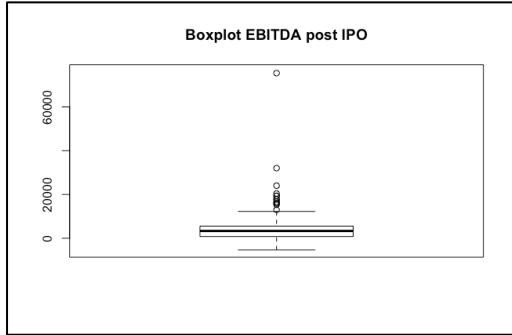


Figure 79: Boxplot EBITDA post IPO

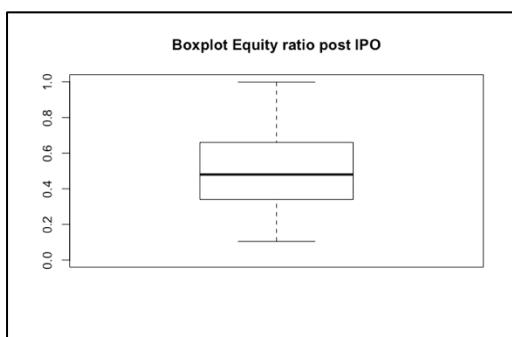


Figure 80: Boxplot Equity Ratio post IPO

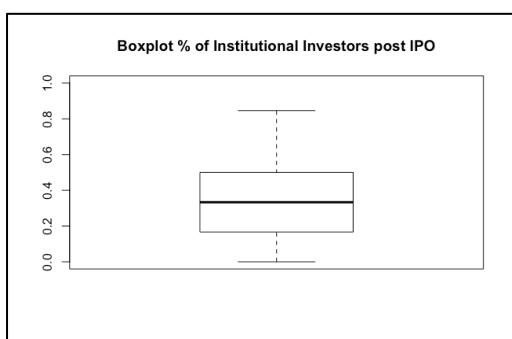


Figure 81: Boxplot Institutional Investors post IPO

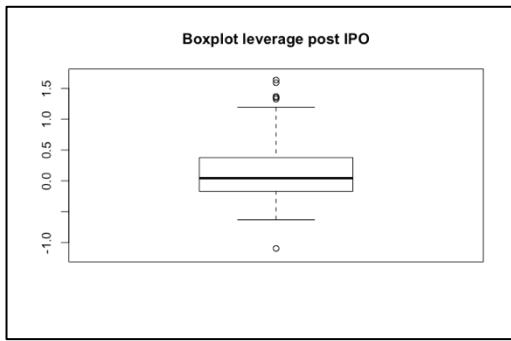


Figure 82: Boxplot leverage post IPO

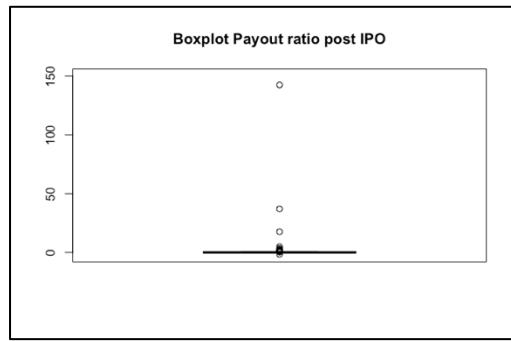


Figure 86: Boxplot Payout Ratio post IPO

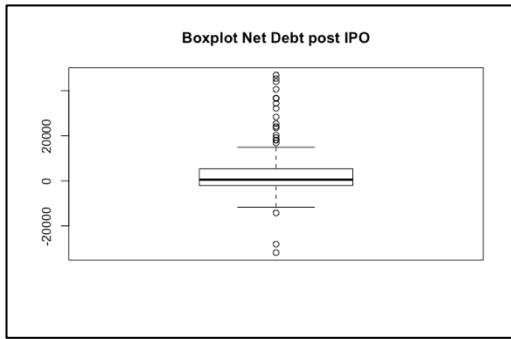


Figure 83: Boxplot net debt post IPO

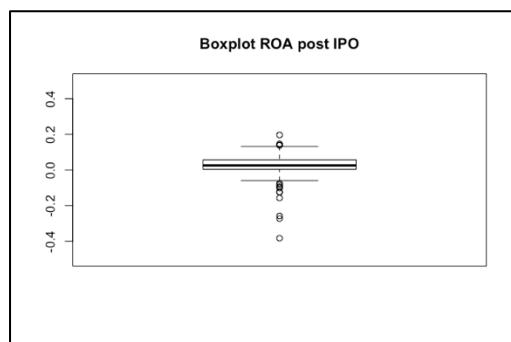


Figure 87: Boxplot ROA post IPO

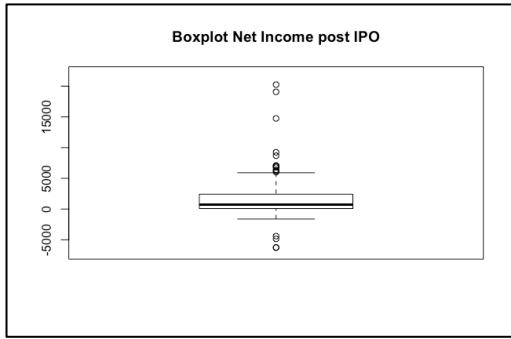


Figure 84: Boxplot Net Income post IPO

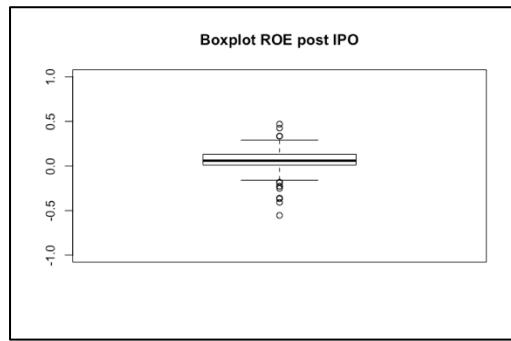


Figure 88: Boxplot ROE post IPO

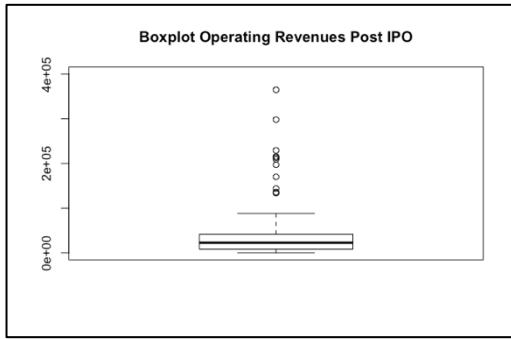


Figure 85: Boxplot Operating Revenues post IPO

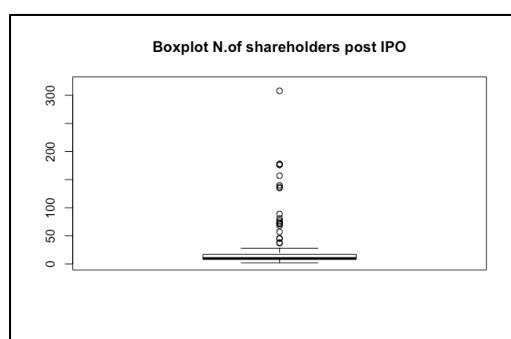


Figure 89: Boxplot n. of shareholders post IPO

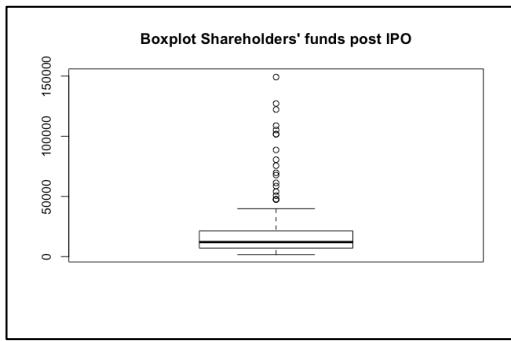


Figure 90: Boxplot Shareholders' funds post IPO

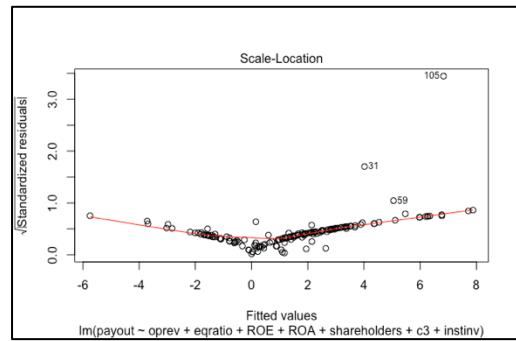


Figure 94: Scale Location post IPO

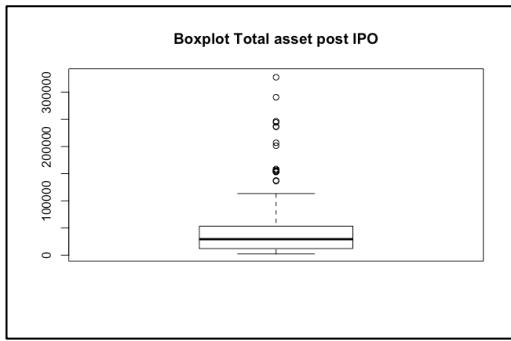


Figure 91: Boxplot total assets post IPO

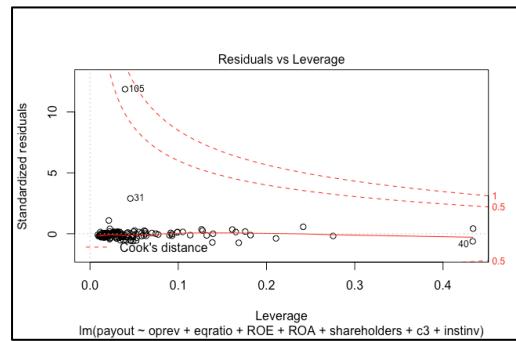


Figure 95: Residual vs Leverage post IPO

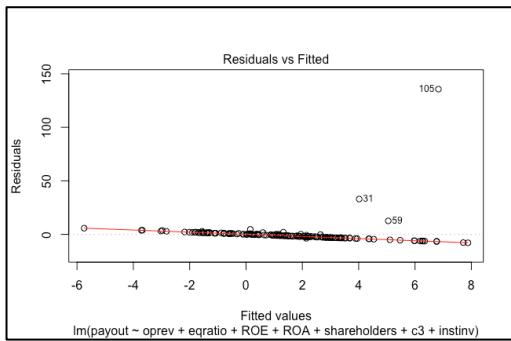


Figure 92: Residual vs Fitted plot post IPO

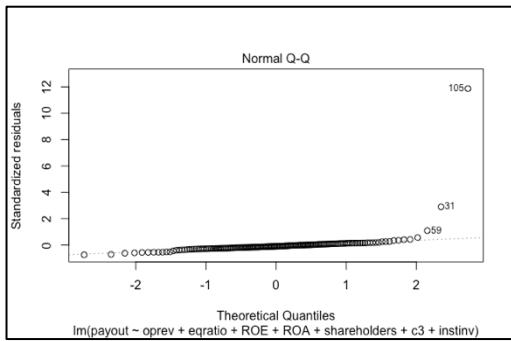


Figure 93: Normal qq plot post IPO

Appendix B - AIM- London Stock Exchange

Company Name	Ipo Process Starting Date
Longboat Energy Plc	28/11/19
Brickability Group Plc	29/08/19
Uniphar Plc	17/07/19
Argentex Group Plc	25/06/19
Essensys Plc	29/05/19
Induction Healthcare Group Plc	22/05/19
Loungers Plc	29/04/19
Diaceutics Plc	21/03/19
Litigation Capital Management Limited	19/12/18
Crossword Cybersecurity Plc	14/12/18
Manolete Partners Plc	14/12/18
Finncap Group Plc	05/12/18
The Panoply Holdings Plc	04/12/18
Kropz Plc	30/11/18
Renalytix Ai Plc	06/11/18
Summerway Capital Plc	19/10/18
Sensyne Health Plc	17/08/18
Jadestone Energy Inc	08/08/18
Trackwise Designs Plc	31/07/18
Nucleus Financial Group Plc	26/07/18
Immotion Group Plc	12/07/18
Yellow Cake Plc	05/07/18
Knights Group Holdings Plc	29/06/18
Ra International Group Plc	29/06/18
Mind Gym Plc	28/06/18
Cake Box Holdings Plc	27/06/18
I-Nexus Global Plc	21/06/18
Anexo Group Plc	20/06/18
Tekmar Group Plc	20/06/18
Aquis Exchange Plc	14/06/18
Block Energy Plc	11/06/18
Yew Grove Reit Plc	08/06/18
Codemasters Group Holdings Plc	01/06/18
Maestrano Group Plc	30/05/18
Team17 Group Plc	23/05/18
Serinus Energy Plc	18/05/18
Urban Exposure Plc	09/05/18
Rosenblatt Group Plc	08/05/18
Krm22 Plc	30/04/18
Crusader Resources Ltd	16/04/18
Simplybiz Group Plc (The)	04/04/18
Kore Potash Plc	29/03/18
Polarean Imaging Ltd	29/03/18
Safe Harbour Holdings Plc	15/03/18
Vr Education Hldgs Plc	12/03/18
Stirling Industries Plc	06/03/18
Grc International Group Plc	05/03/18
Trufin Plc	21/02/18
Onthemarket Plc	09/02/18
Cradle Arc Plc	24/01/18
Cip Merchant Capital Ltd	22/12/17
Erris Resources Plc	21/12/17

Sumo Group Plc	21/12/17
Mirriad Advertising Plc	19/12/17
Pelatro Plc	19/12/17
Fusion Antibodies Plc	18/12/17
Ten Lifestyle Group Plc	29/11/17
Beeks Financial Cloud Group Plc	27/11/17
Keystone Law Group Plc	27/11/17
City Pub Group Plc(The)	23/11/17
Boku Inc	20/11/17
Afritin Mining Ltd	09/11/17
Footasylum Plc	02/11/17
Novacyt	01/11/17
Springfield Properties Plc	16/10/17
Alpha Finl Mkts Consulting Plc	11/10/17
Cora Gold Ltd	09/10/17
Warehouse Reit Plc	20/09/17
Appscatter Group Plc	05/09/17
Destiny Pharma Plc	04/09/17
Wilmcote Hldgs Plc	17/08/17
Xpediator Plc	11/08/17
Altus Strategies Plc	10/08/17
Verditek Plc	10/08/17
Strix Group Plc	08/08/17
Quiz Plc	28/07/17
Arena Events Group Plc	25/07/17
Greencoat Renewables Plc	25/07/17
Angling Direct Plc	13/07/17
Nexus Infrastructure Plc	11/07/17
Tatton Asset Mgmt Plc	06/07/17
Gyg Plc	05/07/17
Ffi Holdings Plc	30/06/17
Ethernity Networks Ltd	29/06/17
Jangada Mines Plc	29/06/17
Phoenix Global Mng Ltd	29/06/17
Touchstone Exploration Inc	26/06/17
Eve Sleep Plc	18/05/17
Velocity Composites Plc	18/05/17
Eddie Stobart Logistics Plc	25/04/17
K3 Capital Group Plc	11/04/17
Alpha Fx Group Plc	07/04/17
Skinbiotherapeutics Plc	05/04/17
Integumen Plc	05/04/17
Anglo African Oil & Gas Ltd	06/03/17
Saffron Energy Plc	24/02/17
Gbgi Ltd	22/02/17
Ramsdens Hldgs Plc	15/02/17
Eco (Atlantic) Oil & Gas Ltd	08/02/17
Diversified Gas & Oil Plc	03/02/17

Figure 96: AIM LSE 2015-2019 IPO

Industry	n. companies
Banking, Insurance & Financial Services	23
Business Services	37
Chemicals, Petroleum, Rubber & Plastic	14
Communications	2
Computer Software	5
Construction	4
Food & Tobacco Manufacturing	2
Industrial, Electric & Electronic Machinery	11
Leather, Stone, Clay & Glass products	1
Media & Broadcasting	3
Mining & Extraction	24
Miscellaneous Manufacturing	2
Property Services	6
Public Administration, Education, Health Social Services	3
Retail	11
Textiles & Clothing Manufacturing	1
Transport Manufacturing	3
Transport, Freight & Storage	2
Travel, Personal & Leisure	8
Utilities	4
Wholesale	6
Wood, Furniture & Paper Manufacturing	1

Figure 97: AIM LSE Industry

Pre IPO Descriptive Statistics

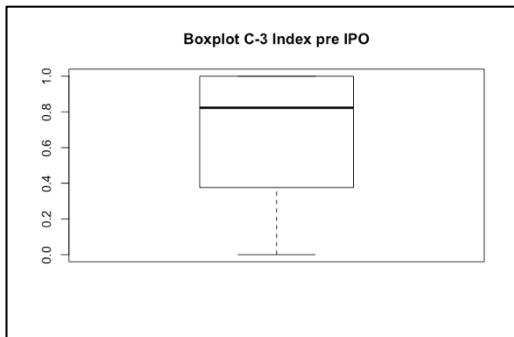


Figure 98: Boxplot C-3 Index pre-IPO

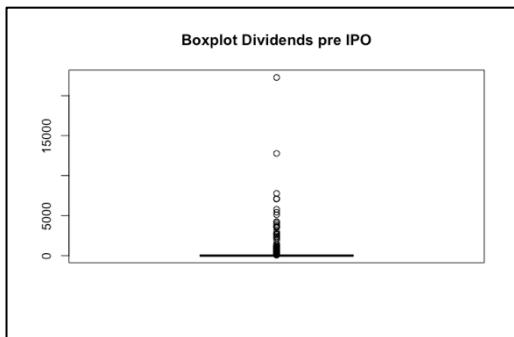


Figure 99: Boxplot Dividends pre-IPO

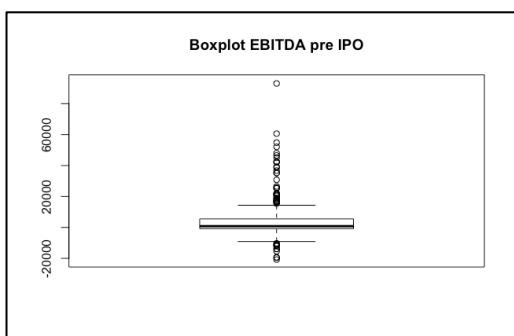


Figure 100: Boxplot EBITDA pre-IPO

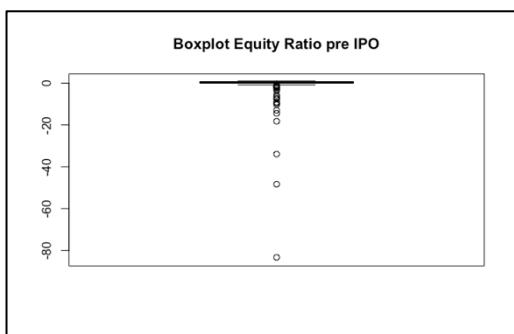


Figure 101: Boxplot Equity Ratio pre-IPO

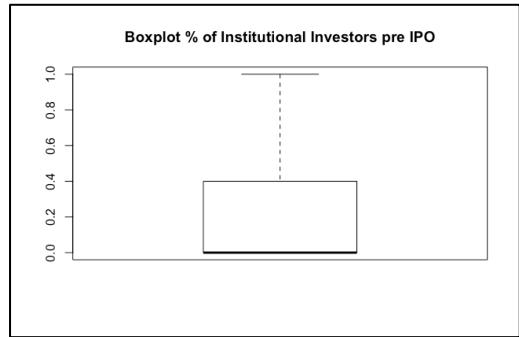


Figure 102: Boxplot Institutional Investors pre-IPO

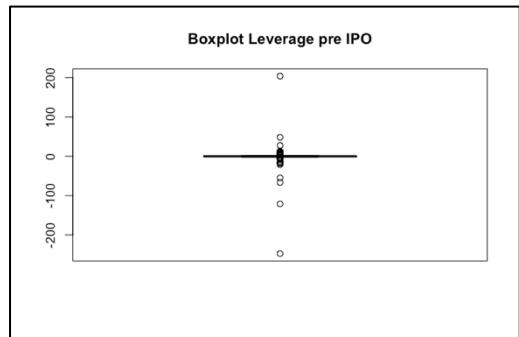


Figure 103: Boxplot Leverage pre-IPO

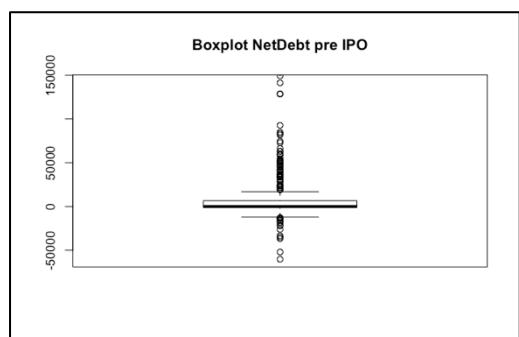


Figure 104: Boxplot Net Debt pre-IPO

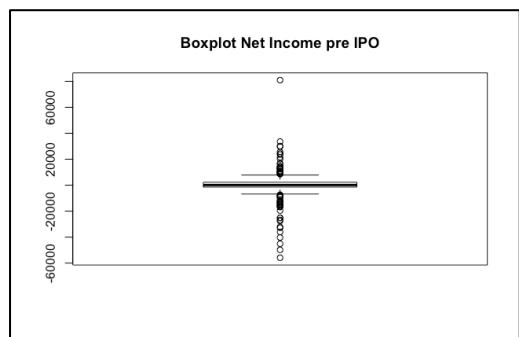


Figure 105: Boxplot Net Income pre-IPO

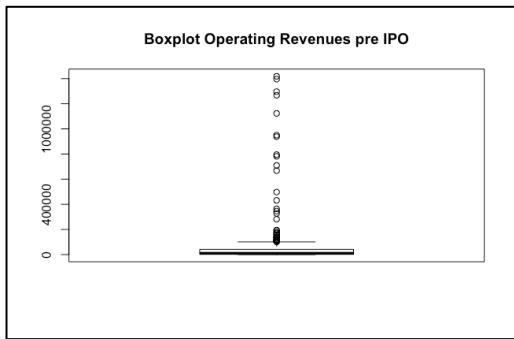


Figure 106: Boxplot Operating Revenues pre-IPO

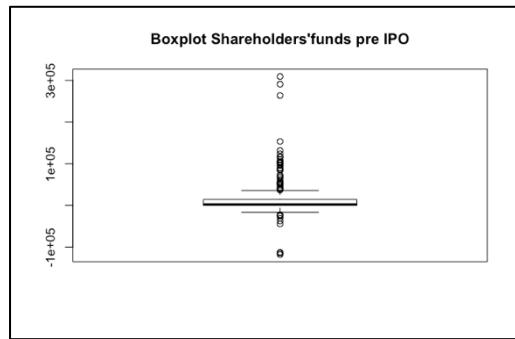


Figure 110: Boxplot Shareholders' funds pre-IPO

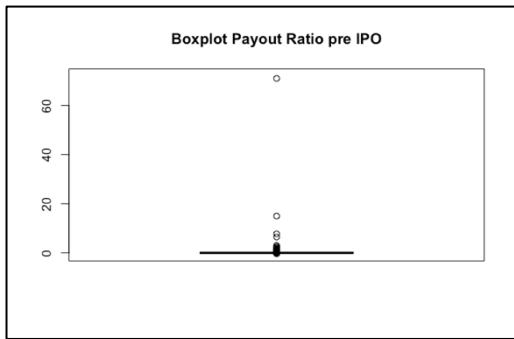


Figure 107: Boxplot Payout Ratio pre-IPO

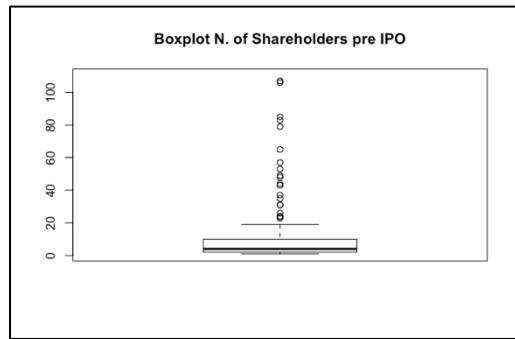


Figure 111: Boxplot n. of shareholders pre-IPO

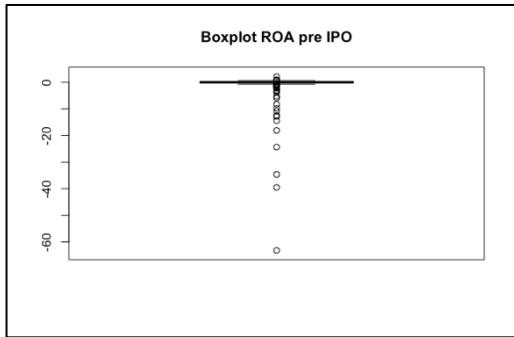


Figure 108: Boxplot ROA pre-IPO

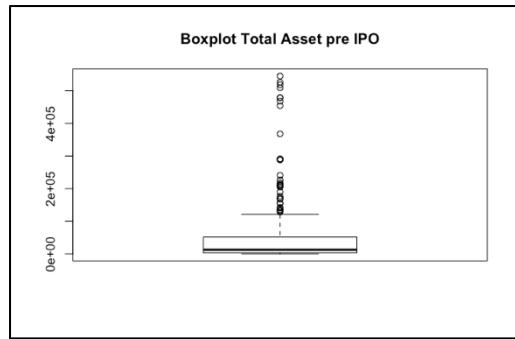


Figure 112: Boxplot Total Assets pre-IPO

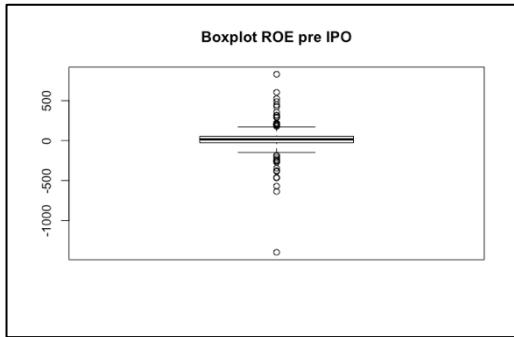


Figure 109: Boxplot ROE pre-IPO

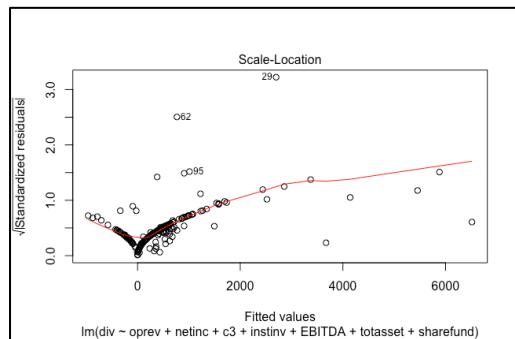


Figure 113: Scale Location pre-IPO

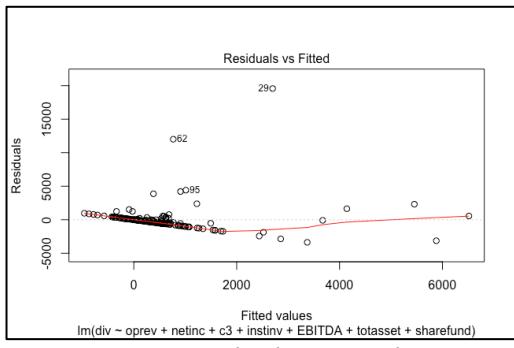


Figure 114: Residual vs Fitted pre-IPO

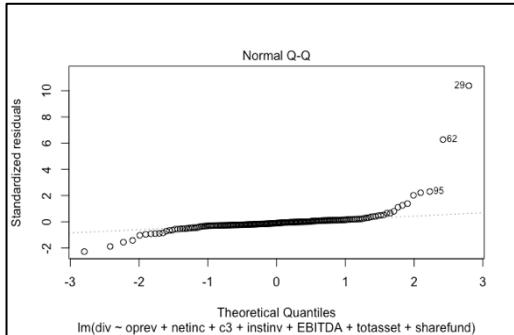


Figure 115: Normal qq plot pre-IPO

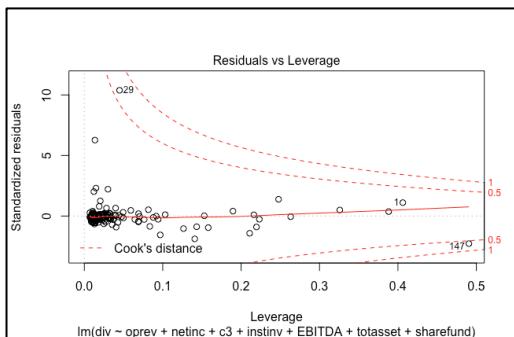


Figure 116: Residual vs Leverage pre-IPO

Post IPO Descriptive Statistics

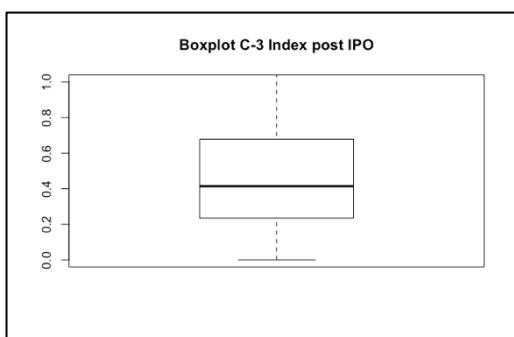


Figure 117: Boxplot C-3 Index post IPO

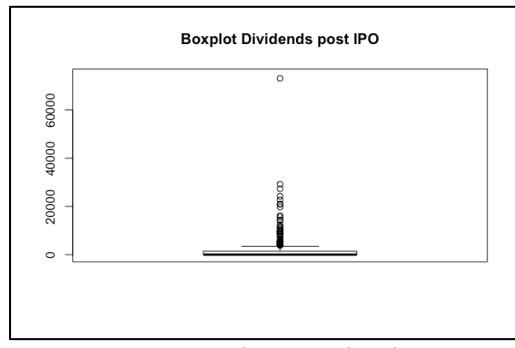


Figure 118: Boxplot Dividends post IPO

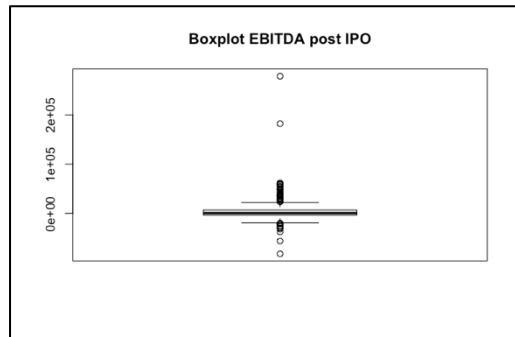


Figure 119: Boxplot EBITDA post IPO

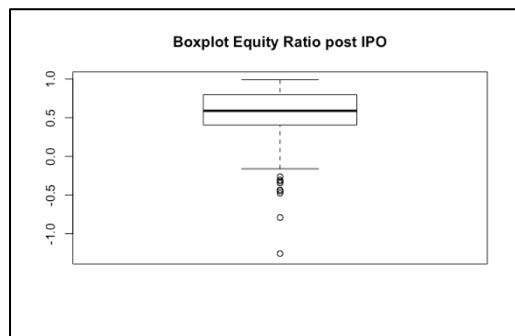


Figure 120: Boxplot Equity Ratio post IPO

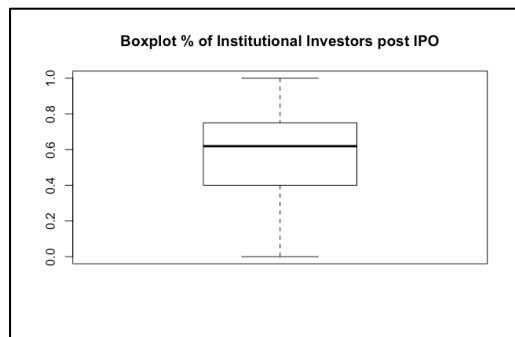


Figure 121: Boxplot Institutional Investor post IPO

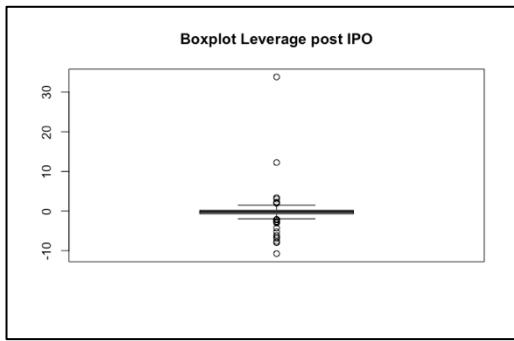


Figure 122: Boxplot leverage post IPO

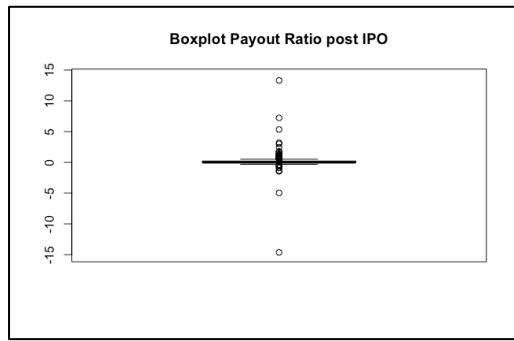


Figure 126: Boxplot Payout Ratio post IPO

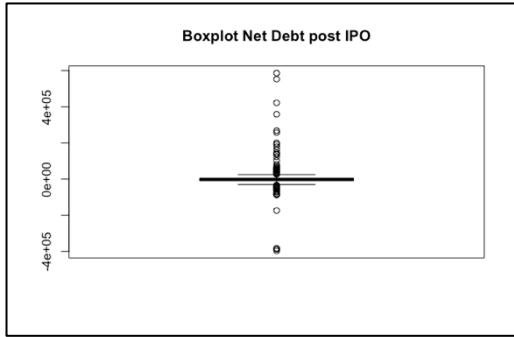


Figure 123: Boxplot Net Debt post IPO

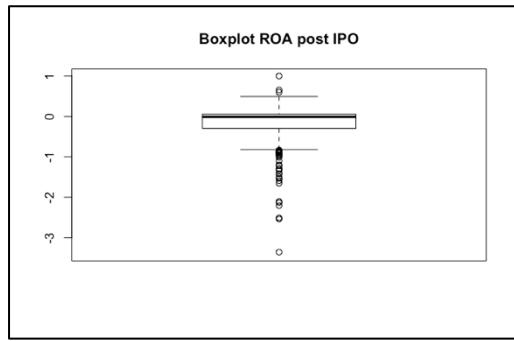


Figure 127: Boxplot ROA post IPO

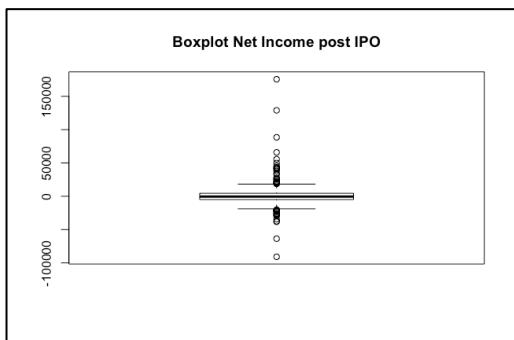


Figure 124: Boxplot Net Income post IPO

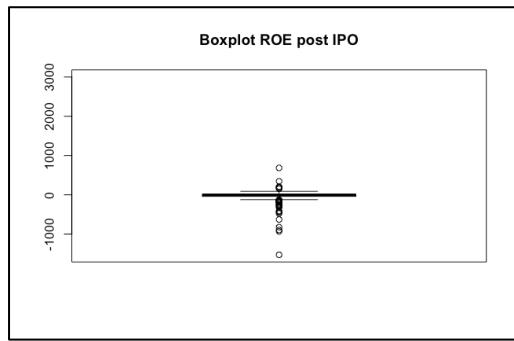


Figure 128: Boxplot ROE post IPO

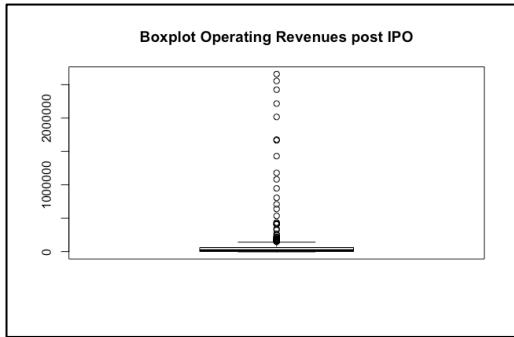


Figure 125: Boxplot Operating Revenues post IPO

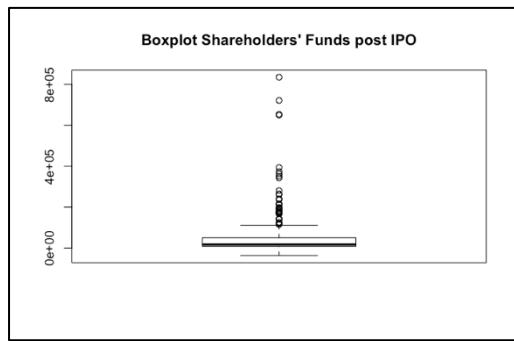


Figure 129: Boxplot Shareholders' funds post IPO

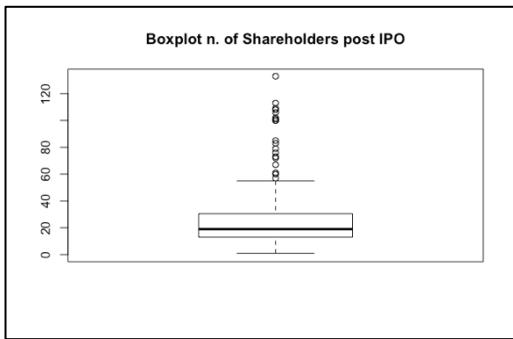


Figure 130: Boxplot N. of Shareholders post IPO

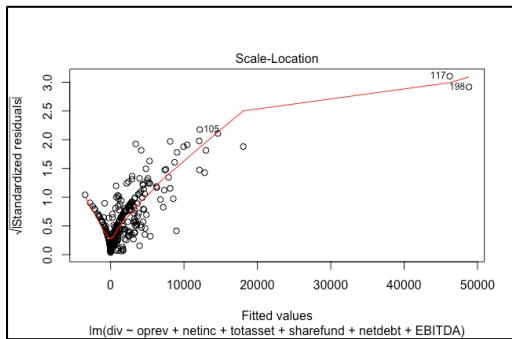


Figure 134: Scale-Location post IPO

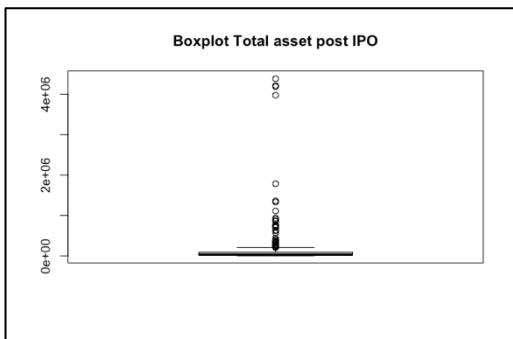


Figure 131: Boxplot Total assets post IPO

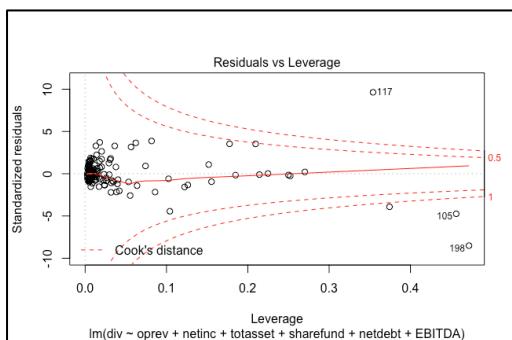


Figure 135: Residuals vs Leverage post IPO

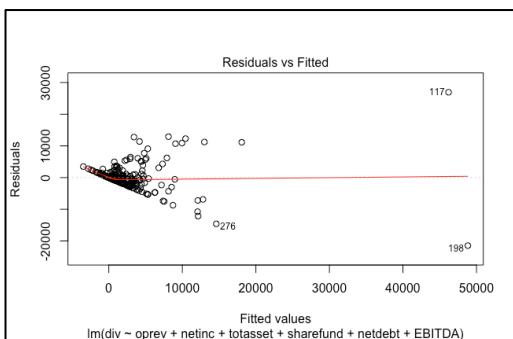


Figure 132: Residual vs Fitted post IPO

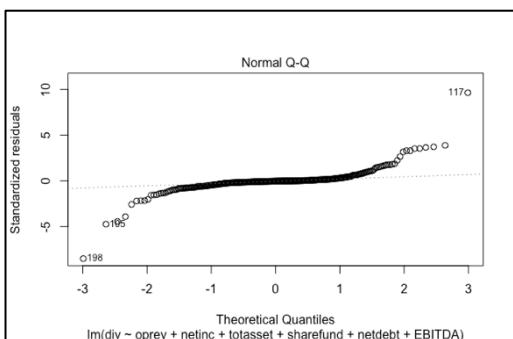


Figure 133: Normal qq Plot post IPO

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