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**Course of International Accounting Standards**

*The application of IFRS 2 on shared-based payments and  
alternative financial instruments: The Mittel case*

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## ***Introduction***

The thesis is about the accounting and managerial implication of IFRS 2 on alternative financial instruments and Stock Option. The main goal is to show the increasing use of these instruments on the Italian market: through a deeper benchmark analysis of the 100 Italian listed companies in order of capitalization, the thesis will show that today is common to issue alternative financial instrument inside the remuneration policy. According to this issue, the thesis will analyze the relative accounting standard IFRS 2 and the accounting policy used by the Mittel Group to account a Share Appreciation Right Plan.

The thesis is divided in four main chapter, excluding introduction and conclusion: the first chapter is about the use of remuneration policy and their structure, analyzing the short-term variable compensation (Management-by-Objective program) and medium-long term variable compensation, where they can find Stock Option and alternative financial instruments. Moreover, the first chapter will show the fringe benefits and their tax deductibility in the Italian market.

Once explained the general structure of the remuneration policy, the chapter 2 of the thesis will show the accounting, managerial and financial implication of the IFRS 2. The thesis will be concentrated on the Stock Option and alternative financial instrument from an accounting point of view. In chapter 2, the thesis will divide the analysis for the equity-settled shared-based payments and cash-settled shared-based payments, showing the recognition principle, the measurement principle and the modification/cancellation principle issue by the IFRS 2.

Furthermore, in the third chapter, the thesis will analyze the accounting principle of alterative financial instrument used in the remuneration policy and their mechanisms. Then, a complete overview of how the alternative financial instrument work is fundamental to completely understand the application of the International Accounting Standard and IFRS 2.

Finally, the last chapter is divided in two parts: the first is a benchmark analysis about the use of alternative financial instruments inside the Italian market. The study is brought forward at aggregate level and by sector. The division in five main sectors (Financial and Banking, Telecommunication, Utility, Industry and others) will show the use of alternative financial instrument in every sector.

The second part of the last chapter is the study of the accounting and financial implication of the Mittel's Share Appreciation Rights Plan. The thesis will analyze the assumptions of the Share Appreciation Right Plan and the accounting model utilized by the company according to the IFRS 2.

To have a complete overview of the accounting process used by Mittel, the thesis will implement an Asset Pricing Model, the Monte Carlo Simulation.

Furthermore, the thesis ends with a forecast about the future accounting trends of alternative financial instruments used in the remuneration policy, comparing the IFRS 2 and the IAS 32.

## CHAPTER 1

### 1. Remuneration policy and International Accounting Standard

#### 1.1 The aim and structure of remuneration policies.

Competitive pressure is pushing all organizations to pay more attention to the costs of human resources. The remuneration policy is the document in which the company describe the methodology and system used to remunerate the work done. Today, according to the European regulation, the listed companies are obliged to issue the “Remuneration policy statement” each year, in which they explain in the detail the set of remuneration systems and incentive systems adopted.

Moreover, remuneration policies are a strategic advantage for business success. Planning the best system is a fundamental step in the execution of the company strategy: aligning the management behavior with the corporate organizational objectives.

The remuneration system is effective when it harmonizes remuneration with the requirements of internal equity and competitiveness with the external reference market. The goal of internal equity is to ensure a fair comparability at the level of the whole enterprise within each unit organizational (positions, professions) while respecting the various specificities. Competitiveness can be obtained only through a continuous comparison of the data detectable on the labor market.

In the remuneration policy, the companies describe the system used to remunerate the Top Executive Managers: in order to align the management’s behavior and avoid the conflict of interest.

Today the legislation and control of the European authority play a very important role: the listed company must align themselves with the new directives issued by national and supranational authorities. According to this fact, companies, in the last few years, greatly increased their attention on remuneration policies.

Then, remuneration policies are today a debatable topic and in continuous updating: in addition, they are subject to a series of conflicting pressures:



- Globalization forces companies to remain competitive in terms of labor costs positioning itself on the markets at lower wages and at the same time trying to attract, retain and motivate people with the best skills;
- New information production and processing technologies have attenuated the differences between manual work and intellectual work, undermining traditional systems of classification of positions and construction of salary scales;
- New forms of work organization have exalted group work and the flexibility by requiring retributive systems more focused on people's skills;
- The use of strong incentive systems to attract the most qualified people has increased pay differentials creating problems of equity;
- The crisis in pension and mutual insurance systems has opened spaces for supplementary pensions to which companies try to contribute by offering remuneration packages including pension and insurance plans of various kinds.

The remuneration policy and Top Executive remuneration have a strong impact on the company's balance sheet. The International Accounting Standard provide to regulate the sector establishing specific standards on the remuneration policy. In the following paragraphs, the thesis goes deeper in the details of the accounting policy required by the European legislation in order to maintain a clear accounting of the Top Executive remuneration.

Then, remuneration policies must ensure a certain degree of interaction with the others business policies. In one hand they require a high degree of organizational structuring, given the complexity of the elements that contribute to their definition, on the other hand, necessarily, they must maintain a good level of flexibility that allows them to react instantly to internal and market changes, or better, to anticipate them.

The need to have clear statement about remuneration policy brought companies to issue Remuneration Committee inside their Board of Directors. This trend is confirmed by the fact that the major Companies, in term of revenues and market capitalization, already have a Remuneration Committee inside the Board of Directors. A specific Committee on remuneration is fundamental because the complexity and legislation on the topic is growing in term of accounting policy and compliance.

There are many important topics about remuneration: listed companies must manage them and issue an efficient and effective remuneration policy in order to maintain the control. Furthermore, article. 123-ter of the Consolidated Law on Finance<sup>1</sup> (Legislative Decree No. 58/1998) provides that companies with listed shares annually make a remuneration report, available to the public investors, divided into two sections.

The first section must illustrate:

- a) The company's policy on the remuneration of the administrative bodies' members, general managers and executives with strategic responsibilities with reference to at least the following year;
- b) The procedures used for the adoption and implementation of this policy.

The second section must illustrate:

- a) An adequate representation of each of the items involved in the remuneration, including the treatment expected in the event of termination of office or termination of employment, highlighting its consistency with the company's remuneration policy approved during the year;
- b) An analytical illustration of the compensation paid during the year in question for any reason and in any form by the company.

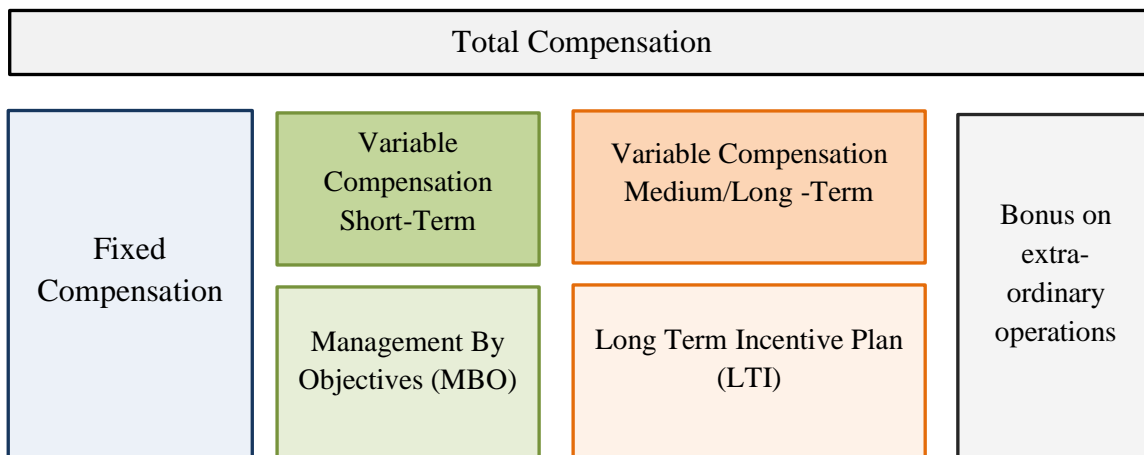
Then, the Remuneration policies provide an important statement for the balance sheet: to have a broad and complete overview about the Top Executive Remuneration and to better understand the International Accounting Standard applied, the analysis focus its attention on the three main components of the Top Executive's remuneration:

- Fixed Compensation.
- Short-term Variable Compensation.
- Long-Term Variable Compensation.

The variable compensation is divided in two parts according to the horizon period. The following table summarize the main areas of the total Top Management remuneration that compose the remuneration package of each Top Manager.

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<sup>1</sup> TUF= *Testo Unico della Finanza*



*Source: Personal processing.*

In the following paragraphs of the first chapter, the thesis studies the structure and characteristics of each component of the Top Executive's remuneration.

### 1.2 The fixed remuneration.

The Base Salary remunerates the role covered and the scope of responsibilities, reflecting the experience and skills required for each position, as well as the level of excellence demonstrated and the overall quality of the contribution to business results.

An appropriate base salary must be in line with the specific market for the business in which an individual works and for the talents, skills and competencies that the individual brings to the company.

An important key issue is the fact that the relevance of fixed compensation weight must be sufficient to reward the activity rendered even if the variable part of the remuneration package were not paid due to non-achievement of performance goals. Thanks to this fact, the fixed remuneration can reduce the risk of excessively risk-oriented behaviors, discourage initiatives focused on short-term results and allow a flexible bonus approach.

Up to twenty years ago, pay packages were focused on the fixed component (Base Salary or Gross Annual Compensation) as an "all-encompassing" tool for the performance of the Top Managers. The evolution of the financial markets and the strong crisis during 2007-

2009 have decidedly refocused the remuneration package of Top Management, orienting it on equity-based instruments: with the aim of aligning the interests of ownership with the interest of managers.

Today, the situation is completely changed and the fixed remuneration of Top Executive, in many cases, is only a small fraction of the Total Compensation. Three important cases show the irrelevance of the Base Salary for Top Executive managers:

- Mark Zuckerberg, founder, Chairman and CEO of Facebook, has a Base Salary of one dollar.<sup>2</sup>
- Sergey Brin, President, Co-Founder, and Director of Google, has a Base Salary of one dollar.<sup>3</sup>
- Steve Jobs, that was the CEO of Apple, has always received one dollar as Base Salary.<sup>4</sup>

These are particular and extreme cases but explain the trend about fixed compensation. Obviously, the Top Manager compensation is focused on the variable part that provide high total compensation.

Then, fixed compensation refers to the set of salary components that reward work performance regardless of the benefits, which are incentivized and rewarded by the variable part of the remuneration.

Focus the attention on the Italian market the fixed remuneration of top managers in 2017 is not significantly modified from the previous year: today there is a period of stagnation for managers about fixed remuneration. In detail, the fixed salaries of Italian Top managers present a decline of 2.9% in 2016, which follows to a further 1.8% decline in 2015.<sup>5</sup>

Moreover, the Executive directors and Managers with strategic responsibilities' fixed pay levels are set according to the complexity, the actual responsibilities and the experience required of the job, as well as to the reference remuneration market. The comparison with the remuneration market is carried out by the Company with the support of a job evaluation

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<sup>2</sup> [https://s21.q4cdn.com/399680738/files/doc\\_downloads/governance\\_documents/2016-C-G-Charter-\(FB\).pdf](https://s21.q4cdn.com/399680738/files/doc_downloads/governance_documents/2016-C-G-Charter-(FB).pdf), Charter of the Compensation & Governance Committee, Facebook, 2 June 2016.

<sup>3</sup> [https://abc.xyz/investor/pdf/2016\\_google\\_annual\\_report.pdf](https://abc.xyz/investor/pdf/2016_google_annual_report.pdf), Alphabet Annual Report 2016.

<sup>4</sup> <https://www.salary.com/steve-jobs-proved-executive-compensation-is-more-than-just-salary/>, Steve Jobs Proved Executive Compensation is More Than Just Salary, 10 May 2017.

<sup>5</sup> <https://www.manageritalia.it/files/21704/dir-6-17-retribuzioni-fiorelli.pdf>, June 2017.

method which enables consistent comparison and ensures a competitive position in the external market.

The fixed component of the remuneration package has a relative importance on the total remuneration of the individual directors. This limited weight, which is sufficient and appropriate even in the event that the variable part should not be disbursed due to failure to achieve the connected objectives, is such as to reduce excessively risk-oriented behavior, to discourage initiatives focused on short-term results and to enable a flexible approach to be taken towards the variable component.

### 1.3 The Variable Compensation

The variable compensation highly increases its importance inside the remuneration policy: it is part of non-fixed remuneration and it depends, in some way, on the results achieved by Top Managers. Companies need to structure variable remuneration system that are divided in two main components:

- 1) Short-term variable remuneration system. (MBO)
- 2) Medium/long-term variable remuneration system. (LTI)

In both cases the companies set a number of objectives for variable remuneration: each objective have a specific weight. The sum of the objective's weight must be 100%.

At the end of each fiscal year, the HR department and the Remuneration Committee analyze and evaluate the results achieved by Top Managers. Then, if the level of the results obtained by the Top Managers is high enough, according to the target level, the premium is paid by the society to the Top Managers.

To have a clear definition of the variable remuneration system used by companies, the following table synthesize the general structure of the variable remuneration system used by the firms to compensate the Top Managers: it is useful to show now the general structure, because, in the following paragraphs, the analysis goes into detail of each components.

The scheme must be applied to both Short-Term variable remuneration system (MBO) and Medium/Long- term variable remuneration (LTI): the following table is built for every Top Managers.

<b>Number of Objectives</b>	<b>Objectives</b>	<b>Weight</b>
1	EBIT > 200 million*	20%
2	Net Financial Position = positive*	20%
3	Roe > 2.0*	20%
4	Total Shareholders Returns = in the third quartile, or above, compared to competitors.*	20%
5	Qualitative Objectives	20%
	Sum	100%

\*the data are provided for illustrative and didactic purposes only.






Bonus Pool	% of the fixed remuneration
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*Source: Personal Processing*

Explanation of the table: first, the company must set a Bonus Pool. This is the possible total amount that the company have to pay if the Top Manger reaches all the objectives. Furthermore, the HR department and the Remuneration Committee analyze and compare the results achieved by the company with the scheme above. If the company reaches all the objectives, the variable compensation is paid to the Top Managers (and it correspond to the bonus pool), if one objectives or more is not reached, the society does not deliver the share part to the Top Managers.

The bonus pool could be set for all the company Top Managers: in this case, to have the bonus pool of one specific Top manager it must be divided by the corresponding percentage linked to the specific Top Manager. (i.e. Total Bonus Pool equal to 5.000.000 €, if the corresponding percentage to a specific Top Manager is equal to 20% of the Total Bonus Pool, the Bonus Pool of the specific Manager will be 1.000.000 €). The bonus pool could be set as a percentage of the fixed remuneration but also as a fixed amount.

The following scheme is after the review of the results linked to the objectives obtained or not by the company: then the firm paid the corresponding bonus to the Top Manager.

Number of Objectives	Objectives	Weight	Results of the firm at the end of the year
1	EBIT > 200 million*	20%	
2	Net Financial Position = positive*	20%	
3	Roe > 2.0*	20%	
4	Total Shareholders Returns = in the third quartile, or above, compared to competitors.*	20%	
5	Qualitative Objectives	20%	
	Sum	100%	

\*the data are provided for illustrative and didactic purposes only.

*Source: Personal Processing*

Then, in this specific case, the Top Manager reaches three objectives, while two objectives are not reached. Therefore, the company have to pay the corresponding part only for the achieved results.



The Human Resources department and the Remuneration Committee have to analyze the results obtained by the firm in the previous year comparing if the target objectives are reached or not by the Top Managers. The objectives could be, as in our example, a fixed number, a percentage, a ratio or they could be staggered. To be as clear as possible our example use fixed number, but the same system could be more sophisticated using a staggered percentage. (I.e. the first objective is  $EBIT > 200$  million, these means that if the EBIT of the company at the end of the year is greater than 200 million the Top Manager obtains 20% of the bonus pool, if the EBIT is equal or lower than 200 million the Top Manager does not obtain nothing. However, in a more sophisticated model the amount could be staggered:

- EBIT lower than 150 million, no bonus premium.
  - ( $EBIT < 150$  million)
- EBIT between 150 and 175 million, premium equal to 10% of the bonus pool.
  - ( $150 < EBIT < 175$ )
- EBIT between 175 and 225 million, premium equal to 15% of the bonus pool.
  - ( $175 < EBIT < 225$ )
- EBIT greater than 225 million, premium equal to 20% of the bonus pool.
  - ( $225 < EBIT$ )

Assuming a fixed bonus pool for the specific Top Manager assessed of 1 million, (or a 100% percentage of the fixed remuneration that is equal to 1 million, is the same), the firm must pay to the Top Managers the following amount:

Number of Objectives	Objectives	Weight	Results of the firm at the end of the year	Amount to pay
1	$EBIT > 200$ million*	20%	✓	200.000 ( $1.000.000 * 0.20$ )
2	Net Financial Position = positive*	20%	✗	0 (not reached)
3	$Roe > 2.0$ *	20%	✓	200.000 ( $1.000.000 * 0.20$ )



4	Total Shareholders Returns = in the third quartile, or above, compared to competitors. *	20%		0 (not reached)
5	Qualitative Objectives	20%		200.000 (1.000.000 * 0.20)
	Sum	100%		
	<b>TOTAL AMOUNT TO PAY</b>			<b>600.000</b>

\*the data are provided for illustrative and didactic purposes only.

*Source: Personal Processing*

Therefore, this model is applied to all the Top Managers and managers with strategic responsibilities, inside the Company. In general terms, it can be considered for both short-term variable compensation and medium/long-term variable compensation. Of course, this system is a general model; the thesis will analyze into detail the various components and process into the following chapters.

Companies that do not limit themselves to compete in the labor market based on the level of the basic salary, but use the other options available to compensate Top Executives, they are much more efficient (and probably also effective) in attracting, maintaining and motivating their collaborators.

In the Italian context, there are additional elements such as:

- The weight of the fixed remuneration on the total remuneration is continuously decreasing.
- The need to link the performance of the Top Managers to the results of the company.

Moreover, the definition of a variable remuneration plan is usually based on 3 principles that each firm have to follow in order to achieve higher performance:

1. Higher performance leads to higher remuneration for the Top Managers and vice versa.
2. Remuneration of Top Executives are distributed in a fair manner.

3. Managers, that have clear objectives, can understand how their performances influence compensation that they will receive.

To implement and manage an "adequate" compensation system, some typical errors must be avoided; they are often the result of barriers in the organizational culture. Below a list of the typical errors committed by the company:

- ✓ define objectives that are easy to measure but not relevant or priority for the company,
- ✓ surprise the employee during the annual evaluation / feedback interview with problems on his performance never highlighted before,
- ✓ fear of the reactions of those who do not have adequate services,
- ✓ define the incentive policy with respect to a predefined budget, independently from the contribution that performance leads to the company result.
- ✓ aversion to financial risk<sup>6</sup>, when it is feared that the expenditure becomes uncontrollable if all exceed the target-objectives, then leading to block with the upper limits the potential of those who have the best performance.

Furthermore, to overcome the highlighted problems, adopting suggested measures, is not enough for be excellent in variable remuneration policies. Benchmarking activity of international companies, such as Spencer Stuart and Egon Zhender, have highlighted innovative practices that further promote the management of the process. In summary, it is necessary to segment the corporate population according to critical functions, key roles and performance, personalizing reward plans and linking them to corporate strategy, defining objectives that are not conflicting with each other.

In addition, building a remuneration system that does not evaluate the past, but fosters the development of the future and consider the organizational culture in which the company operates is fundamental to obtain a good remuneration policy.

Considering the variable remuneration as a dynamic entity, produce the fact that the company must evaluate the cost in percentage compared to the result obtained.

Then, according to the previous statement, explore the economic impact and the accounting policies used in the variable pay system, especially in occasion of changes, also to identify possible risks of manipulation that provide negative effects on the companies.

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<sup>6</sup> *Creating Pay-for-Performance without Breaking the Bank*, Segal Group, Di Misa J., 30 May 2016.

When companies review or edit their remuneration policies is very useful to implement two analysis:

- 1) Compare the historical data of the previous year with those of the current year. In this manner is possible to estimate future trend.
- 2) Forecast the variation on average and the impact on balance sheet of the total compensation paid to Top Managers.

Then the variable paid is divided in the short-term and in the medium/long-term. In the following paragraph the thesis focus the attention on the Management by Objectives, that is the model used in the short-term variable remuneration, and on the Long Term Incentive Plan, that is the model used in the medium/long-term variable remuneration.

### 1.3.1 The Short-Term Variable Compensation

The Short-term variable compensation is that part of the total compensation of the Top Managers that is paid as a sort of «premium» whenever goals or results are achieved. The short-term variable remuneration is dependent upon the individual's capacity to meet annually set goals.

Short-term incentives are intended to compensate executives for achieving the company's short-term business strategy based on achievement of goals by the board compensation committee. The nature of these goals varies depending on the type and maturity of the business, specific company strategy, market conditions and other factors. Short-term incentive metrics are typically financial in nature, such as revenue growth, return on capital or maximizing profit, and many companies include non-financial metrics that are consistent with company strategy, such as meeting safety or quality assurance hurdles, or delivering on development of a new business or product. Annual incentive opportunity is typically expressed as a target percentage of the executive's salary, and plans are typically constructed to provide threshold, target and maximum levels of performance, which then generate corresponding threshold, target and maximum levels of pay. Generally, performance below the threshold level will result in no payout, while performance above the maximum level may be capped at the maximum payout tier (often 200% of target) to mitigate risk-taking.

Then, the short-term incentive compensation plan is intended to be an annual incentive plan for key managers and employees of the company where target awards are established and communicated to each participant each year. Based on the level of achievement of predetermined performance goals for both the company and the participants, an amount less than or greater than the target award can be earned.

The expression «Variable pay» is used in Italy to identify that part of the salary of the worker who is paid as a sort of «premium» e that is, whenever goals or results are achieved. Next to a treatment fixed salary, in the sense that it is for the sole performance of work and it is almost always related to a hourly wage as agreed in individual contract or in the collective agreement (basically 'national' and 'category'). Therefore, the worker finds a "voice" or more "voices" that are possible in the sense that can be recognized, or not, or that can be recognized with one periodicity that can be monthly as annual. Moreover, the origins of the discipline of "modern" variable retribution, where it is reserved in the composition of the salary, a certain space for elastically related remuneration items to dynamic indices, such as the productive efficiency or profitability of the company: the first pilot experiences date back to the Fiat and Olivetti Agreements, respectively, of 18 July and of 20 October 1988.<sup>7</sup>

Then the Shot-Term variable compensation, (in English management by objectives or management by results, from which the abbreviations MBO or MBR) is a method of assessing staff based on the results achieved in relation to pre-established objectives, and not on the skills expressed. If the objective and skill evaluation methods are used together, then the mixed evaluation term is used.

One main item of the short- term variable compensation is the fact that the bonus are only in cash.

#### 1.3.1.2 Management by Objectives (MBO)

Management by objectives (MBO) is a management model that aims to improve performance of an organization by clearly defining objectives that are agreed to by both management and employees. According to the theory, having a say in goal setting and

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<sup>7</sup> *Retribuzione, produttività e assetti contrattuali a quindici anni dal Protocollo Ciampi*”, Edoardo Ghera, tomo I, Bari, Cacucci, 2008, p. 113 ss.

action plans should ensure better participation and commitment among employees, as well as alignment of objectives across the organization. Management guru Peter Drucker first outlined the term in 1954 in his book "The Practice of Management."<sup>8</sup>

Today the MBO is the most used type of Short-Term Variable Compensation used by the listed and non-listed firm.

As she observed, what makes every MBO transaction tricky is the inherent and natural conflict of interest between existing shareholders and the management team.

A key tenet of management by objectives is the establishment of a management information system to measure actual performance and achievements against the defined objectives. Practitioners claim that the major benefits of MBO are that it improves employee motivation and commitment, and ensures better communication between management and employees. However, an oft-cited weakness is that MBO unduly emphasizes the setting of goals to attain objectives, rather than working on a systematic plan to do so.

Furthermore, the Objectives are determined with the employees and are challenging but achievable. There is daily feedback, and the focus is on rewards rather than punishment. Personal growth and development are emphasized, rather than negativity for failing to reach the objectives.

One main principle of the MBO is not a cure-all, but a tool to be utilized. It gives organizations a process, with many practitioners claiming the success of MBO is dependent on the support from top management, clearly outlined objectives, and trained managers who can implement it.

Moreover, the process of MBO involves six key steps that incorporate managerial activities in such a systematic way, which is directly influenced towards efficient and effective achievement individuals and organizational objectives. To analyze the practical importance of Management by Objectives, then it is good to summarize all the objectives of the organization together with individual goals. The six steps involved in the process of MBO are determining organizational goals, determining employees' objectives, constantly monitoring progress and performance, performance evaluation, providing feedback and performance appraisal.

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<sup>8</sup> *The Practice of Management, Peter Drucke, fifth edition, 17 February 2012.*

In addition, the Management by objectives is a systematic and organized approach that allows individuals and managers to focus on achievable goals and to attain the best possible results from available resources. MBO managers focus on the result, not the activity. They delegate tasks by establishing agreement about goals with their subordinates and not by dictating a detailed implementation plan. MBO is about setting objectives and then breaking these down into more specific goals or key results. It also provides a framework for setting clear expectations between Managers and their peers.

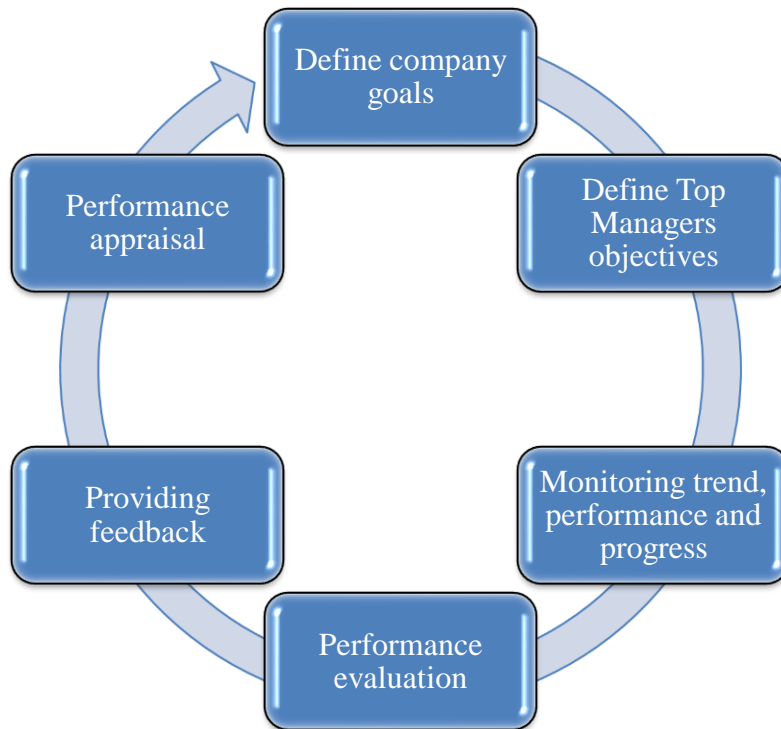
The principle behind MBO is to make sure that everybody within the organization has a clear understanding of the aims, or objectives, of that organization, as well as awareness of their own roles and responsibilities in achieving those aims. The complete MBO system is to get managers and empowered employees acting to implement and achieve their plans, which automatically achieve those of the organization.

Before analyzing the six steps is fundamental to highlight the fact that the six-step cycle is not a one-off exercise. It is a development cycle that takes the organizational objectives as the starting point and these need to be translated to an individual level. The message behind Management by Objectives is the jointly determining and achieving of objectives and being rewarded for these achievements.<sup>9</sup> It is important to make fair and correct assessments of the achievements against the setting of measurable goals. Clear performance indicators are essential for a good management by objectives approach.

Then, the MBO management system to be effective must contain six steps that are represented in the following table and analyzed immediately after:

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<sup>9</sup> Share-based payments — A guide to IFRS 2, Deloitte, 2007.



*Table: MBO Six-cycle.*

*Source: Advanced HR organization*

By actively involving all employees towards common goals, it helps to create a serene atmosphere within the company, increasing collaboration and encouraging the sharing of ideas for problem solving. Knowing that we can count on a solid group increases the safety of the individual, increasing their safety and pro-positivity.

Of course, there are some downsides that can occur if one or more team members with leadership qualities are more likely to achieve goals on their own rather than in groups. It is up to the manager to handle this eventuality in the verification and evaluation phases, perhaps reassigning the roles according to the attitudes of the employees. Let us remember that each individual has different qualities and skills, which must be addressed in the right way.

Although in the pure MBO the objectives are mostly individual, in the MBO systems Management by Objectives mixed individual general, particular and / or group objectives are identified and finally individual in order to spread in each individual, from general to

particular, the perception of the objectives themselves, their degree of achievement and the possible causes of any deviations.

Moreover, Anya Cummins (Partner – Merger and Acquisition Deloitte) confirmed that MBO transaction volume was up in 2015 and again in 2016. <sup>10</sup>“The markets are strong, businesses are performing well and despite macro-economic uncertainties these factors bode well for increased MBO activity. One of the key determining factors for a successful MBO is if the vendor is willing to sell at a reasonable price that makes sense for the management team and their financial sponsors to buy the business out while realizing a strong return on the ultimate sale.” As she observed, what makes every MBO transaction tricky is the inherent and natural conflict of interest between existing shareholders and the management team.

One main element to take into consideration is the fact that MBO system directs organizational behavior and this means that it requires consistency with the Company's strategic choices. It is fundamental to have a relation between the objectives of the firm and the individual annual objectives of the Top Manager: in this case the conflict of interest is eliminated and both the parties, the company and the Top manager, work in the same direction.

Therefore, when the company set the initial objectives of the Top Managers it has to take in consideration the possible effect on the balance sheet, if the goals are reached or not. The European and Italian legislation provide a set of laws: today a lot of company have the problem to adapt to current regulations. In the following chapters, the thesis will analyze the most relevant international accounting standard issue by the International Accounting Standards Board (IASB) that regulated the Top Managers compensation in the short and long period.

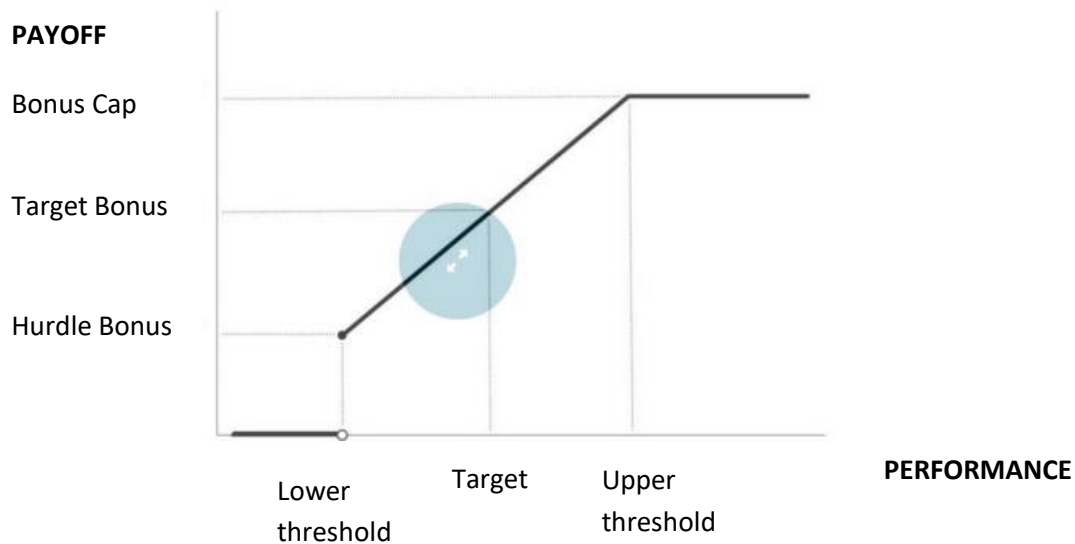
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<sup>10</sup> <https://www2.deloitte.com/ie/en/pages/finance/articles/The-time-is-right-for-MBOs.html>, *The time is right for MBOs*, Deloitte, Anya Cummins, 2017.



### 1.3.2 Entry Condition, Bonus Cap, Hurdle Bonus and Target Bonus.

Individual and group performance goals are hard to set, because they should be neither too ambitious nor too easy to achieve. In the Management by Objectives is fundamental to set four main elements to have an efficient remuneration system model and the following graph explains the Payoff/Performance matrix used by the company in the variable compensation.



*Table 3: Matrix Payoff/Performance*

*Source: Deloitte Accademy*

- **Bonus Cap:** is the potential maximum bonus that Top Managers can obtain. After the Bonus Cap, the bonus reached by the Top Managers remain the same.
- **Hurdle Bonus:** Is the minimum annual bonus that the Top Manager can achieved. In other word is the annual bonus connect to the lower threshold. In addition, the incentive programs are built around the expectations that the company has of itself: also with the hurdle bonus, the company have reached good and satisfactory results.
- **Target bonus:** is the more likely bonus that the Top Manager will achieved during the year. Company focus their attention on this indicator to plan the possible outcome on the balance sheet.

- **Entry Condition:** these are the minimum condition that the Top Managers must reach to gain the annual Bonus.

Moreover, annual incentive bonuses are meant to be motivational. They are designed to reward Top Managers for fulfilling their responsibilities and for delivering superior results. Bonus targets and their associated payouts reflect a range of expected levels of performance.

Just think of a star baseball pitcher who has an incentive clause in his contract based on the number of games he wins. For winning 15 games, he will get \$1 million; for 20 games, he will get \$3 million; and for 23 games, he will get \$7 million.<sup>11</sup> Obviously, this is an extreme simplified case.

The following example will clarify the short-term variable remuneration system used by the company:

<b>Expected performance level</b>	<b>Level of difficulty</b>	<b>Likelihood of achievement</b>	<b>Payout as a percentage of target opportunity</b>
Minimum (acceptable)	80% of target	90%	50%
Target	--	60%	100%
Maximum	120% of target	15%	200%

*Source: Personal Processing*

Suppose that the target bonus of the Top Manager is 100% of a base salary of 1.000.000 € and the Top Managers performed at the maximum performance level. That means the Top Manager would earn 200% of the base salary: this would result in a 2.000.000 € (1.000.000 x 100 % (target bonus) x 200% (payout level)).

Then, company have to take in consideration a forecast of the future trend of the company pushing the Top Managers to obtain the higher objectives. According to this fact, they have to implement different entry gate and bonus cap to Top Managers differentiating the strategy used and creating preventive funds according to the IAS 19.

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<sup>11</sup> *Executive pay: a revolution, David Ellis, partner Ernest & Young, 2017.*

#### 1.4 Medium/Long - Term Variable Compensation (Long Term Incentive Plans)

Long-term incentives generally comprise the largest component of executive pay -- typically over 60 percent for the median S&P 500 company.<sup>12</sup> The purpose of the long-term incentive is to reward executives for achievement of the company's strategic objectives that will maximize shareholder value. These may be provided in the form of stock-based compensation, such as stock options, restricted stock, performance shares, cash, or stock-settled performance units. Usually, long-term incentives are a mix of types of equity and may include a cash component. The performance period for a long-term incentive typically runs between three and five years, with the executive not receiving any pay from the incentive until the end of the performance period. Long-term incentive goals vary by company but the most prevalent are focused on total return to shareholders, operational measures such as earnings per share and return measures, such as return on assets. Like annual incentives, long-term incentives are typically structured to include a targeted level of performance, as well as a stretch component to reward executives for achieving superior performance.

The variable medium-long term component of remuneration is that part of the remuneration, generally deferred, which compensates employees for the achievement of wider objectives, the achievement of which requires periods that override the year.

The long-term component, due to its characteristics, is mostly addressed to Top Management, as it is more able to influence the company towards long-term objectives.

Companies use the Long Term Incentive plan (LTI) to compensate the Top Managers in the medium and long period. The main purposes of the variable medium-long term plan are:

- Creating a sense of belonging: it gives an incentive to achieve goals that they involve a continuous effort over time. They also improve communication in company, encouraging cooperation to achieve goals in the common interest of both Top Managers and company.
- Flexibility of Top Managers costs: part of the personnel costs will be linked to the business trend.

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<sup>12</sup> For some CEOs, performance goals aren't too tough, Joseph Steinberg, 10 September 2017, the Wall Street Journal.

- Attracting the best resources and motivating them towards high levels of performance: those who believe in being able to achieve good results will be more inclined to be remunerated on the basis of their results.<sup>13</sup>
- Reduce agency costs: allows alignment of vision and management objectives and shareholder, discouraging potential opportunistic behavior on the part of the first to the detriment of the latter.
- Withholding key resources within the company: many awards do not come be paid if the manager resigns before they mature.

Then a long-term incentive plan (LTIP) is a reward system designed to improve employees' long-term performance by providing rewards that may not be tied to the company's share price. In a typical LTIP, the Top Managers must fulfill various conditions or requirements to prove that he has contributed to increasing shareholder value.

The long-term incentive plans are aimed at strengthening the link between variable remuneration and

Long-term business results and further align the interests of Top Management with those of the shareholders.

Therefore, the LTIP are the plan used by the company to remunerate the Top Executive in the medium-long term. The bonus achieved could be cash or stock: the main issue is the use of financial instrument. Then the IASB issue some international accounting standards that focus on the Top Managers compensation in the medium and long period.

The LTI Plan is very similar to the MBO, but the main differences between the two system is the fact that the MBO is annual and the possible bonus achieved by the Top Manager is cash, while for the Long Term incentive plan the bonus could be cash or shares and the beneficiary obtained the bonus not immediately but after an horizon period. It is important to specify the fact that in some special and extraordinary cases, some company use share also with the MBO system.

Then Long-term incentive systems include:

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<sup>13</sup> *International handbook of organizational teamwork and cooperative working, Michael A., West Editor, fourth edition, 18 July 2015.*

- Bonus: Assignment - subject to the achievement of specific performance indicators - of future incentives based on shares, financial instrument or cash.
- Time: A period of performance consistent with the strategic objectives of the company.
- Objectives: Performance conditions based on an all-encompassing objectives sheet, which includes, for example, financial indicators.
- Malus: Application of malus conditions that require compliance with minimum conditions of profitability, liquidity and capital.
- Holding Period: The application of a period of unavailability of the instruments at the end of the period of deferment.
- Claw-back: Incentives subject to claw-back conditions (subject to ex post correction mechanisms).

One main point to highlight is the fact that the Long-Term Incentive Plan are designed only for Top Managers and Top Executives. In some cases, company decided to divide the Top Managers in cluster and each class have a specific Long Term Incentive Plan. Obviously, higher is the class, higher is the competences and skills of the Top Managers and higher is the complexity of the Long Term Incentives Plan. The following table synthetize an example of division between Top Managers:



*Source: Spencer Stuart database*

Therefore, compensation is one way company leadership has of communicating where the company is headed (vision), how it's going to get there (strategy/key initiatives), what it needs its key people to do (roles and expectations) and how it will reward that effort (incentives). Long-term incentives are an effective way of rewarding those who create value that contributes to company growth. It requires a business to envision what the future company will look like and the key elements that need to be transformed for that growth to occur. The long-term incentive plan is then built around the behaviors and results that need to be achieved if that future company vision is to be realized. As a result, compensation plans of this type should not be viewed as an additional expense. Rather, they represent an investment—and one that is only paid out if additional value is created. It is from that additional value that the incentive is paid.

Moreover, the LTI Plan have a strong impact on the financial statement. According to this fact, when the company plan the structure of the Long Term Incentive Plan, they have to take into consideration the possible future effect on the balance sheet.

In the following chapters, the thesis will analyze all the elements, accounting policies and financial instruments used by the firm in the Long Term Incentive Plan. According to the IFRS 2 and IAS 19 issue by the International Accounting Standard Board, company have to maintain a clear presentation on balance sheet of the instrument used to compensate the Top Managers ensuring a clear and precise disclosure.

### 1.5 Additional Bonus and Fringe Benefits

The additional bonus and the fringe benefits are additional pay entry in the form of goods or services received by the Top Manager from the Company.

They are intended to quantify the goods and services that the worker can use free or at more advantageous conditions than those who turn to the market to buy them. The calculation of the economic value of fringe benefits is done exclusively for tax purposes, for the taxation of this particular income based on the so-called "normal value" of benefits.<sup>14</sup>

Then, fringe benefits are compensation, in addition to ordinary remuneration, consisting of goods and services that workers can use for free or at more advantageous conditions

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<sup>14</sup> *The importance of Fringe Benefits, Raffaello Lupi, Il Sole 24 Ore, 21 December 2016.*

than those who turn to the market to buy them. The function is to facilitate the performance of duties, to retain the loyalty of managers, to lighten the current expenses of workers.

The most common examples are the canteen, the concession of cars used for promiscuous use, as well as the possibility of purchasing company products benefiting from significant price reductions or access to loans at preferential rates at banks. The measurement of the economic capacity linked to these benefits follows the general rule of the so-called "normal value", except for specific exemptions.

In order to prevent any disputes regarding the translation into monetary values of such "in-kind" remuneration, specific measurement criteria have been established based on a case-by-case basis on objective elements or on specific flat-rate parameters.

The main categories of fringe benefits in paycheck are company car, mobile phone, canteen vouchers, and housing and life insurance policies.

There are other forms of fringe benefits such as the offer of shares to employees, the sale of company products to particular favorable conditions, the personal loan to employees at lower rates than those of the market, etc. In general, every time an employee or a collaborator uses a specific good or service or takes advantage of the satisfaction of a need in a constant employment relationship, then it is a fringe benefit. Since the fringe benefit must still appear on the payroll, there is the problem of determining its value, which always represents a conventional or reference value, since it is a treatment in nature. The calculation of the fringe benefit is done according to different methods, the main ones being: the normative predetermination of reference values or based on the so-called "normal value".

According to Article 3 of the Consolidated Law on Income Taxes, "normal value" means the price or fee charged on average for goods and services of the same or similar type under conditions of free competition and at the same level of marketing, in the time and place where the goods or services have been acquired or lent and failing in the nearest time and place".<sup>15</sup>

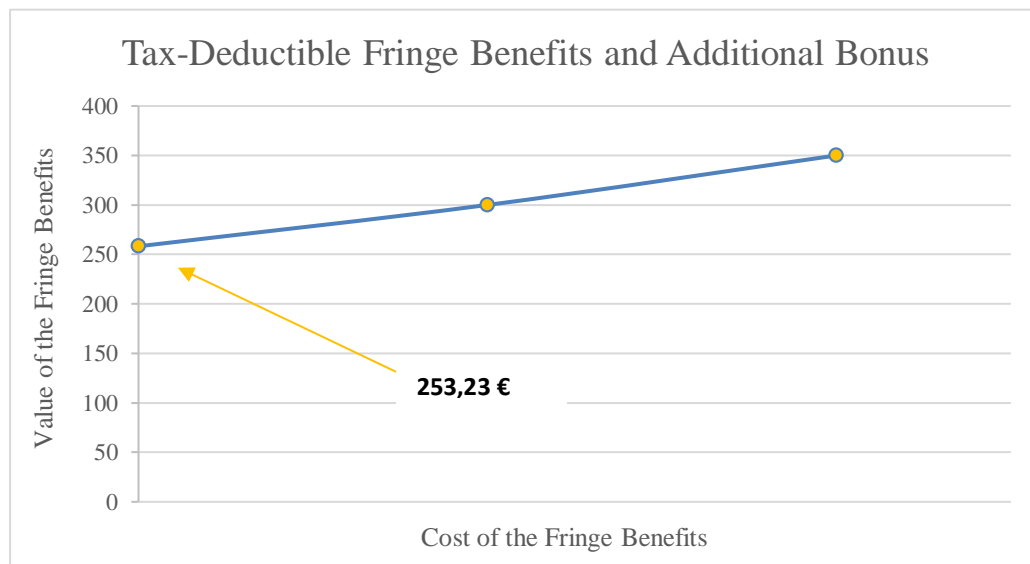
Moreover, it is important to do not confuse the fringe benefits with individual bonuses or occasional donations: in fact, in this case, they are immediately determinable amounts and

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<sup>15</sup> <https://www.brocardi.it/testo-unico-imposte-redditi/titolo-i/capo-i/art3.html>, Article 3 of the Consolidated Law on Income Taxes.

then go into paychecks and subject to contributions and withholding taxes for the part exceeding € 258.23 per year (therefore exempt up to this limit).<sup>16</sup>

This mean that the fringe benefits and additional bonus, in Italy, are deductible till 258.23 € annually according to the article 95 of the TIUR (this is the general rule, as the thesis will explain there are particular cases).



*Source: Personal Processing of Article 95 TIUR*

Furthermore, there is the necessary to take into account the relation between TIUR 95 and TIUR 100. From a general point of view, the fringe benefits are deductible for the company but within the limits of what is regulated by article 100 of the TIUR that limits precisely the deductibility to the fact that these costs will be in any case at 5 per thousand of personnel costs resulting from the tax return.

Then, the use of Fringe Benefits and additional bonus is fundamental for the good management of the firms. In the following chapter the thesis analyze the accountability of fringe benefits inside the balance sheet of the firms.

### 1.5.1 Fringe benefits in 2018 and Tax-Deductible in Italy

For fringe benefit the law means any income in kind, good, service, paid to the Top Managers and employees by the employer and which may have a different tax treatment

<sup>16</sup> <https://www.gbsoftware.it/legginotizia.asp?IdNews=2460>, Article 95 of the Italian TIUR.



depending on whether disbursements, cars granted in use to employees, reimbursement of expenses for travel or gifts and other cases such as canteens, public transportation or kindergartens.

As previously mentioned, fringe benefits are all those components of income such as goods or services or anything else that may have an economic evaluation that is given to the employee and that according to the principle of omni-comprehensiveness should be subjected to payroll tax to the employee but which, as we will see below, enjoy exemption schemes. Differentiation is very important because it serves to understand:

- Correctness of the payroll tax,
- Correctness of the deduction for the company,
- Correctness of withholdings to be applied in the employee's paycheck,
- Determination of the tax base for INPS purposes.

Now it is important to analyze the tax treatment that may have in the employee's payroll the fringe benefit and the treatment related to the possible deduction for Ires purposes for the employer. The general principle provides a close correlation between taxation on the part of the employee of the fringe benefit and deduction of the cost by the company. It is necessary to introduce a second level of analysis that will allow the correct deduction of the cost for Ires purposes and the perimeter within which to carry out the evaluation of the deductibility of the cost sustained as fringe benefits. In fact, you always have to co-author two articles, which are Article 95 and Article 100 of the Tuir.

The tax treatment of the fringe benefit starts from the assumption that it is nothing more than the income in kind paid to the employee and which represents a deductible Ires cost for the company and a taxable income from the employee's income tax payable.

Therefore the thesis now will analyze the fringe benefits and their taxation of the company for Ires purposes that fall within the scope of Article 95 of the Tuir and Article 51, which respectively define the costs for deductible work services, and the components that enter into the determination of taxable employee income in payroll.<sup>17</sup>

The fringe benefits can be divided into three categories:

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<sup>17</sup> <https://www.fiscoetasse.com/normativa-prassi/461-tuir-nuovo-testo-unico-delle-imposte-sui-redditi.html>, *Tuir - Testo Unico delle imposte sui redditi*, Altalex, 18 Marzo 2018.

1. Fringe Benefits that are tax-deductible independent from their amount.
2. Fringe Benefits that have a limit of the amount that is tax-deductible.
3. Fringe Benefits that present a different taxation due to their extraordinary nature.

For the tax deduction, the company must comply with the following requirements:

- The fringe benefits can be applied only to Top Managers or to all employees,
- Limit of the 5% of the total cost of personnel. The determination of the amount on which to calculate the 5% is made by taking the data from the financial statements and taking the cost of personnel.

Now, to have a complete overview of the accountability of Fringe Benefits the thesis will analyze 3 example, one for each category, that are the most common Fringe Benefits used by the company to compensate Top Managers (company car) and employees (ticket restaurant).

#### 1.5.2 Fringe Benefits that are tax-deductible independent from their amount.

The first case are those fringe benefits that are tax-deductible independent from their amount: this means that the companies can deduct the amount from their income taxes.

Furthermore, for the fringe benefits that are tax-deductible independent from their amount there are some requisites that the company need to respect in order to maintain full deductibility. It consists in the fact that they can be made to the employees or even to single categories as long as within the limits of 5 % of the cost of personnel. For the identification of the upright on which to calculate the 5 per thousand you can also refer to the financial statements.

The cost of ticket restaurant distributed to employees is shown in the balance sheet under item B.7 ("Costs for services") of the income statement, since this is not so much about personnel costs, but costs related to the provision of services offered to staff in strength to the company.

The most common example are the ticket restaurants. These payments may be those goods and services offered on public holidays or company events, but may also consist of the

most common supply of food or drinks or meals for canteens or for the provision of meal vouchers, if their value does not exceed € 5.29 per day.

In fact, in the employees' paychecks, ticket restaurants below that threshold multiplied by the number of working days are not taxed.

There is also the possibilities that the ticket restaurants exceed the limit threshold of 5,29 € per day. In this case, the fringe benefits falls under the second category of fringe benefits. Then, as it is clearly explain on the article 51 of the T.U.I.R (Consolidated Law on Income Taxes)<sup>18</sup>, the ticket restaurants are exempt from tax charges for both the companies and the employee up to the daily amount of € 5.29. In fact, up to this total daily amount the meal vouchers do not contribute to form income from employment. The excess of the face value of the voucher with respect to this figure is part of the tax base.

There are other two sentences that strength the previous concept:

- ✓ Italian IRES (Company income tax) that claims: The meal vouchers are 100% deductible for the company for IRAP and IRES purposes, actually falling within the balance sheet as "personnel cost". The cost for the purchase of meal vouchers is instead deductible to 75% for freelancers, self-employed workers, sole proprietorships, members, directors, freelancers, agents.
- ✓ The meal voucher is exempt from social security and welfare contributions up to the total daily amount of € 5.29, as, as "substitute meal service", it does not constitute income from employment (Art. 51 T.U.I.R.).

In the Italian market, main innovations about the ticket restaurant was introduced with the Ministerial Decree 7 June 2017.<sup>19</sup> The following point synthetize the main aspect:

- The commercial businesses where the service can be provided (not only in the supermarkets).
- The characteristics of the ticket restaurants.
- The most innovative aspect of the decree consists in the fact that it is possible to use up to eight meal vouchers within the same expenditure.
- The issue of the vouchers may be provided in favor of subordinated workers, both full-time and part-time, even if the working hours do not set a break for the meal,

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<sup>18</sup> <http://www.altalex.com/documents/leggi/2014/07/17/tuir-titolo-i-capo-iv-redditi-di-lavoro-dipendente>, TUIR (Consolidated Law on Income Taxes), Article 51.

<sup>19</sup> <http://www.gazzettaufficiale.it/eli/id/2017/08/10/17G00134/sg>, Ministerial Decree 7 June 2017, Gazzetta Ufficiale della Repubblica Italiana.

as well as for those who in various capacities they have undertaken a non-subordinate collaboration relationship.

- The worker in whose favor the voucher has been issued will not be able to transfer it to third parties, even if it is family or relatives and will be able to buy food, drinks, and not goods other than edible ones.
- The meal vouchers issued in paper form must include - in addition to the tax code or company name of the employer, the company name and tax code of the issuing company, at the face value expressed in current currency, at the end of use and at a space for the use date, the owner's signature and the stamp of the contracted office where the voucher is used.

Then, in the 2018 according to the Ministerial Decree 7 June 2017, in Italy a lot of company start to use the electronic ticket restaurant. This service is provided through an electronic card that is monthly recharged by the number of vouchers established from time to time by the company. The process is simple: the customer sends the monthly order to the issuing company; the charge of data and available systems (POS – Point Of Sale); the benefit is the recharge on the card through the POS network. Furthermore, issuing companies are often available at customer facilities.

The electronic ticket restaurant offers the best usability features and the same "benefit" content as the traditional paper voucher: in fact, it is configured as the "updated" version of the paper ticket restaurant.

The only real substantial difference between the electronic ticket restaurant and the paper ticket restaurant is about the tax-deductible of the companies.

- Electronic version of ticket restaurant: Tax-deductible till 7,00 € per day.
- Paper version of thicket restaurant: Tax-deductible till 5,29 € per day.

The life cycle of the electronic recharge "product" is still in its initial development phase: although it has been present on the market for some time, the electronic version has enjoyed significant acceleration thanks to the 2015 Stability Law (Law 190/2014).<sup>20</sup> The legislator wanted to reward the traceability characteristics of the electronic instrument, raising to €

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<sup>20</sup> <http://www.gazzettaufficiale.it/eli/id/2014/12/29/14G00203/sg>, *Gazzetta Ufficiale della Repubblica Italiana*, 23 dicembre 2014.

7.00 the tax and contribution exemption threshold for the employer and employees and leaving the one relating to the paper version unchanged at € 5.29.

The raising of the limit to € 7.00 makes the electronic version an instrument of corporate welfare extremely attractive for businesses, especially as the face value of the coupon is closer (or exceeds) the threshold of € 7.00.

The tax treatment gap between the two solutions has fueled the expectations of the issuing companies and supported the necessary hardware investments aimed at the creation of extensive spending networks through the installation of the appropriate POS terminals at the affiliated shops.

The following scheme highlight the differences between the two instruments:

PAPER TICKET	ELECTRONIC TICKET
 5,29 € is the tax-deducible threshold.	 7,00 € is the tax-deducible threshold.
 Wide network of spendability	 Small network of spendability

*Source: Personal Processing*

Therefore, there are two qualitative aspect to take into consideration:

1. The Tax-deducible threshold.
2. The amount of shops that accept the electronic version (today the estimate is 1/3 related to the shops that accept the paper version).<sup>21</sup>

Each company have to take into consideration a trade-off strategy. Obviously, there is no single answer but, in some cases, customers consider the "spendability" parameter as important as the price. In some cases even more important.

<sup>21</sup> *Compensation trends, Deloitte Accademy, 16 July 2017.*

However, evaluations with regard to "spendability" cannot be limited to the banal sum of public establishments and retailers who accept the meal voucher. In order to make a rational decision, it is essential to carry out an in-depth analysis of the "need for spendability" of its employees, because, as always, a quality that is not optimized is synonymous with inefficiency and additional costs.

Without the analysis of the "need for expendability", it could be impossible to grasp significant savings opportunities.

Therefore, in the choice between a printed meal voucher (the most widespread and accepted) and the electronic meal voucher (the cheapest), the evaluation of the trade-off between "quality" and "inexpensiveness" is the heart of the decision-making process.

According to a market research conducted by ConfCommercio<sup>22</sup> a very simple rule can direct the choice in the right direction. If the face value of the ticket restaurant is lower (or equal) to € 5.29 and it is believed that this limit will not be exceeded in the near future, then the choice must fall on the traditional paper ticket restaurant. With this type of service, in fact, nothing is sacrificed on the economic level (no differential tax / social security benefits, neither for the company nor for the employees, can be obtained compared to electronic version) and the qualitative advantages are optimized (a broader network of spendability). Conversely, if the value of the meal voucher exceeds the threshold of € 5.29, the convenience of the electronic meal voucher emerges, which becomes all the more relevant as the unit value of the meal voucher approaches (reaches) that of € 7.00 . In this case, maximum attention must be paid to the accurate analysis of the spendability network.

The differential economic advantage only takes effect in the range between € 5.29 and € 7.00. These are the two thresholds beyond which, depending on the type of service chosen, the contributing costs of the ordinary salary and the tax burden consistent with the level of income for the company.

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<sup>22</sup> <https://www.confcommercio.it/documents/10180/4066762-il-mercato-dei-buoni-pasto.pdf/473b8375-d1df-4934-a09a-208f3b1f5b7a>, *Il mercato dei buoni pasto*, ConfCommercio, 21 May 2016.

### 1.5.3 Fringe Benefits that have a limit of the amount that is tax-deductible.

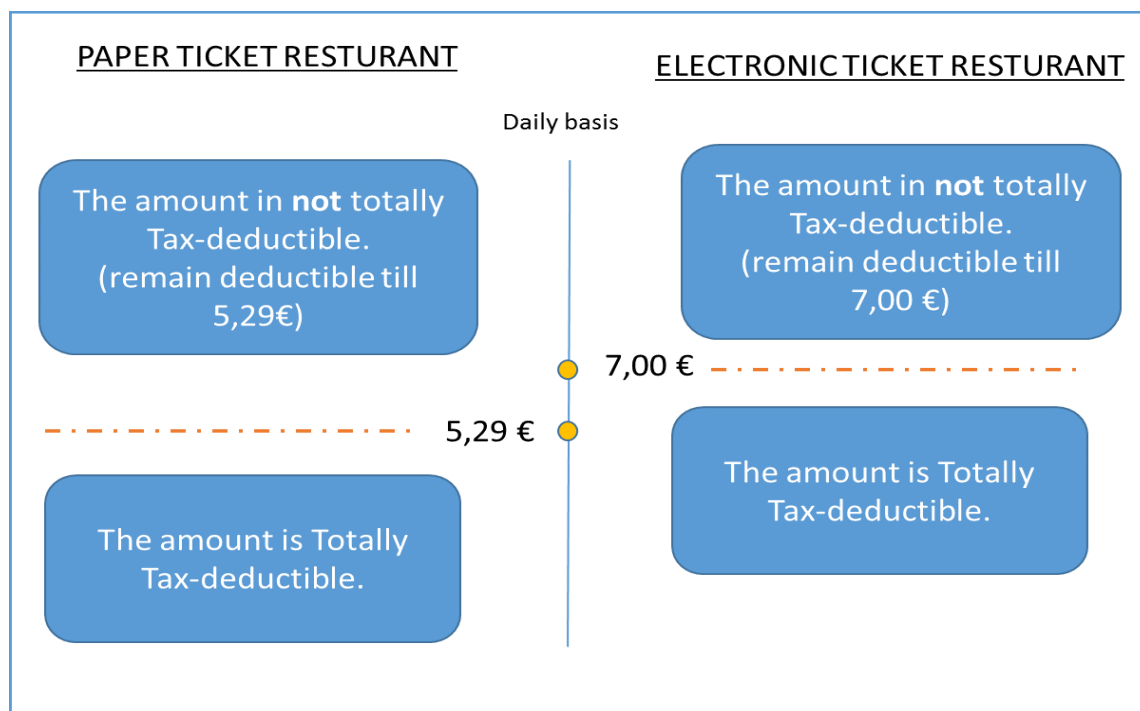
The second case of fringe benefits are those that have a limit of the amount that is tax-deductible for the companies: this means that a percentage of the fringe benefits is tax-deductible, the other part it is not.

One common case is linked to previous one and considering always the ticket restaurant. This is the case in which the nominal value of the ticket restaurant goes beyond the threshold of 5,29 €, in the case of paper ticket restaurant, and 7,00 € in the case of electronic ticket restaurant.

The tax-deductible benefits are not for the entire amount but only for the covered amount: then, the extra-part is not tax-deductible.

Also in the case of the employee, only the part that exceed the threshold is taxable. For example, if the employee receive an electronic ticket restaurant for € 8.00 for each working day, of these only €.<sup>23</sup> 1.00 per day will be subject to taxation in the payroll for Irpef purposes.

The following graph show the possible situations:



Source: Personal Processing

<sup>23</sup> Buoni pasto 2018: nuove regole ticket restaurant, importo e tassazione, Alessandra Losito, GuidaFisco, 5 Febraury 2018.

One important element to consider is the fact that under the previous threshold the amount is totally deductible for both parties, the company and the employees.

#### 1.5.4 Fringe Benefits that present a different taxation due to their extraordinary nature

The last type of fringe benefits are those that present a different taxation due to their extraordinary nature. This category is the most important for the compensation of Top Executive and managers.

There are several types of fringe benefits that belong to this category, but, of course, the most common case is the company car. Among the remunerations supplementary to the salary, the company car is one of the most popular benefits for companies. Article 2099 of the Italian Civil Code provides that "the employee may also be remunerated in whole or in part with participation in profits or products, with commission or benefits in kind".<sup>24</sup>

Then, to have a clear overview of the fringe benefits, the thesis will explain how the company car is taxed. First, it is important to consider an important differentiation about the use of the car that produce three categories, each of these with a different taxation:

1. If the company car is assigned to the Manager only for working purpose.
2. If the company car is assigned to the Manager for both, personal purpose and working purpose (promiscuous use).
3. If the company car is assigned to the Manager only for personal purpose.

The first case is the easier in fact the company car is granted only during the working hours: this means that there is any fringe benefits. In this case, the company cars is deductible at 100% for the company. In fact, the attribution of the vehicle by the company is a necessary tool for the performance of work. Therefore, for the company the expenses and other negative component relating to cars and motorcycles are entirely deductible in case they are intended to be used exclusively as capital goods in the company's own business. In particular, the vehicles are considered instrumental if the working activities cannot be exercised without the company car.

If the activities can be exercise also without the company car by the Manager, there are the following limits:

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<sup>24</sup> Article 2099 of the Italian Civil Code.



- € 18.075,99 for the cars,
- € 4.131,66 for the motorbikes.

The following example can better explain the situation:

*Consider the case of a company who purchased a car in 2017, of which depreciable amount is equal to 40,000 €. The Manager uses the vehicle exclusively for business purposes.*<sup>25</sup>

As the cost exceeds the € 18.075.99, the following situation will occur for the 2018 tax period:

- Manager: no taxable income;
- Company:
  - maximum deductibility =  $18.075.99 * 20\% = 3.615 \text{ €}$ ,
  - tax depreciation rate: 20%,
  - tax depreciation share for 2018:  $3.615.20 \text{ €} * 20\% = 723.04 \text{ €}$

The second option is more complicated: company cars may have a different destination than that used exclusively for business purposes and therefore receive a different tax treatment, in terms of deductibility for income tax purposes. One of the most important destinations that a company vehicle can have is the promiscuous use - when the asset is used both for business purposes and for personal use by the managers. In this case, the tax deductibility for the company is limited to 70% of car's cost. Therefore, it is important to define the scope of application of this provision, in order to allow one correct use and avoid elusive behaviors. According to this fact, it is necessary that the use by the manager must be proven with certainty on the basis of suitable documentation.

Furthermore, the manager must use the vehicle for half plus 1 of the days that make up the tax period of the employer (hence 183 days a year).

From the Manager point of view, the company have to calculate the percentage of working use and personal use on a flat-rate basis. It is assumed that from Monday to Friday the car is used as a working good and on weekends as a personal asset. Every year the ACI<sup>26</sup> (Automotive Club Italy) publishes the kilometer cost of vehicles on the market, precisely to allow the most reliable quantification of the fringe benefit. For the Manager the

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<sup>25</sup> *Imposte Indirette per le Società, Il Sole 24 Ore, Saverio Cinieri, 17 May 2017.*

<sup>26</sup> <http://www.aci.it/i-servizi/servizi-online/fringe-benefit.html>, ACI Table for taxation on Fringe Benefits.

attribution of a vehicle for promiscuous use determines a fringe benefit equal to 30% of the amount corresponding to 15.000 km, determinable based on the kilometer cost established by the Tables ACI.

Then, the formula to compute the taxes, on the fringed benefits of the Manager, is the following one:

$$(15.000 * \text{number corresponding on the ACI tables}) * 30\%$$

The following example can better explain the second categories:

*Consider the case of a company who purchased a car in 2017, of which depreciable amount is equal to 40,000 €. The car is granted, in promiscuous use, to an employee for most of the tax period.<sup>27</sup>*

*The following situation will occur for the 2018 tax period:*

- Manager:
  - ACI table for the specified model: 0.5866
  - Fringe benefit taxed on Manager:  $(15.000 * 0.5866) * 30\% = 2.639.7 \text{ €}$  annual basis (219.98 monthly basis).
- Company:
  - maximum deductibility =  $40.000 \text{ €} * 70\% = 28.000 \text{ €}$ ,
  - tax depreciation rate: 20%,
  - tax depreciation share for 2018:  $28.000 \text{ €} * 20\% = 5.600 \text{ €}$

The third case, the assignment of a vehicle to the Manager for exclusive personal use, determines a fringe benefit. Then, the quantification of income occurs by applying the criterion of normal value that is: "For normal value of goods and services means the price or payment on average practiced for goods or services of the same or similar species under conditions of free competition and at the same stage of marketing, in time and place where it was carried out the operation or in the nearest time and place."<sup>28</sup>

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<sup>27</sup> *Imposte Indirette per le Società, Il Sole 24 Ore, Saverio Cinieri, 17 May 2017.*

<sup>28</sup> <http://www.businessdictionary.com/definition/value.html>, *Normal Value Definition, Business dictionary.*

## 1.6 Compensation bonus link to M&A transactions

Today, the most profitable companies use extraordinary transaction as M&A to continue to grow.

Before the thesis briefly explains the meaning of M&A and then the analysis focus on the bonus link to M&A that affect the Top Managers compensation.

Mergers and acquisitions are part of what is often referred to as “the market for corporate control.” When one firm acquires another, there is typically a buyer, the acquirer or bidder, and a seller, the target firm. There are two primary mechanisms by which ownership and control of a public corporation can change: either another corporation or group of individuals can acquire the target firm, or the target firm can merge with another firm.

In both cases, the acquiring entity must purchase the stock or existing assets of the target either for cash or for something of equivalent value (such as shares in the acquiring or newly merged corporation).

The global takeover market is highly active, averaging more than \$1 trillion per year in transaction value. The following table lists the total amount of M&A in the 2017 Italian market and, as we can see from the table, it is a positive and growing trend:

Nr.	e	Target	Naz. T	Bidder	Naz. B	%	€ Mln
1	E/I	Pioneer Investments Management SGR S.p.A.	Italia	Amundi	Francia	100,0%	3.545
2	VE	Pirelli & C. S.p.A.	Cina	Mercato	Italia	40,0%	2.600
3	E/I	Eni East Africa (Area 4 Mozambico)	Italia	Exxon	USA	25%	2.381
4	E/I	Bank Pekao S.A. (Gruppo Unicredit)	Italia	Pow szezchny Zaklad Ubezpieczeń S.A. e Polish Development Fund S.A.	Polonia	32,8%	2.360
5	VE	CSA Siderúrgica do Atlântico (thyssenkrupp AG)	Brasile - Germania	Ternium S.A. (Gruppo Techint)	Italia	100,0%	1.500
6	VI	Intesa SanPaolo S.p.A.	Italia	Assicurazioni Generali S.p.A.	Italia	3,0%	1.105
7	E/I	Autostrade per l'Italia S.p.A.	Italia	Allianz Capital Partners per conto di Allianz Group (74%), EDF Invest (20%) e DIF	Germania	6,9%	1.027
8	E/I	Zohr Gas Field (Shorouk)	Italia	Rosneft	Russia	30,0%	959
9	E/I	Allfunds Bank (Gruppo Intesa SanPaolo 50% - Santander 50%)	Italia	Hellmann&Friedman e GIC	USA - Singapore	50,0%	930
10	E/I	Autostrade per l'Italia S.p.A.	Italia	Silk Road Fund	Cina	5,0%	740
Totale Top 10							17.147
% su totale mercato Italia							42,2%
<b>Totale Mercato Italia al 18/12/2017</b>							<b>40.631</b>

*Source: Thomson Reuters at 18/12/2017*

In addition, there are several types of transactions that vary by the relation between the target and the acquirer and by the method of payment used in the transaction.

If the target and acquirer are in the same industry, the merger is typically called a horizontal merger, whereas if the target's industry buys or sells to the acquirer's industry, it is called

a vertical merger. Finally, if the target and acquirer operate in unrelated industries, the deal is a conglomerate merger.

Nevertheless, why Top Managers receive millionaire bonus on M&A transaction?

The answer is the market reaction to the takeover. This produced the fact that at the end of the takeover the shares price of the acquiring company are higher respect to before the M&A process.

$$\begin{array}{ccc} \textit{Share Price of the Acquirer} & & \textit{Share Price of the Acquirer} \\ \textit{before the takeover} & < & \textit{after the takeover} \end{array}$$

The following table lists market reaction to a takeover. When a bid is announced, the target shareholders enjoy a gain of 15% on average in their stock price. Although acquirer shareholders see an average gain of 1%.

<b>Announcement Price Reaction</b>	
Target	Acquirer
15%	1%

*Source: Handbook of Corporate Finance: Empirical Corporate Finance.*

There are several reasons that produce an increase of the stock's price. To have a complete overview of the creation of value produce by M&A transaction, these are the main elements that generate values<sup>29</sup>:

- Economies of scale and scope
- Vertical Integration
- Expertise
- Monopoly Gains
- Efficiency Gains
- Tax Saving from Operating Losses
- Diversification
- Risk Reduction

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<sup>29</sup> *Corporate Finance, Berk De Marzo, Third Editon, 2016.*

- Earning Growth

During 2017 the Italian mergers and acquisitions market recorded 733 transactions (-1% compared to 740 in 2016) for a total counter value of approximately € 41 billion.<sup>30</sup>

Then, the large amount and value created by the transaction are the reason to high compensation bonus provided to the Top Managers.

First, it is important to distinguish this extraordinary bonus to the other type of bonus, MBO and LTI. This bonus linked to the M&A transaction, due to their extraordinary nature, are provided only to the verification of certain conditions.

Obviously, these specific bonuses are establish only for Top Managers lines (CEO, CFO, etc.,) and they are different from company to company.

Due to the high importance of the M&A market, many companies decide to introduce specific bonus on M&A transaction.

In the 2017 Italian Market, the analysis is focalized on the 100 Italians listed companies in order of capitalization and the results of remuneration policies study is following one:

- ✓ 76 companies provide incentives bonus on M&A transaction or extraordinary transaction.<sup>31</sup>
- ✓ 10 companies have the intention to introduce it.
- ✓ 14 companies haven't incentives bonus on M&A transaction or extraordinary transaction.

<b>100 Italians listed companies</b>	
Bonus M&A	Number of Companies
Have a specific bonus on M&A transaction or extraordinary transaction	76
Have the intention to introduce it.	10
Haven't incentives bonus on M&A transaction or extraordinary transaction.	14

*Source: Personal Processing*

<sup>30</sup> *Mercato M&A in Italia nel 2017: il rapporto KPMG Corporate Finance, 8 Gennaio 2018, KPMG Italy.*

<sup>31</sup> *CEO Compensation and Incentives - Evidence from M&A Bonuses, Giovanna Galli, 18 May 2017, Feltrinelli Editore.*

Then, according to the previous number, the M&A transaction have a great impact on total Top Manger's compensation and it importance is constantly growing.

## CHAPTER 2

### 2. Accounting, managerial and financial implication of IFRS 2

#### 2.1 The scope of IFRS 2 and its accounting principles

IFRS 2 – Share Base Payment – has primary importance to completely understand the Top Executive, Top Managers and Board Member total compensation. As the thesis explains in the previous chapter, the IFRS 2 fall in the medium/long term variable compensation and it has a great weight on total compensation.

IFRS 2 Share-based Payment requires an entity to recognize share-based payment transactions (such as granted shares, share options, or share appreciation rights) in its financial statements, including transactions with employees or other parties to be settled in cash, other assets, or equity instruments of the entity. Specific requirements are included for equity-settled and cash-settled share-based payment transactions, as well as those where the entity or supplier has a choice of cash or equity instruments.

The IFRS 2 was originally issued in February 2004 and first applied to annual periods beginning on or after 1 January 2005. Nevertheless, during the years, there were many changes on the International Accounting Standard and precisely the following table summarize the history of IFRS 2:

<b>Date</b>	<b>Development</b>	<b>Effective Period</b>
19 February 2004	IFRS 2 Share-based Payment issued	Effective for annual periods beginning on or after 1 January 2005
17 January 2008	Amended by Vesting Conditions and Cancellations (Amendments to IFRS 2)	Effective for annual periods beginning on or after 1 January 2009
18 June 2009	Amended by Group Cash-settled Share-based Payment Transactions	Effective for annual periods beginning on or after 1 January 2010

12 December 2013	Amended by Annual Improvements to IFRSs 2010–2012 Cycle (definition of vesting condition)	Effective for annual periods beginning on or after 1 July 2014
20 June 2016	Amended by Classification and Measurement of Share-based Payment Transactions (Amendments to IFRS 2)	Effective for annual periods beginning on or after <b>1 January 2018</b>

*Source: Deloitte Accademy*

The table shows the continuum evolution of the Share Base Payments to Top Mangers: in particular is important to highlight the fact that starting from the 1 January 2018 companies need to compliance with the last update issue by the European regulation. This produce the fact that the IFRS 2 is a sensible topic during 2018.

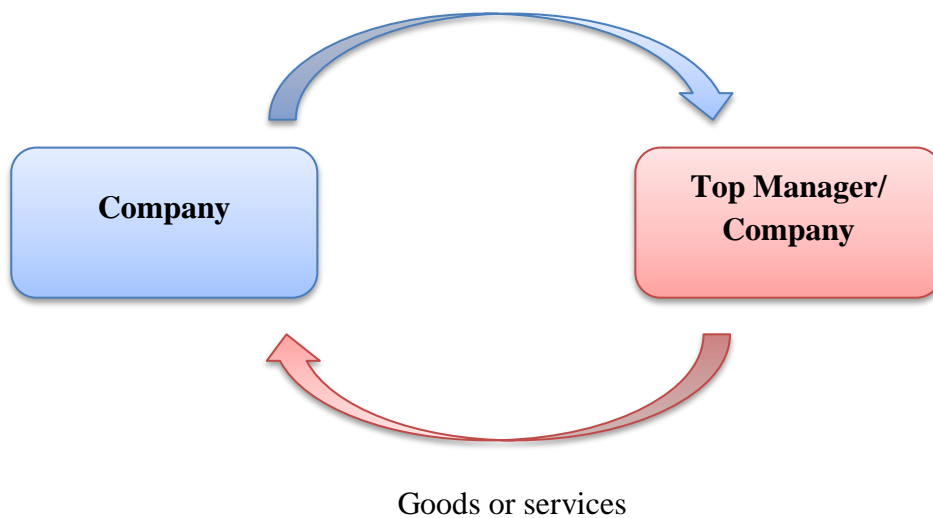
Inevitably, given its subject matter and the broad range of share-based payment schemes in operation, the application of IFRS 2 presents significant challenges for preparers of financial statements. When IFRS 2 was issued in 2004, the idea of recording an expense for share-based awards at their fair value in the income statement seemed to be revolutionary. After, despite the ongoing arguments about “increased volatility” in earnings, preparers and users are generally accustomed to the concept that when an entity grants a share-based award to its service-suppliers (employees and others), it should recognize an expense.

In the introduction chapter of IFRS 2 is important to explain the following three definitions that arise from the International Accounting Standards:

1. “Share-based payment transaction” (defined by the IFRS 2): “A transaction in which the entity receives goods or services as consideration for equity instruments of the entity (including shares or share options), or acquires goods or services by incurring liabilities to the supplier of those goods or services for amounts that are based on the price of the entity’s shares or other equity instruments of the entity.”

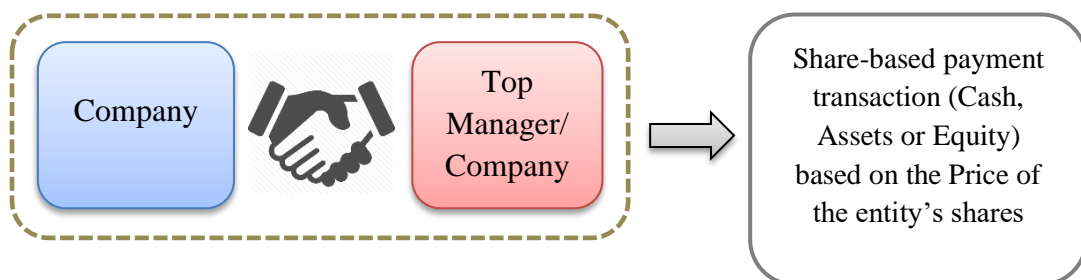


Equity Instruments (i.e. Shares) / Liabilities



*Source: personal processing of IFRS 2*

2. “Share-based payment arrangement” (defined by IFRS 2): “An agreement between the entity and another party (including an employee) to enter into a share-based payment transaction, which thereby entitles the other party to receive cash or other assets of the entity for amounts that are based on the price of the entity’s shares or other equity instruments of the entity, or to receive equity instruments of the entity, provided that the specified vesting conditions, if any, are met.”



*Source: personal processing of IFRS 2*

3. “Equity instrument” (defined by IAS 32): “The right (conditional or unconditional) to an equity instrument of the entity conferred by the entity on another party, under a share-based payment arrangement.”

The previous definition are fundamentals to complete understand the following chapters. Moreover, the application of IFRS 2 involves difficult classification and complex valuation issues and, as described below, is sometimes counter-intuitive. The general principle of IFRS 2 is that an entity recognizes an expense or asset for goods or services, with the credit entry recognized either in equity or as a liability (depending on how the share-based payment award is required to be settled). The definitions of 'equity' and 'liability' in IFRS 2 are different from those used in IAS 32 Financial Instruments: Presentation and IAS 39 Financial Instruments: Recognition and Measurement (or IFRS 9 Financial Instruments). IFRS 2 also uses the term 'fair value' in a way that differs in some respects from the definition of fair value in IFRS 13 Fair Value Measurement. Therefore, in accounting for share-based payment transactions an entity measures fair value in accordance with IFRS 2, not IFRS 13.<sup>32</sup>

IFRS 2 is the most important European legislation about the accounting of Financial Instruments used in the Long Term Incentive Plans assigned to CEOs and Top managers. In the following paragraphs, the thesis explains and analyses all the possible financial instruments used by companies including Stock Option. Inevitably, given its subject matter and the broad range of share-based payment schemes in operation, the application of IFRS 2 presents significant challenges for preparers of financial statements.

Share-based payment awards (such as share options and shares) are common features of employee remuneration for directors, senior executives and other employees. Some entities also issue shares or share options to pay suppliers, such as providers of professional services. Prior to the issuance of IFRS 2 Share-based Payment (IFRS 2 or the standard), there was no IFRS covering the recognition and measurement of these types of transactions. This became a key issue for executives, entrepreneurs, employees and directors, given the increasing prevalence of share-based payment awards in many countries. Moreover, the scope of IFRS 2 is not restricted to transactions with employees.

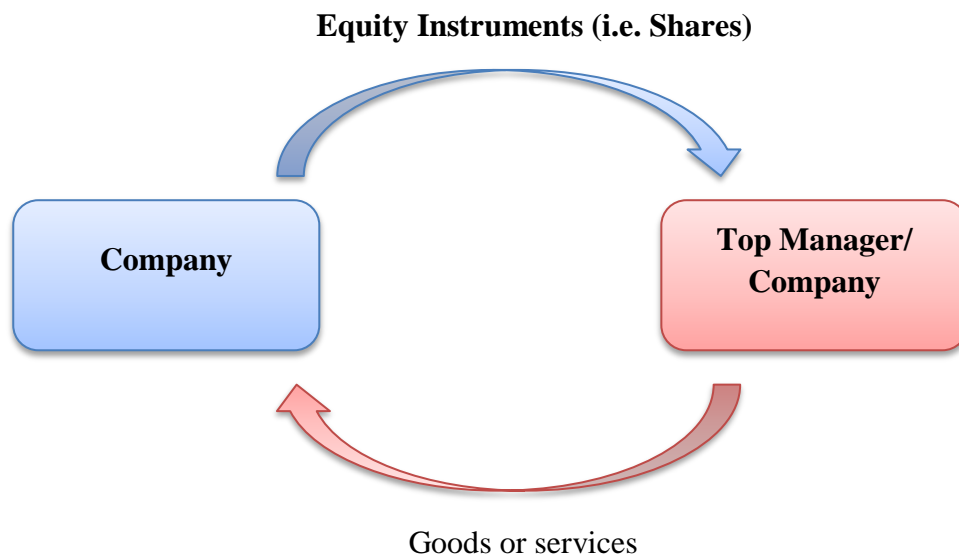
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<sup>32</sup> *Accounting for share-based payments under IFRS 2, EY, April 2016.*

### 2.1.1 The three-types of share-based payment

IFRS 2 divided the shared-based payment in three categories:

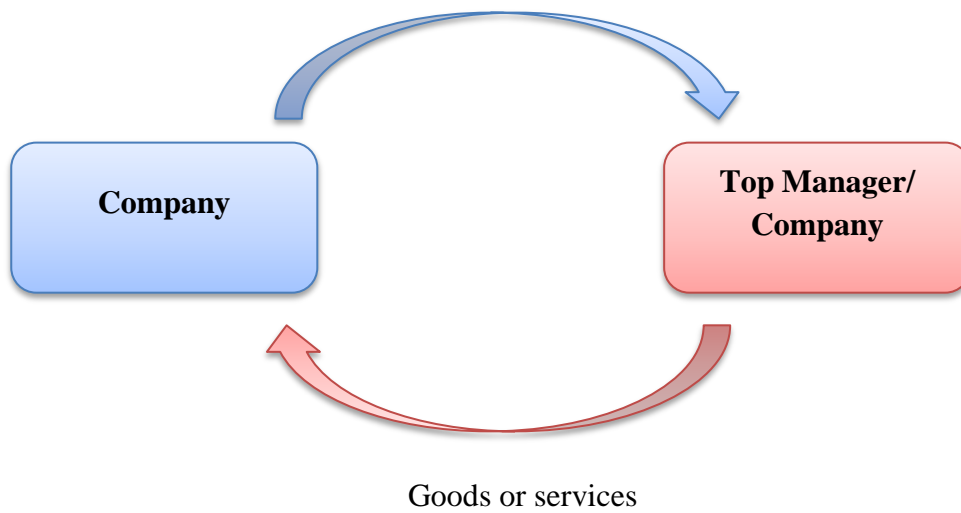
- 1) Equity-settled share-based payment transactions, in which the entity receives goods or services as consideration for equity instruments of the entity (including shares or share options); then the company receives goods or services as consideration for its own equity instruments or those of another entity in the same group.



*Source: personal processing of IFRS 2*

- 2) Cash-settled share-based payment transactions, in which the entity acquires goods or services by incurring liabilities to the supplier of those goods or services for amounts that are based on the price (or value) of the entity's shares or other equity instruments of the entity. Transactions involving share appreciation rights (SARs) fall into this category;

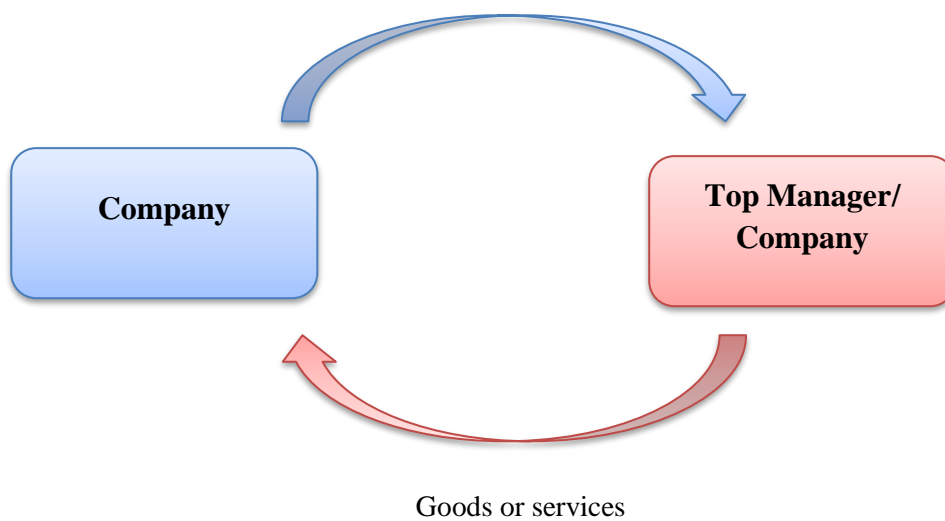
**Liabilities based on the price (or value) of the entity's shares**



*Source: personal processing of IFRS 2*

- 3) Transactions in which the entity receives or acquires goods or services and the terms of the arrangement provide either the entity or the supplier of those goods or services with a choice of whether the entity settles the transaction in cash (or other assets) or by issuing equity instruments.

**Equity or Liabilities based on the price (or value) of the entity's shares**



*Source: personal processing of IFRS 2*

IFRS 2 includes separate measurement requirements for each of these three categories of share-based payment transactions. Goods and services referred to above can be received from external suppliers or employees (Top Managers and CEOs). For example, if an external supplier of goods or services is paid in shares, share options or cash based on the price (or value) of shares or other equity instruments of the entity, IFRS 2 must be applied. Goods do not include financial assets, but do include inventories, consumables, property, plant and equipment, intangibles, and other non-financial assets. Likewise, an employee may receive equity instruments as remuneration for services rendered.

In addition, IFRS 2 is applicable even if an entity cannot specifically determine the goods or services it receives in return for its shares.

### 2.1.2 Topics outside the scope of IFRS 2

There are some topics that are not covered by the IFRS 2 because are analyzed and they fall in the scope of others International Accounting Standards: the main problem there is with the financial instruments.

In general, IFRS 2 does not apply to share-based payment transactions in which the entity receives or acquires goods or services under a contract within the scope of IAS 32 (Financial Instruments: Presentation), IAS 39 (Financial Instruments: Recognition and Measurement) and IFRS 9.

IFRS 2 does not cover the following transactions:

- Transactions with shareholders that are acting solely in their capacity as shareholders
- Goods and services received by the entity that are settled by entities or shareholders not within the group
- Transactions within the scope of IAS 32 and IAS 39 (or IFRS 9)
- Share-based payment transactions to acquire goods as part of a business combination to which IFRS 3 Business Combinations applies, in a combination of

entities or businesses under common control, or the contribution of a business on the formation of a joint venture.<sup>33</sup>

- Transfers of assets in certain group restructuring arrangements.

Awards granted to employees of an acquiree in their capacity as employees (e.g., in return for continued service) are within the scope of IFRS 2, as are the cancellation, replacement and modification of share-based payments.

## 2.2 Financial instruments in the Remuneration Policy

There are a wide range of Financial Instruments used in the Remuneration Policy to remunerate the Top Executive, CEOs, Top Managers and Board Member. Before analyzing the accountancy of these it is fundamental to completely understand how these financial instruments work.

The remuneration policy explains how the companies use and implement them. Companies can decide to use a single Financial Instrument to compensate its Top Managers or more than one: it is strictly related to the dimension, market capitalization and internal structure complexity of the firm.

In the following chapters, the thesis explains the characteristics of the most common Financial Instruments used to remunerate the Top Managers.

## 2.3 Stock Options and IFRS 2

The Stock Option are a financial instrument used by the firm to remunerate the Top Managers. In particular, the Stock Options issue by the Companies to remunerate the Top Managers, CEOs and Board Member are similar to the option Financial Instruments but they present particular and relevant differences.

Before, it is important to show the general option and then concentrate the analysis on the Stock Option: in both cases, the financial instrument is a derivative.

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<sup>33</sup> <https://www.ifrs.org/issued-standards/list-of-standards/ifrs-11-joint-arrangements/>, IFRS 11, Joint Arrangements.

### 2.3.1 The financial instrument of options

An option is a privilege, sold by one party to another, that gives the buyer the right, but not the obligation, to buy or sell a stock at an agreed-upon price within a certain period of time. American options, which make up most of the public exchange-traded stock options, can be exercised any time between the date of purchase and the expiration date of the option. On the other hand, European options, also known as "share options" in the United Kingdom<sup>34</sup>, are slightly less common and can only be redeemed at the expiration date. An option is common form of a derivative. It's a contract, or a provision of a contract, that gives one party (the option holder) the right, but not the obligation to perform a specified transaction with another party (the option issuer or option writer) according to specified terms. Options can be embedded into many kinds of contracts. For example, a corporation might issue a bond with an option that will allow the company to buy the bonds back in ten years at a set price. Standalone options trade on exchanges or OTC. They are linked to a variety of underlying assets. Most exchange-traded options have stocks as their underlying asset but OTC-traded options have a huge variety of underlying assets (bonds, currencies, commodities, swaps, or baskets of assets).

Moreover, to buy the option the party in the contract have to pay a Premium: The premium is the price at which an option trades and is paid by the buyer to the writer (seller) of the contract.

Then, options are divided in two main categories: Call Options and Put Options.

#### 2.3.1.1 Call Options

A Call Option is a financial contract between two parties, the buyer and the seller of this type of option. The buyer of the call option has the right, but not the obligation, to buy an agreed quantity of a particular commodity or financial instrument (the underlying) from the seller of the option at a certain time (the expiration date) for a certain price (the strike price). The seller (or "writer") is obligated to sell the commodity or financial instrument to the buyer if the buyer so decides. The buyer pays a fee (called a premium) for this right.

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<sup>34</sup> *Advanced Corporate Finance, Berk De Marzo, Pearsons, May 2017.*

The term "call" comes from the fact that the owner has the right to "call the stock away" from the seller.<sup>35</sup>

Through the call option, many derivative contracts are constructed in which the common basis is the right to purchase the underlying. The right can be exercised according to time in more ways: at the end of the period, at regular intervals or throughout the period. Derivatives built using call options can be characterized by different levels of leverage. Inside the financial instrument there are two parties:

- The buyer of the Call Option (**Long Call Option**): this party of the contract initially pay a premium to have the option. During the contract or at the end of the contract, depends on the type of Option (European/American), it have the possibility to exercise the option if this is "in-the-money". Calls may be used as an alternative to buying stock outright. You can profit if the stock rises, without taking on all of the downside risk that would result from owning the stock. It is also possible to gain leverage over a greater number of shares than you could afford to buy outright because calls are always less expensive than the stock itself.

The following graph better explains all the possible situations for the buyer:



Source: Personal elaboration

<sup>35</sup> Fernandes, Nuno (2014). *Finance for Executives: A Practical Guide for Managers*. NPV Publishing. p. 313.



The buyer initially pays a specific premium, so the graph starts with a negative trend. Once the price of the derivative stock overcame the sum of the Premium paid and the initially Strike Price paid the Call Option became “at-the-money” for the buyer and so it have a positive trend.

The following item are characteristics of the Long Call Option:

- ✓ Unlimited Profit Potential: Since they can be no limit as to how high the stock price can be at expiration date, there is no limit to the maximum profit possible when implementing the long call option strategy. The formula for calculating profit is given below:

- Maximum Profit = Unlimited
- Profit Achieved When:  
Price of Underlying  $\geq$  Strike Price of Long Call + Premium Paid
- Profit = Price of Underlying - Strike Price of Long Call - Premium Paid

- ✓ Limited Risk: Risk for the long call options strategy is limited to the price paid for the call option no matter how low the stock price is trading on expiration date. The formula for calculating maximum loss is given below:

- Max Loss = Premium Paid + Commissions Paid
- Max Loss Occurs When:  
Price of Underlying  $\leq$  Strike Price of Long Call

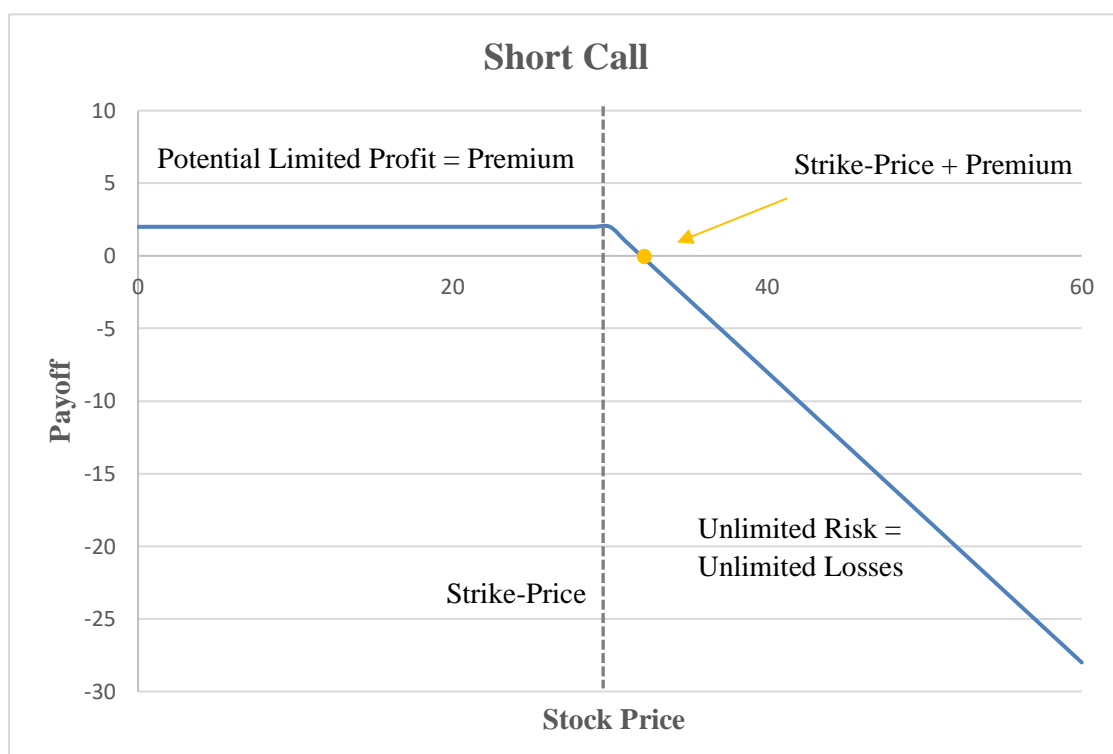
- ✓ Breakeven Point: The underlie price at which break-even is achieved for the long call position can be calculated using the following formula.

- Breakeven Point = Strike Price of Long Call + Premium Paid

➤ The seller of the Call Option (**Short Call Option**): this party of the contract initially collect a premium, because he sells the option. A short call means the sale of a call option, which is a contract that gives the holder the right, but not the obligation, to buy a stock, bond, currency or commodity at a given price. If an investor thinks the price of the instrument will fall, he can sell short the underlying instrument, as well as the corresponding call option. While owning the call is protection against a rise in the price of the underlying security, selling the call generates cash while creating potentially

unlimited risk. The strategy consists in the sale of an option called without title the underlying security.<sup>36</sup>

An investor, who sells an option called without holding an underlying, is speculating on a bearish situation with short-term forecasts on the shares. If maturity is reached without the option being assigned, the subscriber retains the entire premium initially received, and all the obligations underlying the short position fall. The following graph better explains all the possible situations for the seller:



Source: Personal elaboration

The following items are characteristics of the Short Call Option:

- ✓ **Limited Profit Potential:** There is a profit when the buyer of the option decides to not exercise the option. In this case, the option is “in-the-money” for the seller but there is a limited potential profit that is the initially

<sup>36</sup> O'Sullivan, Arthur; Shiffirin, Steven M. (2013). *Economics: Principles in Action*. Upper Saddle River, New Jersey: Pearson Prentice Hall.

premium paid by the buyer. The formula for calculating profit is given below:

- Maximum Profit = Limited
  - Profit Achieved When:  
Price of Underlying  $\leq$  Strike Price of Short Call + Premium Paid
  - Profit = Premium
- ✓ Unlimited Risk: Risk for the short call options strategy is unlimited. In fact, at expiration date, there isn't certain about the final price of the underlying. The formula for calculating maximum loss is given below:
- Max Loss = Unlimited
  - Loss Occurs When:  
Price of Underlying  $\geq$  Strike Price of Short Call + Premium
- ✓ Breakeven Point: The underlie price at which break-even is achieved for the short call position is the same of the long call position and it can be calculated using the following formula.
- Breakeven Point = Strike Price of Short Call + Premium Paid

### 2.3.1.2 Put Options

A put option is a derivative instrument whereby the purchaser of the option acquires the right, but not the obligation, to sell a security (called the underlying) at a certain strike price, the other party will undertake to purchase the title, if the purchaser of the option decides to exercise his right, but has in the meantime collected the (obligatory) premium from the purchaser.<sup>37</sup>

Through the put option, many derivative contracts are constructed in which the common basis is the right to sell the underlying. The right can be exercised according to time in more ways: at the end of the period, at regular intervals or throughout the period. Derivatives built through the put option may have different levels of leverage.

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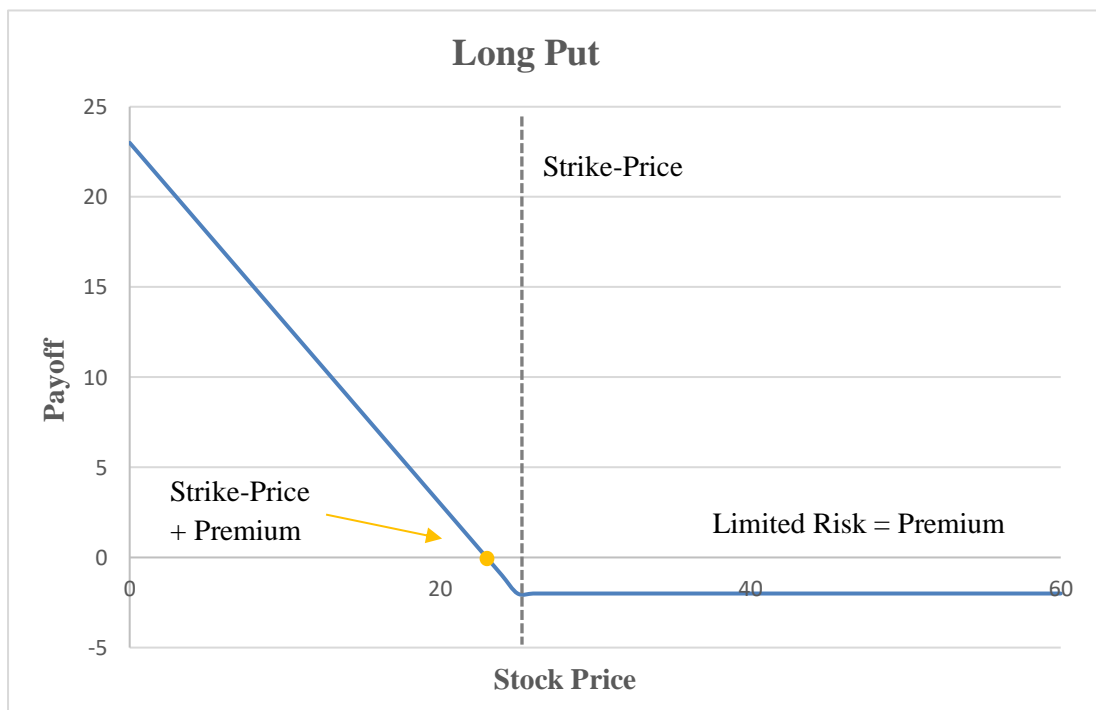
<sup>37</sup> *Advanced Corporate Finance, Berk De Marzo, Pearsons, May 2017.*

Then, a put option is an option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security at a specified price within a specified time. This is the opposite of a call option, which gives the holder the right to buy shares. Now the thesis explains the two parties in the contract and their movements:

- **The buyer of the Put Option (Long Put Option):** A long put is an options strategy in which a put option is purchased as a speculative play on a downturn in the price of the underlying equity or index. In a long put trade, a put option is purchased on the open exchange with the hope that the underlying stock falls in price, thereby increasing the value of the options, which are "held long" in the portfolio. A long put option could also be used to hedge a long stock position.

This party of the contract initially paid a premium to have the option. During the contract or at the end of the contract, depends on the type of Option (European/American), it have the possibility to exercise the option if this is “in-the-money”. The buyer of the long put think that the stock price will decrease.

The following graph better explains all the possible situations for the buyer:



*Source: Personal elaboration*

The following items are characteristics of the Long Put Option:

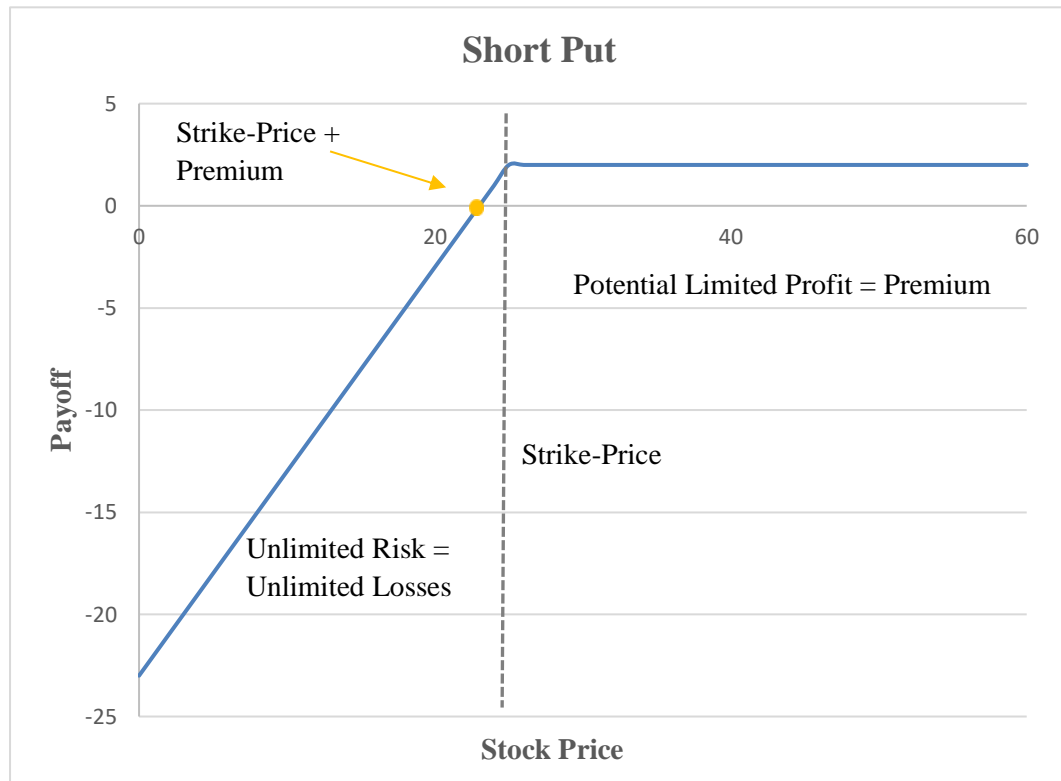
- ✓ Unlimited Profit Potential: Since there can be no limit as to how low the stock price can be at expiration date, there is no limit to the maximum profit possible when implementing the long call option strategy. The formula for calculating profit is given below:
  - Maximum Profit = Unlimited
  - Profit Achieved When:  
Price of Underlying  $\leq$  Strike Price of Long Put + Premium Paid
- ✓ Limited Risk: Risk for the long put options strategy is limited to the price paid for the put option. The formula for calculating maximum loss is given below:
  - Max Loss = Premium Paid + Commissions Paid
  - Max Loss Occurs When:  
Price of Underlying  $\geq$  Strike Price of Long Put
- ✓ Breakeven Point: The underlying price at which break-even is achieved for the long put position can be calculated using the following formula.
  - Breakeven Point = Strike Price of Long Put + Premium Paid

➤ The seller of the Put Option (**Short Put Option**): A short put is a type of strategy regarding the selling of a put option. The option itself is a security in its own right, as it can be purchased and sold. Should the holder of the option believe that the price of the underlying security will increase before the contract's expiration date, the option holder may buy the underlying stock, or may sell the put option, which requires him to buy the stock, should the put buyer demand he do so.

Then, the seller of the put option initially collect the premium. If the forecast about the future stock price of the seller is right, it will collect the premium. If the forecast about the future stock price of the seller is wrong, the possible losses could be very high.

A short put is also known as an uncovered put or a naked put. If an investor writes a put option, the investor is obligated to purchase shares of the underlying stock if the put option holder exercises the option, or if the option expires in the money.<sup>38</sup>

The following graph better explains all the possible situations for the buyer:



*Source: Personal elaboration*

The following item are characteristics of the Short Put Option:

- ✓ Limited Profit Potential: Maximum profit that the seller of the Put Option could gain is equal to the initial premium paid by the buyer of the option.

The formula for calculating profit is given below:

- Maximum Profit = Limited to the Premium
- Profit Achieved When:  
Price of Underlying  $\geq$  Strike Price of Short Put + Premium Paid
- Profit = Premium

<sup>38</sup> *The Bible of Options Strategies: The Definitive Guide for Practical Trading Strategies, Guy Cohen, second edition, Pearson, 2016.*

- ✓ Unlimited Risk: Risk for the short put options strategy is unlimited. In fact, at expiration date, there is not certain about the final price of the underlying. The formula for calculating maximum loss is given below:
  - Max Loss = Unlimited
  - Loss Occurs When:  
Price of Underlying  $\geq$  Strike Price of Short Put + Premium
- ✓ Breakeven Point: The underlie price at which break-even is achieved for the short put position is the same of the long put position and it can be calculated using the following formula.
  - Breakeven Point = Strike Price of Short Put + Premium Paid

#### 2.4 The characteristics of Stock Option

After a complete overview about the option, now the thesis analyzes the use of stock option.

Stock options are American call options that give the right to buy shares in a company at a certain strike price (called strike): in particular, stock options are a particular type of Call Long Option. The stock options have been designed as a tool to reward and retain employees / managers, considered strategically relevant for a company.

Through the free allocation of stock options (call options), the company grants its employees the right to purchase shares of the same company or another company belonging to the same group, at a predetermined price (strike price). Stock options will be exercised if the strike price is lower than the current value of the underlying share. Otherwise, the options lose all value.

The stock option plans usually provide for different times during which the employee may decide to exercise his option rights and purchase the shares offered at a predetermined price.

The design of an effective stock option system required the use of an approach that considers the characteristics of the company and the wider reference environment in which it is inserted.

Furthermore, the design of a stock option plan must consider the individual characteristics of the type managers and the type of tasks and decision-making autonomy attributed to them.

Stock options are incentive contracts that are usually granted to top management and members of a company's board of directors.

These plans grant the employee the right to purchase, in the event that previously issued shares are used, or to subscribe, in the case of newly issued shares, securities representing the company's risk capital.

The options granted to the top managers are technically similar to the American call options, since they grant the right to acquire the securities within a given period and at a given price.

The top managers who receives the option offer, generally at an exercise price equal to or lower than the market price, has the opportunity to make a significant capital gain if, at a later date than the option assignment, the price of the security exceed that of exercise.

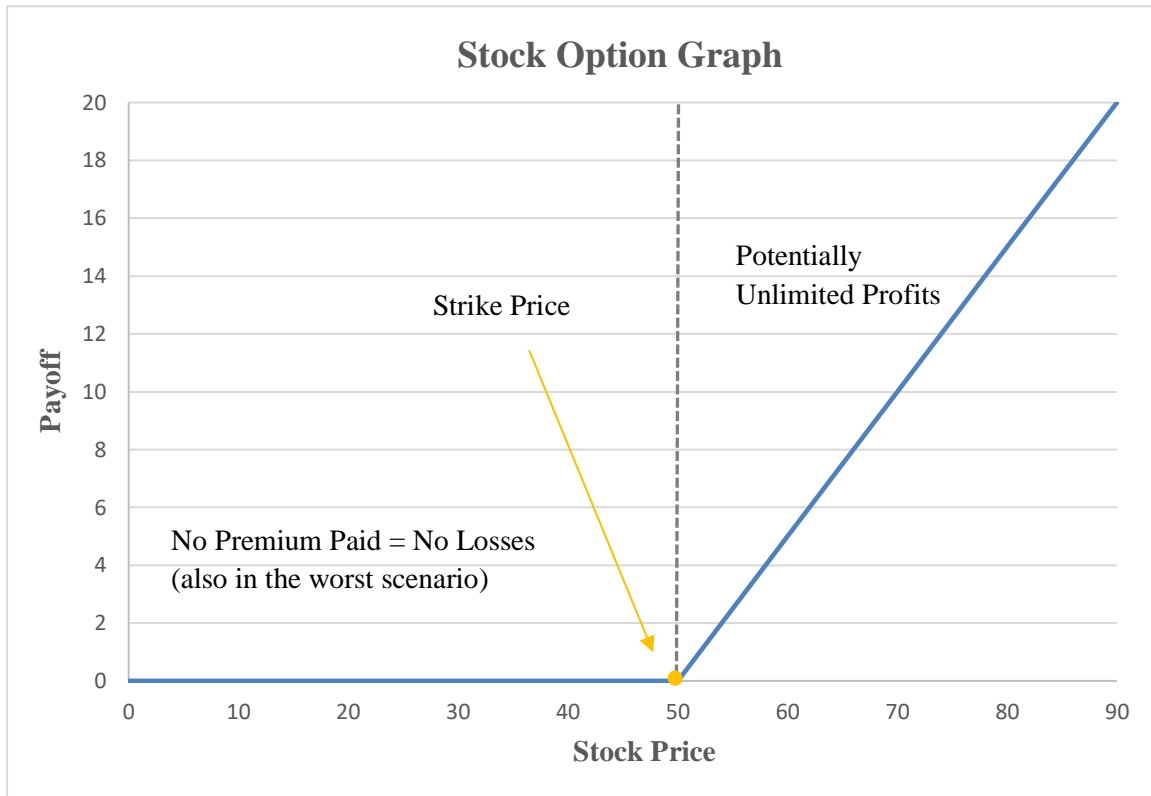
Moreover, if it is assumed that the decisions and actions of top managers can affect the company's performance, and consequently the market value of the stock, in the presence of a stock option plan, the top manager is encouraged to provide his contribution in order to maximize the value created for shareholders and, with it, their personal gain.

The logic implicit in the stock option is based on the hypothesis that if the introduction of the incentive plan allows the company to create greater shareholder value, a distribution of this greater value between shareholders and employees can only satisfy both the parties involved in the relationship.

The effectiveness of a stock option plan must therefore be assessed by comparing the amount of financial resources that the shareholder must grant to the beneficiaries with the highest economic value that the latter manages to achieve as a result of the incentive scheme.

Then, the main differences between the Long Call Option and the Stock Option is the fact that the Top Manager don't pay the initial premium because the option are given by the company for free: the following graph better explain the stock option situation:





*Source: Personal Elaboration*

Now, it is important to show the timing of stock options. The stock option plans usually provide for different times during which the employee may decide to exercise his option rights and purchase the shares offered at a predetermined price.

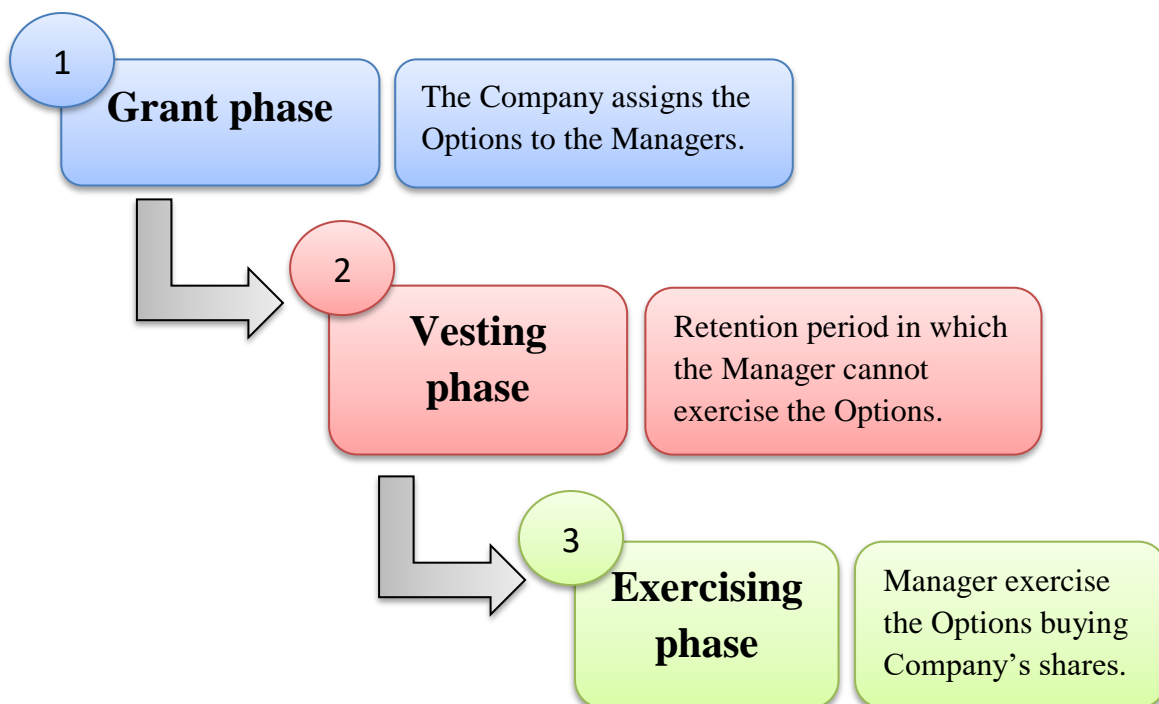
Mainly, there are three different period that characterized the financial instrument of stock option:

1. **Granting:** A phase in which the company grants its managers the right to purchase a certain number of shares in a predetermined future period and at a predetermined price (Strike Price). This is the phase in which the company assigns the option to the managers.
2. **Vesting:** This is the phase between the grant period and the exercise period. During this phase, the managers cannot exercise the options buying the shares at the strike price. The length of the vesting period is conditioned by the purpose of the plan. The period will be short if you want to reward top managers for past

performance or longer if you want to link the incentive to future performance. On average the retention period is between three and five years.

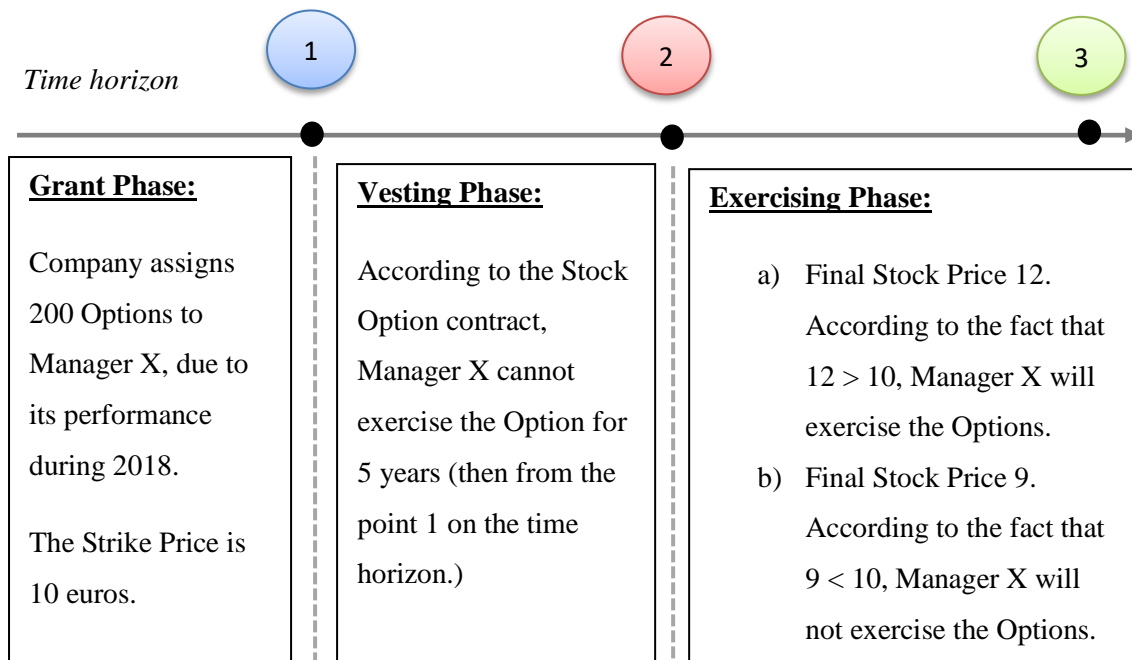
3. Exercising: This is the final phase of stock options, in which the managers can decide to exercise the option and buying the shares of the company at the predetermined strike price. In the exercising phase, two are the possible situation:
  - a) Strike Price < Stock Price at exercising date: In this case, the manager exercise the Option buying the share at the Strike Price. Then, he can gain an immediate profit selling the share in the active market at the actual Stock Price. The differences between the Stock Price at exercising date and the predetermined Strike Price is the profit gain by the Manager.
  - b) Strike Price > Stock Price at exercising date: In this case, the manager does not exercise the Option. If the manager exercise the option, he buy the share at a higher price respect the current price on the market, having a loss.

The following graph represent the timing of a Stock Option, divided into its three phases:



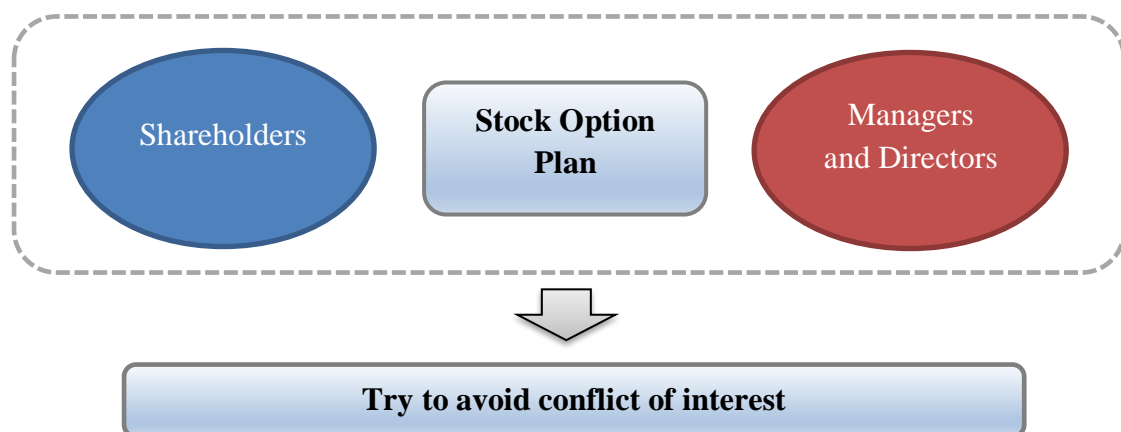
Source: Personal Elaboration

Then, the following example shows the possible situations about a Stock Option assigned to a Top Manager and it is expressed in a timeline horizon to have a complete overview about this financial instrument:



*Source: Personal Elaboration*

Moreover, the theoretical basis underlying the stock options explains that they are useful to reduce the conflict of interest between the ownership of the company (the shareholders) and control of it (the directors and managers). Thanks to this financial instrument the objective of the shareholders and the goal of the Top Managers is the same and it is equal to the increasing value of the company: in fact, both the parties have gains if the stock value of the company increase. (Source: Personal elaboration).



Then, the following points summarize the main and principals' characteristics of the Stock Options:

- The options give the possibility to gain, if exercised, shares of the company in which the managers work. In some particular cases the share could be subsidiaries' shares.
- The exercise price is defined by the company that grants the options.
- The shares guaranteed under option can derive from a specific capital increase or are already existing shares.
- The options are usually granted free of charge.

#### 2.4.1 Capital increase or existing shares

In the previous chapter the thesis explained the Stock Option operating mechanism and the definition given by the European authority.

But the final purpose of the financial instrument of the Stock Option is the grant of company's share to Top Managers.

There are 2 ways in which the company can grant the shares:

1. Issuing new shares: in this manner the company reduce the value of the remaining shares.
2. Existing shares: the shares that the company assigned to Top Managers are already in possession of the firm.

Then, who supports the cost of options?

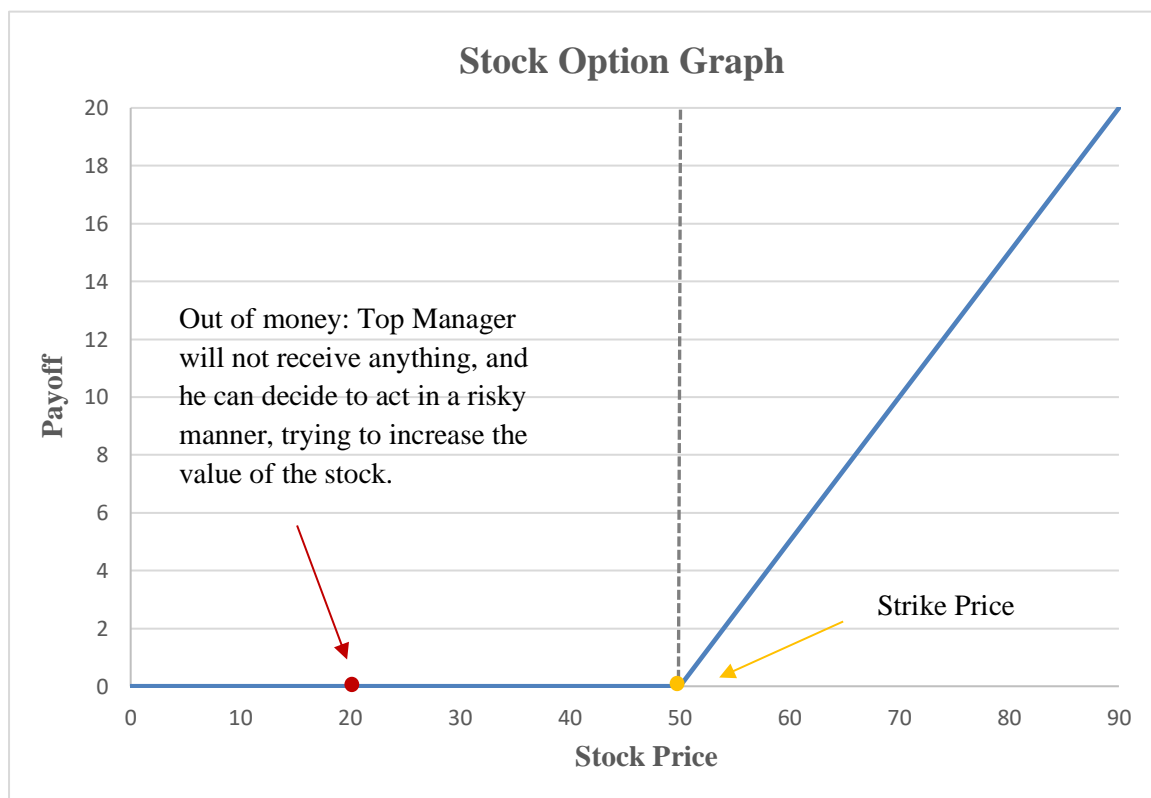
The offer of shares at conditions lower than those of the market involves an economic sacrifice for the company, sometimes inappropriately known as "opportunity cost" (dilution of equity), especially in the case of issuing new shares.

If the strike price is lower than the carrying amount of the shares, this reduces the carrying amount of all outstanding shares (for options on newly issued shares). The result is the dilution of the capital of command, due to the entry of new members.

### 2.4.2 Asymmetric incentives

One main problem with the use of the Stock Option is the fact that options create asymmetric incentives: in fact, it generates a positive return when the price of the security rises above the exercise price of the option; but if the price falls below of the exercise price, any further descent of the price has no negative consequence for the holders of the options, given that the yield is however null. This encourages managers to take high risks when the options are out of the money, since they are not affected by a possible further fall in the market price, while benefiting from an increase of this.

The following graph and example explain better the situation:



*Source: Personal Elaboration*

In this case the Strike Price is equal to 50, while the current value of the stock is trading for 20. Top Manager will not receive any gain because the stock price is decreasing. The main problem is linked to the fact that the Top Manager can act in a risky manner trying to increase the value of the stock.

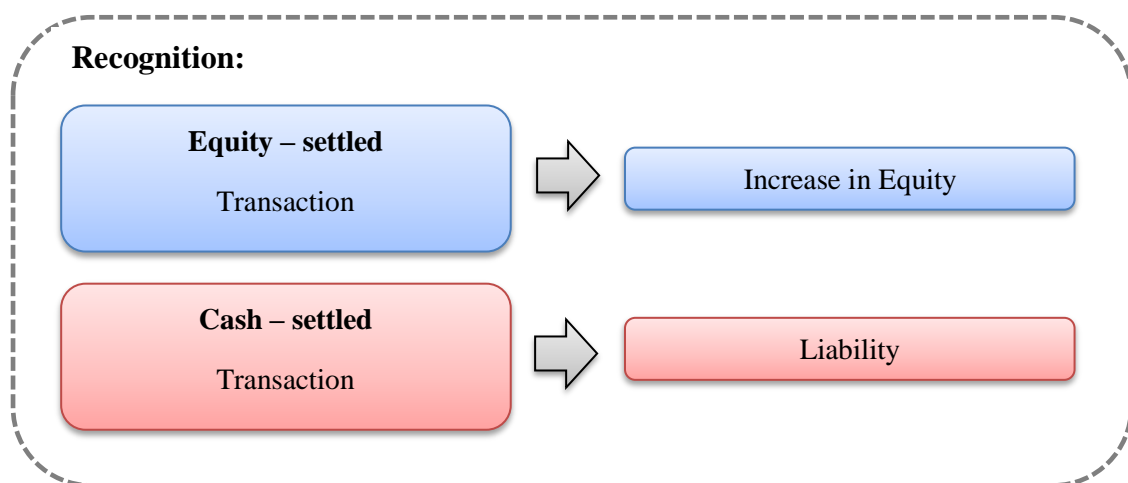
This problem is the asymmetric incentive produced by the Stock Options.

## 2.5 Recognition principal on IFRS 2

The financial instrument of Stock Options requires a dedicate international accounting standard for the recognition, measurement and classification of it inside the firms' balance sheet.

In this paragraph the thesis analyzes the Stock Options recognition inside the balance sheet. According to the IFRS 2: "The goods or services received or acquired in a share-based payment transaction are recognized when the goods are obtained or as the services are received. A corresponding increase in equity is recognized if the goods or services were received in an equity-settled transaction. A liability is recognized if the goods or services were acquired in a cash-settled transaction."<sup>39</sup>

Then, the situation is different in the case of equity-settled transaction or cash-settled transaction. In the first case there is an increase in equity, in the second case the firm incurred in a liability.



*Source: personal elaboration of IFRS 2*

According to the accounting policy is fundamental to establish the nature of the payment in equity (equity – settled transaction) or in cash (cash – settled transaction). This agreement is made at the beginning of the contract taking into account the interest of both parties (the company and the top manager/other company).

Then, IFRS 2 highlights the accounting writing in debit entry and credit entry for Stock Options.

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<sup>39</sup> IFRS 2, paragraph 7.

Starting from the recognition of the debit entry for the company that grant the Stock Options. The possible accounting book could be:

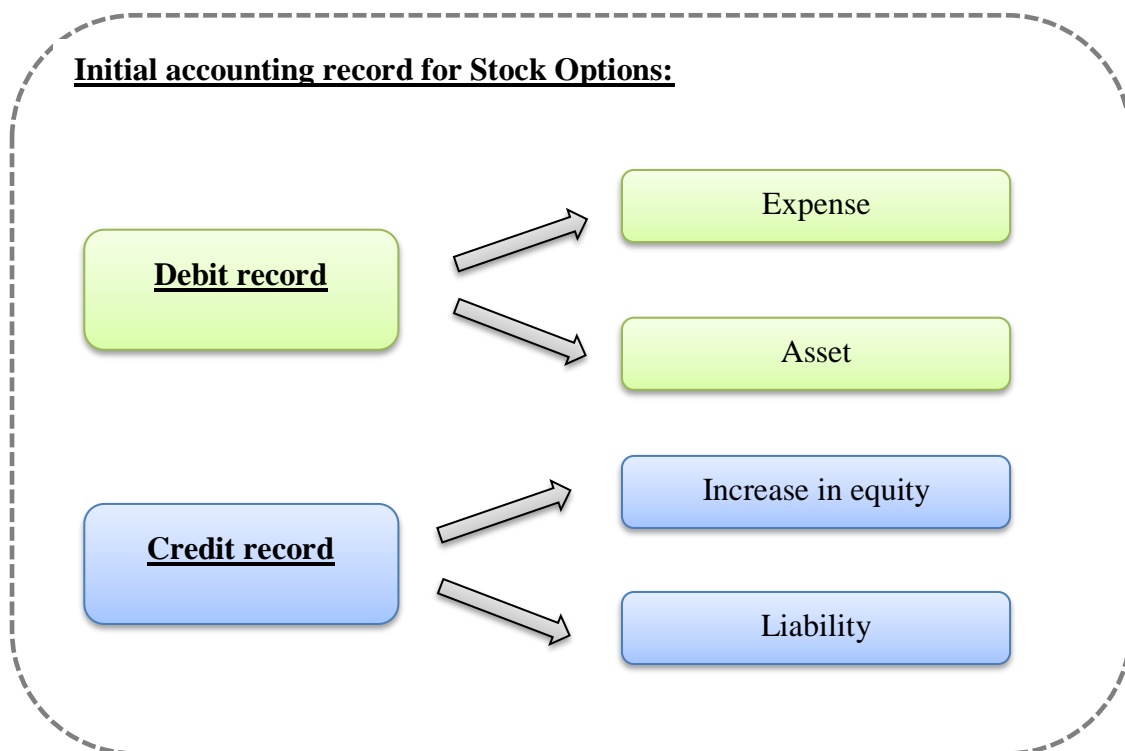
- An Expense: this affect immediately the income statement.
- An Asset: in this case the object received by the company must be qualified as AN asset according to the International Accounting Standards. (i.e. IAS 16, IAS 38).

Then, the classification and definition as an asset of the objective received is fundamental to have a right accounting balance.

Also the credit entry, as the thesis has already explained, presents two possible outcomes:

- Increase in equity: for equity-settled transaction.
- Liability: for cash-settled transaction.

Summing up, the graph below shows the accounting records for the firm that grant the Stock Options, according to IFRS 2:

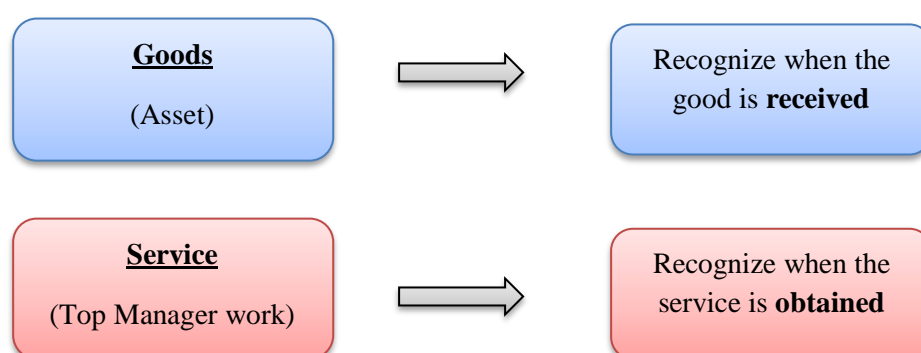


*Source: personal elaboration*

### 2.5.1 Timing of recognition

About the recognition of a Stock Option, another important element is the time. IFRS 2 established that share-based payment transaction should be recognized when they are acquired/received.

The time of recognition differs if the company receives goods (i.e. an asset) or services (i.e. Top Manager). The general rule is the following one: goods must be recognized when they are received while services must be recognized when they are obtained.



*Source: personal elaboration*

The general rule is sustained by the fact that services are immediately consumed while goods could be consumed over a period of time.

However, sometimes it is necessary to recognize an expense before the goods or services are consumed or sold, because they do not qualify for recognition as assets. For example, an entity might acquire goods as part of the research phase of a project to develop a new product. Although those goods have not been consumed, they might not qualify for recognition as assets under the applicable IFRS.

Now, according to the timing of recognition, it is important to introduce the element of “vesting”. The approach to be adopted in relation to the timing of recognition depends largely on this concept. In fact, “to become an entitlement. Under a share-based payment arrangement, a counterparty’s right to receive cash, other assets, or equity instruments of the entity vests upon satisfaction of any specified vesting conditions.”<sup>40</sup>

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<sup>40</sup> IFRS 2, Appendix A.



The main problem related to this issue are with the equity-settled transaction. There are two possible situations related to the vesting condition:

1. Equity instruments vest immediately: this is the case of Top Manager work. In this case is presumed that the firm received the working services and, due to the fact that this is an equity-settled transaction, the expense in the income statement is recognized (or asset in other case) with the corresponding increase in equity.
2. Equity instruments doesn't vest immediately: in this case is fundamental to understand the "vesting condition definition": "The conditions that must be satisfied for the counterparty to become entitled to receive cash, other assets or equity instruments of the entity, under a share-based payment arrangement. Vesting conditions include service conditions, which require the other party to complete a specified period of service, and performance conditions, which require specified performance targets to be met (such as a specified increase in the entity's profit over a specified period)."<sup>41</sup>

Then, according to the International Accounting Standard the right to receive cash or equity is subject to three conditions:

- Service condition: this condition, for example, requires that the employee of the company remain inside the company as a worker for a specific period of time.
- Performance condition: this condition is typical of Management by Objective Plan in which the Top Manager will receive specific premium or Stock Option only if predeterminate performance objectives are met.

Moreover, the International Accounting Standards Board introduce the concept of "non-vesting condition". The main differences between vesting and non-vesting conditions is the fact that non-vesting condition doesn't include an obligation for the Top Manager. For example, according to performance condition if Top Manager obtain determinate results he will receive a compensation: in non-vesting condition there isn't an obligation for the Top Manager.

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<sup>41</sup> IFRS 2, Appendix A.

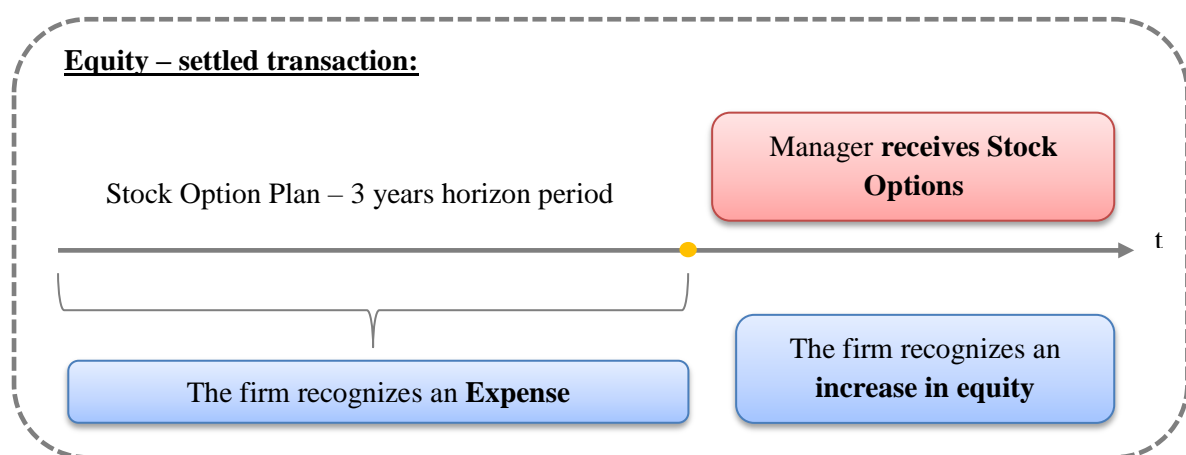
Furthermore, about the timing of recognition, it's fundamental to highlight the vesting period. It is already defined, in the previous chapter, as a period in which an employee must work for an employer in order to fully own their shares in the company's stock option plan.

Then, it is the period in which the worker must satisfied both service condition and performance condition (if there are).

According to IFRS 2 the equity instruments granted do not vest until the counterparty completes a specified period of service. The services are accounted for as they are rendered by the counterparty during the vesting period, with a corresponding increase in equity.

This means that the compensation for Top Managers is received only at the end of the vesting period, but the firm have to recognize an expense over the period of the contract.

The following graph better represent the accounting situation for equity-settled transaction:



*Source: personal elaboration*

The previous principle is also used for cash-settled transaction. Then, only when the firm receives the good or service it has to recognize an asset or an expense and immediately it has to recognize a liability, due to the fact that it is a cash-settled transaction.

However, how the entity measures the expense, and whether the entity must remeasure the expense, all depend on whether the award is equity-settled, cash-settled, or there is a choice of settlement, as we explore in the remainder of this thesis.

## 2.6 Measurement principle on IFRS 2

The following chapter shows the measurement principle issue by the International Accounting Standards board on Share-based payment transaction. The analysis is divided in two main areas:

- Measurement for Equity-settled transaction,
- Measurement for Cash-settled transaction.

Of course, the first category requires a deeper and detailed analysis due to the fact that the counterparty is equity. Then, in the following chapters, the thesis will highlight the methods and techniques used to evaluate the equity instruments.

The accounting policy and regulatory framework play a crucial role in the accounting system of Stock Options and firms have to compliance with the issue and updated standards.

### 2.4.1 Measurement of Equity-settled shared-based payments

The measurement of Equity-settled transaction on balance sheet is a complex process that involved mathematical and actuarial methods, due to the fact that the firm have to calculate the value of the Stock Options and the corresponding possible increase in equity.

The general principle in IFRS 2 is that an entity measures the fair value of goods or services received and recognizes a corresponding increase in equity. But, the main problem is link to the fact that if an entity cannot reliably estimate the fair value of goods or services received, the entity must measure their value indirectly using the fair value of the equity instruments granted.

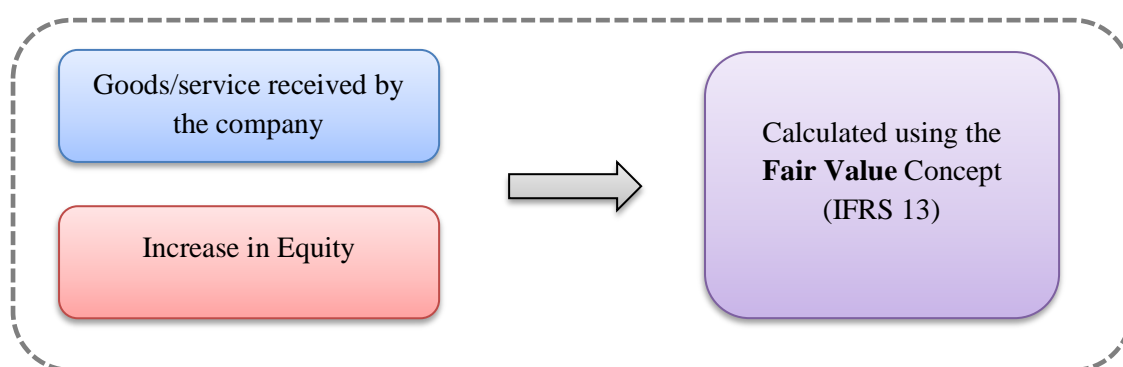
Then, the first main element to complete understand the IFRS 2 is the concept of Fair Value, that is defined by the IFRS 13: “The amount for which an asset could be exchanged, a liability settled, or an equity instrument granted could be exchanged, between knowledgeable, willing parties in an arm’s length transaction”.<sup>42</sup>

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<sup>42</sup> *Definition of Fair Value, IFRS 13.*

The Equity-settled transaction required that the value of the goods or services that the firm receives, and the corresponding increase in equity, must be calculated at the Fair Value of the goods/services received by the firm.

If it is not possible to estimate reliably the fair value of the goods or services received, the fair value of the equity instruments granted is used as a proxy.



Source: personal elaboration

Then, the initial valuation of Stock Options' Fair Value is fundamental for the complete understand the following accounting principles of IFRS 2.

Therefore, the accounting standard highlight an important difference if the counterparty of the share-base payment transaction is an employee of the firm or not.

The main differences between the two cases is the fact that the Fair Value of goods/services received by non-employee must be valued more reliable. This fact creates a difference in the determination of the measurement basis, measurement date and recognition date.

In the case the counterparty is an employee of the firm (i.e. Top Manager), an entity must use the fair value of the equity instruments, measured at the grant date.

In the case the counterparty is a non-employee, the calculation is the Fair Value of the goods/service received. The following graph highlights the differences between employee and non-employee:

Counterparty	Measurement basis	Measurement date	Recognition date
Employee	Fair value of equity instruments awarded	Grant date	Date services received
Non-employee	Fair value of goods or services received	Date goods or services received	Date goods or services received

Source: Ernest & Young, IFRS 2

An important note to the graph above is about the grant date for employees. This item has a strong relevance because it is the moment in which the firm measures the financial instrument. The IASB clarify the situation about the grant date specifying that it is the moment in which both parties, the firm and the employee, have a share and mutual understanding of the arrangement.

If the goods or services are received on more than one date, the entity should measure the fair value of the equity instruments granted on each date when goods or services are received. The entity should apply that fair value when measuring the goods or services received on that date.

#### 2.6.1.1 Valuation of Stock Options' Fair Value for Equity-settled share-based payments

The valuation of the Stock Options' Fair Value for Equity-settled share-base payments is a complicated process that involved mathematical and actuarial models.

Of course, the Fair Value's valuation is easier for listed company than unlisted company in which the consultant has to perform a strong and deeper analysis on the underlying security. Unless an option with the same or comparable terms is listed (which rarely occurs) an entity cannot obtain the fair value externally. Therefore, it must estimate the fair value of a Equity-settled share-based payment using an option-pricing model. IFRS 2 does not require entities to use a specific option-pricing model to calculate fair value. However, it does require that the adopted valuation technique is consistent with generally accepted valuation methodologies for pricing financial instruments, incorporating all factors and assumptions.

The three most used models to calculate the Fair Value of a Stock Options for equity-settled shared-based payments are:

1. Binominal model,
2. Black-Scholes-Merton model,
3. Monte Carlo Simulation,

These three methods are accepted by the IFRS 2 and the results are similar.

These mechanisms are used in remuneration of Top Manager to calculate the Fair Value of equity instruments grant to the Top Manger.

IFRS 2 requires that the measurement date of the Fair Value must be the grant date or when both the parties, the company that issue the Stock Option Plan and the Top Manager, completely understand the terms of the agreement. Then, two key factors that need to be considered when deciding on the grant date are:

1. both parties need to ‘agree’ to a share-based payment;
2. both parties must have a shared understanding of the terms and conditions.

The calculation of Fair Value of equity-settled shared-based payments required the use of one, or more, valuation method. The entity should consider factors that knowledgeable, willing market participants would consider in selecting the option pricing model to apply. The choice of the pricing model need to consider many exogenous factors. The following chapter summarize the main elements of binominal model, Black-Scholes-Merton model and Monte Carlo Simulation, that are the three pricing models allowed by the IFRS 2 to calculate the Fair Value of Stock Options. The models are simplified because it is not the aim of the thesis to deepen the evaluation models but, instead, completely understand how the firm must account the Fair Value that arise to the following calculation models.

#### 2.6.1.2 Binominal model

The valuation of derivative financial instruments and the valuation of the Stock Options often requires the use of numerical approximation techniques; among the algorithms of numerical approximation the simplest approach is constituted by binominal model. The key feature of tree techniques is to narrow down the prices possible for the asset underlying the option to a discrete set of values.

Binominal technique are interesting as they not only require the use of tools elementary mathematics but in many applications, they provide results that are sufficiently accurate. The application of these techniques to the resolution of mathematical finance problems often gave satisfactory results, proposing themselves as an evaluation tool that allows to

obtain excellent approximations for the value of derivative securities also in cases characterized by a complex structure.

The most widespread and flexible discrete process for evaluating an option is without a doubt the binomial one. It is characterized by the fact that the price of the underlying share, whatever the initial price, it can evolve into two possible states at the end of a period of time of predetermined amplitude.

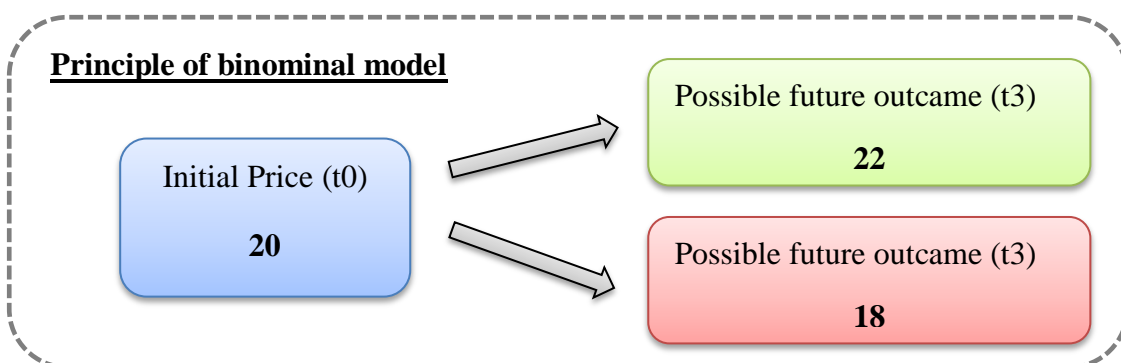
For reasons of simplicity it is also assumed that the market is efficient (there are none transaction costs, it is possible to sell short securities without limitation and to sell or borrowing money at the same (constant) rate of interest) and that do not exist arbitrage opportunities. It is also supposed, even if this hypothesis can be removed, that the underlying asset does not pay dividends during the life of the option

Then, reassuming the main chrematistics of the binominal model are:

- the easier model to the calculation of a Stock Option,
- the market is efficient and there aren't transaction costs,
- no limitation to sell and short-selling techniques (no limitation to borrow money),
- same and constant rate of interest,
- no arbitrage opportunities,
- possibilities to assume the fact that the security doesn't pay dividends after its life.<sup>43</sup>

Moreover, the following example better explain the binominal model (the model is simplified because it is not the aim of the thesis to deepen the evaluation models):

The initial price of an action is  $S_0 = 20$  \$ and it is known that at the time  $T = 3$  months will be equal to  $S_T = 22$  \$ or  $S_T = 18$  \$.



*Source: personal elaboration*

<sup>43</sup> *Options, Futures and Other Derivatives, 10th Edition, John C. Hull, Pearson, 2018.*

Suppose we are interested in evaluating a European call to purchase the share at the strike price  $K = \$ 21$  at maturity  $T$ . At the end of the quarter, this option will have the value  $f_c = S_T - K = 1 \$$  if  $S_T = 22 \$$  and  $f_c = 0 \$$  if  $S_T = 18 \$$ .

The value of the Portfolio is equal to:

$$V_p = (22Q - 1) \$, \text{ if } S_T = 22 \$, f_c = 1 \$$$

$$V_p = 18Q \$, \text{ if } S_T = 18 \$, f_c = 0 \$.$$
<sup>44</sup>

The portfolio will be risk free if the value of  $Q$  is chosen in such a way that  $V_p$  is the same in both cases:

$$22Q - 1 = 18Q,$$

from which we deduce that  $Q = 0, 25$ . Therefore, the risk-free portfolio is given by:

1. a long position: 0.25 shares;
2. a short position: 1 option,

and therefore, the total value of the portfolio,  $V_p$ , is equal to:

$$V_p = (22 * 0.25 - 1) \$, \text{ if } S_T = 22 \$, f_c = 1 \$$$

$$V_p = 18 * 0.25 \$, \text{ if } S_T = 18 \$, f_c = 0 \$.$$

At the end of the option's life, the value of the portfolio is always \$ 4.5, independently from the fact that the price of the stock rises or falls.

Assume that the rate risk-free interest is 12% per year. It follows that the current value of the portfolio must be equal to the discounted value of \$ 4.5:

$$4,5 / (1 + 0.12)^{(1.25)} = 4, 367.$$

The current value of an action is  $S_0 = 20 \$$ . We want to determine the current price  $f_0$  of the option in the absence of arbitrage opportunities.

The current value of the portfolio is equal to:  $20 * (0, 25) - f_0 = 4.367$  or  $5 - f_0 = 4.367$

Then, the Fair Value of the Stock Option that the firm have to take into account is equal to:  $f_0$  (value of the Stock Option) =  $5 - 4.367 = 0.633$

The hypothesis that the final price of the underlying asset can take only two values is a default but, almost always, the final price is inside the predeterminate range. On the other hand, one can subdivide the interval of time that elapses between the time of evaluation and the expiration of the option in several  $n$  suitably elevated subperiods of equal amplitude. In each subperiod the end-of-period price is obtained by multiplying the corresponding price at the beginning of the period for the growth factor  $u$  or for the

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<sup>44</sup> *Options, Futures and Other Derivatives, 10th Edition, John C. Hull, Pearson, 2018.*



decrease factor  $d$ . This procedure gives rise to a binomial tree that describes the trend of the price of the asset underlying the option in single subperiods but is a more complex method that is used to calculate derivatives outside the scope of IFRS 2.

The thesis has analyzed in a deeper manner the binominal model because is the most used method to calculate the Fair Value of the Stock Option. Usually, firm don't make the calculation itself, but they externalize the calculation to consultancy specialized firms.

### 2.6.1.3 Black-Scholes-Merton model

The second model to calculate the Fair Value of a Stock Option in an equity-settled shared based payment is the Black-Scholes-Merton model.

This model is more complex than the binominal method and it is largely used. According to this item the thesis shows the general concept of Black-Scholes-Merton model, due to the fact that it is allowed by IFRS 2 and also used in the practice.

The fundamental intuition of the Black-Scholes-Merton model is that a derivative is implicitly priced if the underlying is traded on the market. It's used to calculate the theoretical value of European-style options using current stock prices, expected dividends, the option's strike price, expected interest rates, time to expiration and expected volatility. The assumption of the model is the same of the binominal model explained in the previous chapter.

Then, the calculation in the Black-Scholes-Merton model of the Stock Options' Fair Value is linked to a general formula that is the following one<sup>45</sup>:

**Black-Scholes-Merton formula:**

$$C = SN(d_1) - N(d_2)Ke^{-rt}$$

C = Call premium  
 S = Current stock price  
 t = Time until option exercise  
 K = Option striking price  
 r = Risk-free interest rate  
 N = Cumulative standard normal distribution  
 e = Exponential term

s = St. Deviation  
 ln = Natural Log

Where:

$$d_1 = \frac{\ln(S/K) + (r + s^2/2)t}{s \cdot \sqrt{t}}$$

$$d_2 = d_1 - s \cdot \sqrt{t}$$

<sup>45</sup> *Options, Futures and Other Derivatives, 10th Edition, John C. Hull, Pearson, 2018.*

The model is essentially divided into two parts: the first part,  $SN(d1)$ , multiplies the price by the change in the call premium in relation to a change in the underlying price. This part of the formula shows the expected benefit of purchasing the underlying outright. The second part,  $N(d2)Ke^{-rt}$ , provides the current value of paying the exercise price upon expiration. The value of the option is calculated by taking the difference between the two parts, as shown in the equation.

The strengths of the Black-Scholes-Merton model are:

- generally accepted method for valuing share options, with wide acceptance in the market;
- many companies with share option plans use the Black-Scholes model to compute the fair value of their share awards. The consistent use of this model also enhances the comparability between the entities;
- formula required to calculate the fair value is straight-forward and can be easily included in spreadsheets.

The formula of the Black-Scholes-Merton model is not a problem due to the fact that there are many online calculator programs that give immediately the result once insert the inputs. IFRS 2 does not recommend the use of the Black-Scholes-Merton model for one important reason: this model doesn't allow the possibility to exercise before the end of the option's life and may not adequately reflect the effects of expected early exercise. It also does not allow for the possibility that expected volatility and other model inputs might vary over the option's life.

#### 2.4.2.3 Monte Carlo simulation

The third and least method suggested by the IFRS 2 to calculate the Fair Value of a Stock Option in an equity-settled shared based payment is the Monte Carlo simulation.

This model is the more complex of the three and the thesis shows its main general principle. The main general issue of the model is the fact that Monte Carlo method estimate the value of the option by calculating a sample mean of the discounted payoffs. Recalling the central limit theorem, when the number of trajectories is diverged, the distribution tends to a normal distribution with a variance that is the variance of the random payoff variable.

Important to recall that the central limit theorem is valid in the case of independent and identically distributed random variables.

The variance of the estimator tends to cancel out as the number of trajectories diverge. It is therefore possible to obtain confidence intervals and verify how the error of the estimate is proportional and does not depend on the dimensionality of the problem.

Basically, in order to obtain more accurate estimates, the number of simulations must be increased quadratically. The basic ingredient of these methods is therefore  $\varepsilon$  which is randomly extracted from the distribution of interest (in this case the standardized normal). It is therefore clear that many of the efforts will be concentrated in identifying the techniques that allow to generate such random numbers according to appropriate criteria. You can identify techniques that allow extraction directly from the distribution of interest or use general techniques that consider random numbers generated in the unit range that are then appropriately transformed. With reference to the valuation of financial options, Monte Carlo simulation is particularly suited to the European type options (exercisable, that is, only to maturity) and to the dependent path options.

The strengths of the Monte Carlo model are<sup>46</sup>:

- it is the most flexible of the models described. It can take account of complex market-based vesting conditions, exercise behaviours and factors;
- it may be easier to explain/understand the results;
- it can be used to look at the distribution of payoffs.

The weaknesses of the Monte Carlo model are:

- it requires a program or complex spreadsheet with an embedded program to calculate the option value;
- it may require in excess of 10,000 simulations or more to obtain a sufficiently accurate answer.

Then, the Monte Carlo simulation is based on the random variable series of number generated: to create the series could be used Excel but also more complex programs that gives more accurate results.

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<sup>46</sup> *Monte Carlo Simulation in Statistical Physics*, Kurt Binder, Dieter W. Heermann, 5th edition, Pearson, 2016.

### 2.6.1.5 Accounting decisions to Stock Options' Fair Value for Equity-settled share-based payments

At the beginning of the Stock Options agreements the firm must select the inputs and characteristics of the contract: these are the fundamental inputs to calculate the Stock Options Fair Value for Equity-shared based-payments.

IFRS 2 requires that at a minimum, the entity must use six inputs in whichever model is selected. The main problem is related to the fact that most employee share-based payments granted will not have an equivalent instrument traded in an active market. Therefore, when the determination of their fair values is required by IFRS 2, valuation models will need to be applied.

Moreover, the first step is to decide the valuation models to use (binominal model, Black-Scholes-Merton model or Monte Carlo simulation), then, to calculate the Fair Value of the Stock Options, these models required 6 inputs.

IFRS 2 requires, at a minimum, that all valuation models consider the following six basic inputs:

1. The exercise price of the option,
2. The current price of the underlying shares,
3. The life of the option,
4. The expected volatility of the share price,
5. The dividends expected on the shares,
6. The risk-free interest rate for the life of the option.

Two of the six points are immediately determinable when the Stock Options agreement is grant to employee/Top Manager: these points are the current share price and the exercise price of the option that is initially determined by the entity.

Then, the following points explained the six-fundamental input required by IFRS 2:

1. The exercise price of the option: this price is initially determinate by the entity in the Stock Options' contract agreement between the firm and the employee. It's a valuation that the firm must do considering its current option price on an active market.

2. The current price of the underlying shares: In this case the firm can decide to use different price at grant date. The current share price should be determined in accordance with an entity's accounting policy. That policy may dictate the closing price or average price at the grant date. The main concept is link to the fact that the firm must use consistently the same accounting decision between periods and among plans.
3. The life of the option: This input is one of the most complicated decision that the firm must take to calculate the Fair Value of an equity-settled transaction. There are several factors that affect the expected life of a typical non-traded share option given to employees or to Top Managers, such as vesting features and various behavioural considerations. The main elements that the IFRS 2 requires considering for the calculation of the option life are<sup>47</sup>:
  - The length of the vesting period, as share options typically cannot be exercised before they vest,
  - Historical experience related to actual lives of share options,
  - The price of underlying shares. Employees may tend to exercise options when the share price reaches a specified level above the exercise price,
  - The expected volatility of the underlying shares. Employees tend to exercise options earlier on highly volatile shares,
  - The employee's level within the organisation.

Moreover, the main complication concerned the employee/Top Manager behaviour. In the case the Stock Options Plan is assigned to a Top Manager is faire to forecast the fact that the Top Manager will exercise the option in the more favourable moments after the vesting period. While if the Stock Options Plan is assigned to general class of employee the situation could be different.

4. The expected volatility of the share price: Of course, the volatility of the share price could be only forecast by the firm with a range of probability. It means to calculate the fluctuations of the firm's share price during a horizon period. For listed company the firm can consider the previous fluctuation of the prices, and so it can

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<sup>47</sup> IFRS 2, comma B, point 18.

make a forecast about the future fluctuations. The situation is more complicated for unlisted companies, because they don't can use past trends to forecast the future. IFRS 2 suggests using the method of comparable: then, unlisted firms have to choose a listed company with similar characteristic (same industry, market, financial indicators, dimension, number of employees, etc.) and, in this manner they can use the past trends of listed companies to forecast their future trends. The three main suggestions issue by IFRS 2 about the calculation of expected volatility that firms must consider are:

- The length of time an entity's shares has been publicly traded;
- Appropriate and regular intervals for price observations;
- Factors indicating that expected future volatility might differ from past volatility.

5. The dividends expected on the shares: This calculation depends if the employee/Top Manager beneficiary of the Stock Option Plan can gain the dividends during the life of the contract or not. If the holder of the option or share is entitled to dividends between the grant date and the exercise date, expected dividends should not be included in the fair value measurement. If the holder of the option or share is not entitled to dividends, the fair value of the grant is reduced by the present value of dividends expected to be paid during the vesting period.
6. The risk-free interest rate for the life of the option: risk-free interest rate represents the interest rate of a risk-free asset. Generally, it equal to the six-months Italian BTP in the Italian market.

If one of the six inputs increase or decrease, then the Fair Value of the Stock Options change. The following table reassuming the consequences on Stock Options' Fair Value if the specific input increase:

	FV increase	FV decrease
Exercise price of the option		■
Current share price	■	
Expected life of the option	■	
Expected volatility	■	
Expected dividend yield		■
Risk-free interest rate	■	

Source: E&Y, IFRS 2

### 2.6.1.6 Stock Options' vesting and non-vesting conditions

This chapter analyses an important issue on IFRS 2: the vesting condition related to IFRS 2 on Stock Options. There are two main conditions that Top Managers and employees must satisfied to achieve equity-settled shared-based payments:

- Service conditions (i.e. the Top Manager must remain for a certain period of time inside the company),
- Performance conditions (i.e. the Top Manager need to achieve certain goals).

Then, a equity-settled share-based payment award generally vests upon meeting specified conditions, such as service conditions (time-based) or performance conditions (i.e. achieving a specified EBIT/EBITDA target). ). It's important to highlight the fact that under IFRS 2, the nature of the condition affects the timing of when the expense is recognised, and in some cases, the measurement of the expense.

Moreover, IFRS 2 introduces 6 elements to account the shared-based payments, each of which present a different accounting:

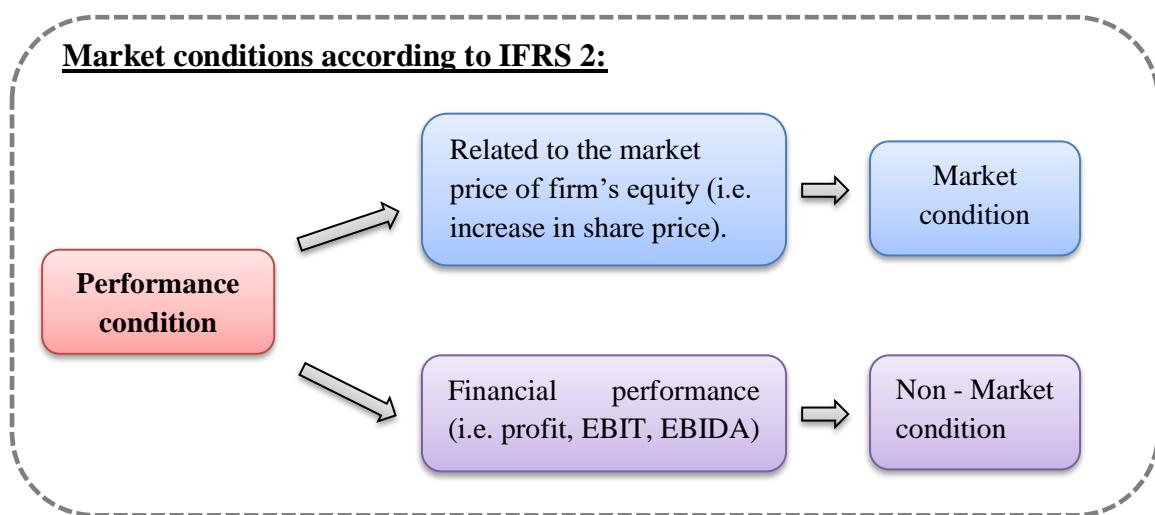
- ✓ Vesting condition
- ✓ Non-vesting condition
- ✓ Service condition
- ✓ Performance condition
- ✓ Market condition
- ✓ Non-market condition

One main and fundamental step performs by firms to account the shared-based payment is the classification of the previous conditions. IFRS 2 defined the market conditions as “A condition upon which the exercise price, vesting or exercisability of an equity instrument depends that is related to the market price of the entity's equity instruments, such as attaining a specified share price or a specified amount of intrinsic value of a share option, or achieving a specified target that is based on the market price of the entity's equity instruments relative to an index of market prices of equity instruments of other entities.”<sup>48</sup>

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<sup>48</sup> IFRS 2, Appendix A.

Moreover, a performance condition is further defined as either a market condition or a non-market condition. A market condition is a performance condition (i.e. requires specified targets to be met) and the performance conditions are related to the market price of the entity's equity instruments, such as: attaining a specified share price or achieving a specified target that is based on the market price (or value) of the entity's equity instruments relative to an index of market prices of equity instruments of other entities. A condition linked to a purely internal financial performance measure, such as profit or earnings per share, is not a market condition. Such measures will affect the share price, but are not directly linked to it, and hence are not market conditions.



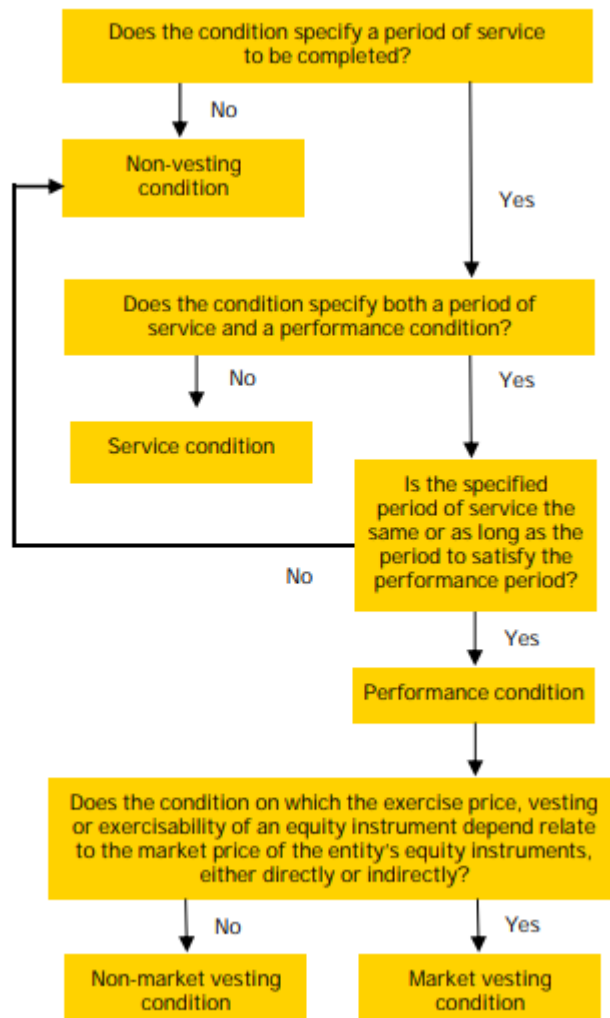
*Source: Personal processing*

Moreover, the difference between vesting and non-vesting conditions depends on whether there is a service condition to be met. In the case of non-vesting conditions there isn't a performance condition or a service condition: this is the main definition of non-vesting condition. The main common example of a non-vesting condition is the case in which the Top Manager has a non-compete clause (this agreement precludes to the Top Manger the possibility to work for a company's competitor, after the conclusion of the working service, for a predeterminate horizon period): in this case the Top Manger hasn't a service condition or a performance condition to be met. This is a non-vesting condition.

Then, the difference between vesting and non-vesting condition depends if there is a service (or performance) condition to be met or not.



Moreover, to account an equity-settled shared-based payment the firm must understand not only the nature of the condition (vesting or non-vesting) but also if it is a service condition or a performance condition. Then, in the case of performance condition the firm must analyse the agreement classifying it under market or non-market vesting condition. The following graph better explains the difference vesting and non-vesting conditions and the subsequence's classifications:



*Source: Guide of International Accounting Standards*

### 2.6.1.7 Impact of conditions on measuring share-based payments

The determination of vesting or non-vesting condition and market or non-market condition is fundamental to account the equity-settled shared-based transactions. These classifications affect the accounting balance sheet in two manners:

- Timing of when the expense is recognised.
- Measurement of the expense.

Furthermore, if a condition is not met, whether the entity may reverse the previously recognised compensation expense depends on the nature of the condition that was not met, increasing the importance of the classification.

Then, service condition and performance condition present different accounting issue. Moreover, performance conditions must be market conditions or non-market conditions and they present different accounting:

- Market conditions: are considered when estimating the fair value of the award at grant date. Then, the firm immediately recognize an expense.
- Non-market conditions: are considered by subsequently adjusting the number of awards expected to vest. Non-market vesting conditions are not considered when estimating the fair value of the shares or share options at the grant date. Instead, these vesting conditions are taken into account by adjusting the number of equity instruments included in the measurement of the transaction amount so as to reflect the number of awards that are expected to vest.
- Service conditions: are identical to non-market conditions. They are considered when an entity recognises an expense for goods and services received during the vesting period.

To have a complete understand of the measurement principle of Stock Options, the IFRS 2 presents some example. The goal of the thesis is to show and explain two of these examples:

Example 1: Share Options: Non-market condition or Service condition.<sup>49</sup>

An entity grants 100 share options to each of its 500 employees. Each grant is conditional upon the employee working for the entity over the next three years. The entity estimates that the fair value of each share option is CU15. The entity estimates that 20% of the

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<sup>49</sup> *General guide to IFRS 2, International Accounting Standards, 15 February 2016.*

employees will leave during the three-year period and, therefore, forfeit their rights to the share options.

Then, the accounting for the firm in a non-market and service condition will be:

Year 1:  $500 \text{ (employees)} * 100 \text{ (Share Options)} * 80\% \text{ (20\% are out of the firm)} * 1/3 \text{ (the period is 3 years)} = 200.000$

<b>Year</b>	<b>Expense for the period (Debit record)</b>	<b>Cumulative expenses</b>	<b>Increase in Equity (Credit record)</b>
1	200.000	200.000	200.000

Year 2:  $500 \text{ (employees)} * 100 \text{ (Share Options)} * 80\% \text{ (20\% are out of the firm)} * 2/3 \text{ (the period is 3 years)} - 200.000 \text{ (first year already recognize)} = 200.000$

Year 3:  $500 \text{ (employees)} * 100 \text{ (Share Options)} * 80\% \text{ (20\% are out of the firm)} * 3/3 \text{ (the period is 3 years)} - 400.000 \text{ (first and second year already recognize)} = 200.000$

<b>Year</b>	<b>Expense for the period (Debit record)</b>	<b>Cumulative expenses</b>	<b>Increase in Equity (Credit record)</b>
1	200.000	200.000	200.000
2	200.000	400.000	200.000
3	200.000	600.000	200.000

#### Example 2: Share Options – Market conditions<sup>50</sup>

An entity grants 10,000 share options to a director on the condition that the director remains in employment for three years and the market price of the related shares increased from CU50 at the beginning of year 1 to above CU65 at the end of year 3. It estimates the fair value of the share options with this market condition to be CU24 per option. The possibility that the share price target might not be achieved is already considered when estimating the fair value of the options at grant date. Therefore, if the entity expects the director to complete the three-year service period and the director does so, the entity recognises the following amounts in years 1, 2 and 3:

<sup>50</sup> *General guide to IFRS 2, International Accounting Standards, 15 February 2016*

Year 1: 10,000 (options) \* 24 (value of the Stock Options) \* 1/3 (horizon period of 3 years)  
= 80.000

Year 2: 10,000 (options) \* 24 (value of the Stock Options) \* 2/3 (horizon period of 3 years)  
– 80.000 (year 1 already considered) = 80.000

Year 3: 10,000 (options) \* 24 (value of the Stock Options) \* 3/3 (horizon period of 3 years)  
– 160.000 (year one and two already considered) = 80.000

<b>Year</b>	<b>Expense for the period (Debit record)</b>	<b>Cumulative expenses</b>	<b>Increase in Equity (Credit record)</b>
1	80.000	80.000	80.000
2	80.000	160.000	80.000
3	80.000	240.000	80.000

These amounts are recognized irrespective of the outcome of the market condition. However, if the Top Manager leaves during year 2 (or year 3), the amount recognized during year 1 (and year 2) will be reversed in year 2 (or year 3). This is because the service condition, in contrast to the performance market condition, was not considered when estimating the fair value of the share options at grant date. Instead, the service condition is considered by adjusting the transaction amount to be based on the number of equity instruments that ultimately vest.

### 2.6.2 Measurement of Cash-settled transaction

As the thesis explained in the previous chapters the shared-based transactions are divided in two main categories: equity-settled shared-based payment and cash-settled shared-based payment. The corresponding accounting writing in cash-settled shared-based transaction is a liability. In addition, for cash-settled awards, the general principle in IFRS 2 is that an entity measures the fair value of the goods or services received based on the fair value of the liability at each reporting period. According the principal, the companies must remeasure the liabilities at each reporting period during the life of the cash-settled shared-

based payments. An important element to remember is the fact that the cash-settled payment is linked to the company's share value.

The most common example of such arrangements is cash-settled Share Appreciation Rights (SARs) which are also sometimes referred to as 'phantom option schemes'. The thesis analyses in chapter 3 this financial instrument.

Then, for cash-settled share-based payment transactions, the goods or services acquired, and the liability incurred are measured at the fair value of the liability. Until the liability is settled, the liability is remeasured at fair value at each reporting date (and the settlement date). Any changes in fair value are recognised in profit or loss for the period. The ultimate cost of a cash-settled award is the cash paid to the counterparty, which is the fair value at settlement date. Until the award is settled, an entity presents the cash-settled award as a liability and not within equity. Thus, changes in the measurement of the liability are reflected in the statement of profit or loss and other comprehensive income. Then, there are four main points to take into account for the accounting of the cash-settled share-based payments:

1. To calculate the Fair Value of the cash-settled share-based payments the firm have consider the non-vesting conditions and the market condition,
2. The liability must remeasure at each reporting date, and its changes affect immediately the income statement,
3. Vesting conditions must not be taken considered when estimating the fair value of cash-settled share-based payments. Instead, vesting conditions must be considered in the measurement of the liability incurred by adjusting the number of awards that are expected to vest.
4. If a vesting or non-vesting condition is not satisfied, the firm doesn't recognize an amount for goods or services received.

Then, if the company doesn't require to provide a service, the firm recognizes the expense and liability immediately upon grant date. If the company requires to provide a service, the firm recognises the expense and the liability over the vesting period, remeasuring the fair value of the liability at the end of each reporting period.

Reassessing, in cash-settled shared-based payments the company must recognize each year the expenses and the relative liabilities. Then, according to the Fair Value of the firm's shares it must re-measuring the cumulative liability.

The following table explain the accounting writing in the case of cash-settled shared-based payments:

Expense for the period (Debit record)	Cumulative expenses	Liability* (Credit record)
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\*The liability values increase each year by the amount equal to the expenses of the period.

### 2.6.3 Possibility to choose equity-settled shared-based payments or cash-settled shared-based payments

In some contract the counterparty or the firm has the possibility to choose between an equity-settled or cash settled shared-based payment. The first important point is to understand if this possibility is in power of the counterparty or the entity.

If the decision is up to the counterparty the accounting writing for the award is split in two parts:

- Liability part: if the counterparty decides to use cash-settled shared-based payment.
- Equity part: if the counterparty decides to use equity-settled shared-based payment.

These two components are accounted by the firm in a separated manner.

If the decision is up to the firm the accounting writing for the award is not divided in two components but it is accounted for the whole amount as equity-settled or cash-settled shared-based payment. Then, the firm must account the transaction as cash-settled shared-based payments if there are some restrictions (i.e. the law prohibits to issue shares), the policy of the firm required a cash-settled transaction, or the firm generally set with cash these types of transactions. In the others cases the firm account the transaction as an equity-settled shared based-payment.

Then, if the possibility to choose between equity or cash is up to the counterparty (employee or other firm) the accounting process requires a double accounting and the amount is split, while if the possibility to choose between equity or cash is up to the entity the amount is accounted for as equity or as a liability for the whole amount.

## 2.7 Modifications, cancellations and settlements according to IFRS 2

During the life of a share-based payment the transaction could be modified or cancelled before the vesting date. The main reason to modify or cancel a share-based transaction comes from changes in the market circumstances. For example, if the price of shares falls a lot under the possibility to exercise the option in-the-money, in this case it is reasonable to modify the accounting of share-based transaction.

The general principle issued by IFRS 2 is the following one: if an entity modifies an award, it must recognize, at a minimum, the cost of the original award as if it had not been modified. If the modification increases the fair value of the award, the entity must recognize the additional cost. The additional cost is spread over the period from the modification date until the vesting date of the modified award, which may differ from the vesting date of the original award. Any increase or decrease in the fair value of an award because of a modification is determined at the modification date. If an entity modifies a vested award, it recognizes any additional fair value given on the modification date.

Furthermore, it is important to show the accounting writing in the case the firm pays to cancel the share-based payment:

- Equity-settled share-based payments: If the firm pays, before vesting period or after vesting period, the Fair Value of the award due to cancellation of the equity-settled share-based payments, the firm must recognize a reduction of the equity.
- Cash-settled share-based payments: In the case of a cancellation of a cash-settled share-based payment the firm must cancel the corresponding liability.
- Excess payments: if to cancel a share-based payment the firm has to pay a value higher than the Fair Value of the award, the difference is accounted in the Profit and Loss as an expense.

Moreover, when an award is cancelled or settled during the vesting period, it is treated as an acceleration of vesting and the entity immediately recognizes the remaining amount that it otherwise would have recognized for services over the remaining vesting period.

If the performance conditions or service condition are not met by the Top Manager, the firm must reverse the expense previously recognized and the award is eliminated.

The situation is different in the case of non-vesting conditions: the accounting process depends if the reason of the failure is in charge of the firm or the counterparty. There are two possible situations: the reason of the failure is in control of either the firm or the counterparty, then the accounting writing is a cancellation. If the reason of the failure is not in control of either the firm or the counterparty, then the accounting writing is not treated as a cancellation.

#### 2.8 Amendments on IFRS 2 introduce by the 2018 European regulation

The EU regulation n. 2018/289 of February 26, 2018 modifies IFRS 2 which regards the accounting for transactions with share-based payment. The new regulation will enter into force on March 19, 2018; however, the changes concerning IFRS 2 must be applied by the IAS / IFRS subjects, at the latest, starting from the beginning of the first financial year starting on 1 January 2018 or later. These changes mainly concern the accounting treatment of the vesting conditions and the non-vesting conditions in the cash-settled transactions and the accounting reporting of transactions with a characteristic of the net settlement for withholding tax obligations.

The main amendments to IFRS 2, introduced by EU regulation no. 2018/289, concern:

- ✓ Accounting for modifications that change the classification of payments from cash-settled to equity-settled transactions,
- ✓ The effects of vesting/non-vesting conditions on cash-settled share-based payments,

The following paragraph analyzes the previous points into detail, explaining the accounting changes.



- Accounting for modifications that change the classification of payments from cash-settled to equity-settled transactions: IFRS 2 updated clarifies the accounting principle related to a change in the nature of a shared-based payment. As the thesis previously explained the shared-based payments could be regulated by equity (equity-settled shared-based payment) or by cash (cash-settled shared-based payment). In addition, the International Accounting Standard gives the possibility to change the nature of the payment, from cash to equity, during the life of the agreement. Then, IFRS 2 clarifies that, if the terms and conditions of a cash-settled share-based payment transaction are modified, with the result that it becomes an equity-settled share-based payment transaction, the transaction is accounted for as an equity-settled transaction from the date of the modification. Any difference (whether a debit or a credit) between the carrying amount of the liability derecognized and the amount recognized in equity on the modification date is recognized immediately in profit or loss.

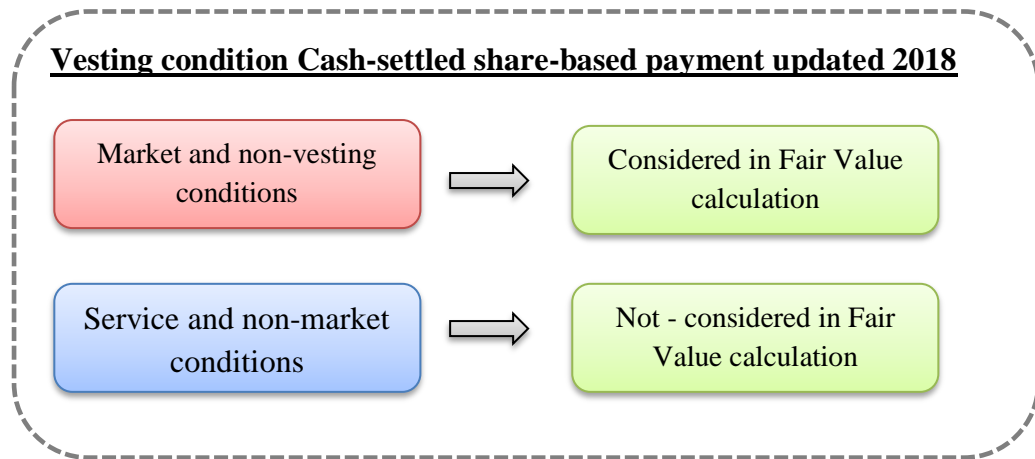
Reassuming, the accounting writing in a change from cash-settled to equity-settled shared-based payments are:

1. The original liability of the cash-settled shared-based payments is derecognized,
  2. The equity-settled share-based payment is recognized at the modification date Fair Value of the equity instrument granted,
  3. Any difference between the carrying amount of the liability at the modification date and the amount recognized in equity should be recognized in profit or loss immediately.
- The effects of vesting/non-vesting conditions on cash-settled share-based payments: this amendment analyzes the vesting and non-vesting conditions in cash-settled shared-based payments transactions. IFRS 2 impose the clarify that the accounting for the effects of vesting and non-vesting conditions on cash-settled share-based payments should follow the same approach as for equity-settled share-based payments. This means that<sup>51</sup>:
    - market and non-vesting conditions are considered in estimating the fair value of the cash-settled share-based payment;

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<sup>51</sup> IASB introduced amendments to IFRS 2 related to the classification and measurement of share-based payment transactions, Deloitte Academy, 19 March 2018.

- service and non-market conditions are not considered when estimating the fair value but are instead considered by adjusting the number of awards included in the measurement of the liability.



*Source: personal elaboration*

The effects of all conditions will be revised at the end of each reporting period (unlike equity-settled share-based payments, for which the fair value is fixed at grant date), meaning that the cumulative liability recognized equals the cash eventually paid.

The International Accounting Standards Board highlights the importance of IFRS 2 as accounting principle, continuing to issue updates on this standard. The following two chapters analyze the alternative financial instruments to Stock Option, that are more and more used by medium-size firms, and a benchmark analysis of the firm that use the share-based payments and how they account it.

## **CHAPTER 3**

### 3. Alternatives financial instruments to Stock Options

#### 3.1 Accounting, managerial and financial implication of alternative financial instruments to Stock Options

The goal of this chapter is to analyze and explain the accounting, managerial and financial implications of the alternative financial instruments to Stock Options. During the last 10 years the use of this instruments increase a lot and the firms must compliance their balance sheet and accounting principle with the standards issue by the IASB.

Many of these alternative financial instruments are declinations of the Stock Options and the International Accounting Standard of reference remain the IFRS 2. Furthermore, the increasing use of these alternative financial instruments required a complete understand of the financial instruments' mechanism.

In addition, the use of alternative instruments to Stock Options is a company strategy. In some cases, the use of Stock Option is considered a too difficult tool (especially in the small/medium size firm). Moreover, also the possibility to exercise the options by the Top Mangers became tricky. Besides, the Stock Option's effect on balance sheet, regulated by the IFRS 2 and explained in the chapter 2, in some cases are an obstacle: according to these reasons the firm's managers developed a wide range of alternative financial instruments to Stock Options that are explained into details in the following chapters.

#### 3.2 Share Appreciation Rights

The first alternative financial instruments to Stock Options are the Share Appreciation Rights (SAR). This instrument is similar to Stock Options, but it presents many differences. The general concept of Share Appreciation Right is the following one: at grant date is calculated the Fair Value of the current stocks, if the stock's value increase the Top manager will receive a compensation equal to the difference between the stock's value at

vesting date and the stock's value at grant date. If the stock's value is decreased the Share Appreciation Right is equal to zero.

In the case the value of the share is increased, the Top Manager could obtain:

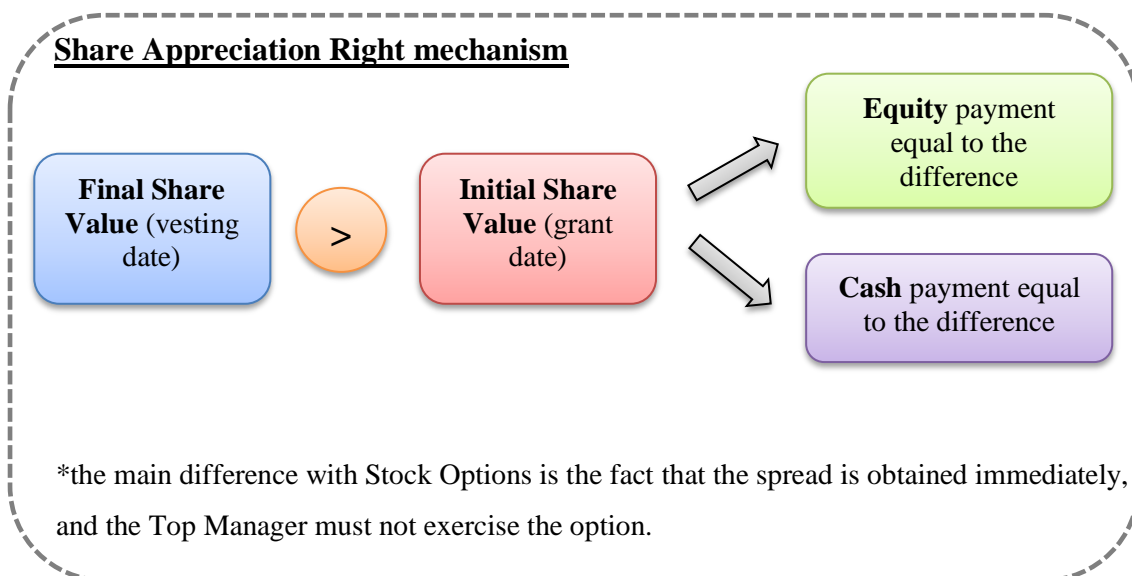
- Equity: shares of the company (Stock-settled SAR)
- Cash (Cash-settled SAR)

The type of payment is initially established in the agreement between the firm and the Top Manager. In the case of stock-settled SAR, the Top Manager has the double opportunity to maintain the shares or selling it immediately in the market receiving cash.

Then, the award obtained by the Top Manager is equal to the spread between the initial value of the stock and the final value of the stock of the company.

The process is very similar to the Stock Option but unlike stock options, Top Managers are not required to pay the exercise price after the Stock Options are vested. They just receive the amount of any increase in price, deliverable in cash or stock upon exercising, depending on the company's plan guidelines.

The following graph explain the Share Appreciation Right mechanism:



*Source: personal elaboration*

The accounting records for Share Appreciation Rights are regulated by IFRS 2. The transaction could be regulated by equity or cash: this implies the fact that SAR's payment could be an equity-settled shared-based payment or a cash-settled cash-based payment.

The accounting records, according to the IFRS 2, for an equity-settled shared-based payment are:

- Expense: for working service,
- Increase in Equity: the Top Manager will receive company's shares at the end of the transaction.

Important to highlight the fact that the accounting records must be remeasured at each reporting period by the firm.

The accounting records, according to the IFRS 2, for a cash-settled shared-based payment are:

- Expense: for working service,
- Cumulative Liability: the liability is remeasured at each reporting period for the quota of the year.

Furthermore, SARs may be issued instead of Stock Options because Top Managers prefer to receive compensation in form of cash rather than shares. Due to this fact the Cash-settled SARs are the most utilized in the practice. Managers may not willing to buy shares and then sell them for cash, if cash is more desirable. For example, they not want to borrow money to buy shares if they lack liquidity resources. The Stock Appreciation Right is today a very useful and utilized alternative instrument to Stock Options and its importance is continuously increasing. Then, an accurate and disciplined accounting of SAR is required to the firms.

### 3.3 Stock Grants

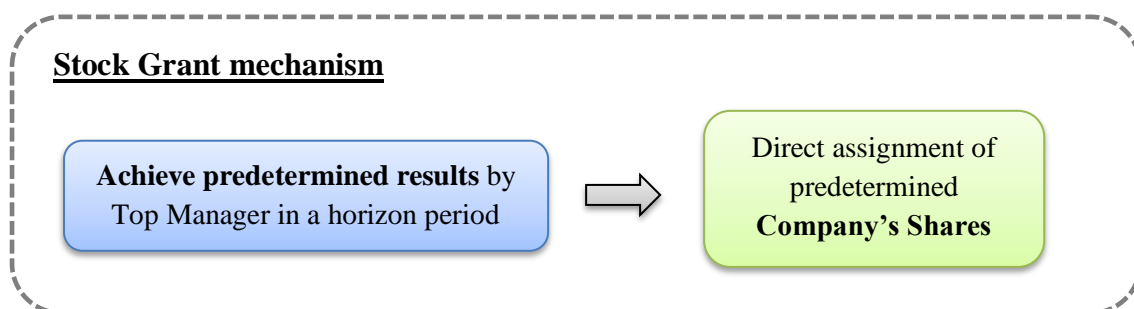
The Stock Grant Plans are common in the medium size firm, due to their easier way of application. The general principle is the following one: the Stock Grant Plans provide for the assignment of shares, free of charge or under particularly favourable conditions, to

employees of an enterprise or a group. Then, if the employees reach some predetermined objective they receive a predetermined amount of company's shares. This alternative financial instrument doesn't allow to employee to gain immediately cash. Furthermore, once obtained the shares, the employee can sell in the open market the company's share receiving cash. Then, indirectly the employees can also gain cash.

Moreover, the following characteristics are common in the Stock Grants Plans:

- The employees have the ability to negotiate the title only after a certain interval defined time (lock up),
- In some cases, there is the possibility to sell the titles only to the issuing company or its employees, not to other external subjects,
- Possibility to fully enjoy the shares only upon occurrence of personal or group performance.

The main differences between the Stock Grants and the Stock Option is the fact that, in the first case, the Top Manager mustn't exercise the options buying the shares. Unlike a stock option, which requires a cash outlay to exercise the option, no purchase or cash outlay is necessary when a stock grant is made – the recipient simply becomes the owner of the shares granted. The following graph explain the Stock Grant's mechanism:



*Source: personal elaboration*

The Stock Grant's accounting writing are regulated by the IFRS 2. Due to the fact that there isn't the possibility to receive cash, the transaction is an equity-settled shared-based payment. As show in chapter 2, the accounting records for this typology of transaction is:

- Expense: for working service.
- Increase in Equity: the share assigned to Top Manager.

Then, today the Stock Grant Plan have substituted many Stock Option Plan, because their facility to account for the firms and easier way to exercise for the Top Managers. One of the main example of transition from a Stock Option Plan to a Stock Grant Plan is the case of Fiat-Chrysler<sup>52</sup>.

### 3.4 Phantom Stock Options

Phantom Stock Option Plan are very similar to Stock Option Plan and Share Appreciation Right. The general mechanism is the following one: the company plans the payment of a cash bonus to the employee by linking it to changes in the share price over a given period. The Phantom Stock Plan does not constitute an operation to assign shares to employees or Top Manager, as it does not determine any allocation of securities, but only the provision of a sum of money linked to the performance of the shares. Then, if the company's share price is increased over the specific horizon period the Top Manager receives the award. Moreover, they grant the beneficiaries the right to receive payment in the future of a differential equal to the possible increase of the market value of the share in question. The premium is provided only in cash.

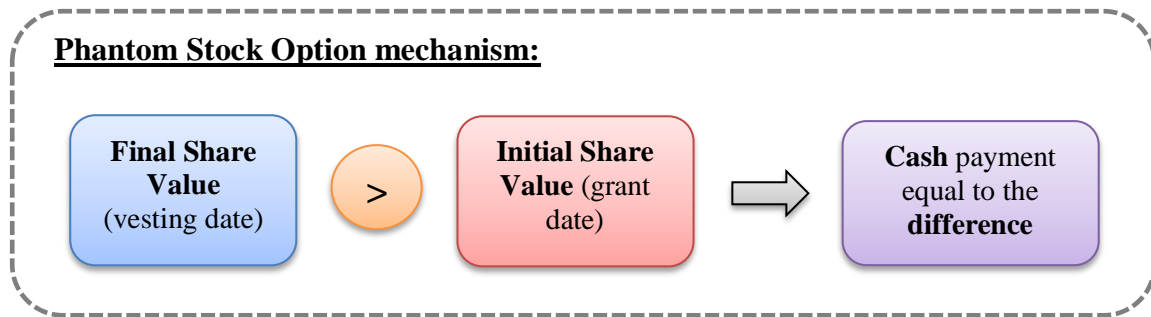
This alternative financial instrument takes elements from both Stock Option Plan and Share Appreciation Right. The Phantom Stock Option is similar to the Share Appreciation Rights because the value of the premium is linked to the appreciation of the company's shares price. The main differences are the two following items.

- There isn't the possibility to gain the premium in form of equity instruments (company's shares),
- Phantom Stock Options may reflect dividends and stock splits,

The following graph represents the Phantom Stock Option mechanism:

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<sup>52</sup> [https://www.fcagroup.com/it-IT/investors/financial\\_regulatory/financial\\_reports/files/FCA\\_NV\\_2017\\_Annual\\_Report.pdf](https://www.fcagroup.com/it-IT/investors/financial_regulatory/financial_reports/files/FCA_NV_2017_Annual_Report.pdf), Fiat-Chrysler remuneration policy 2017.



*Source: personal elaboration*

As the graph above shows, the Phantom Stock Option gives the possibility to gain only cash payments: due to this fact it is a cash-settled shared-based payment because the value of the award is linked to the stock's price.

The accounting records for the Phantom Stock Option, according to the IFRS 2 are:

- Expenses: for working services,
- Cumulative Liability: the liability is recognized at each reporting date, taking into account the difference between the current share's price and the initial share price.

Today, Phantom Stock Options are a common alternative financial instrument used in the remuneration policy. The high use of this financial instrument is associated with the more easier mechanism respect Stock Options and Share Appreciation Rights.

### 3.5 Performance Share

With the Performance Share Plans the firm assigns to Top Managers company's shares based on the evaluation of the performance and the results achieved. In this way it aligns the interests of management and shareholders in the creation of long-term value.

The plan provides the allocation of company's shares to employees as an equity portion of the variable remuneration attributed to the end of the annual or multi-year performance assessment process and provided that the performance conditions identified by the remuneration policies are met.

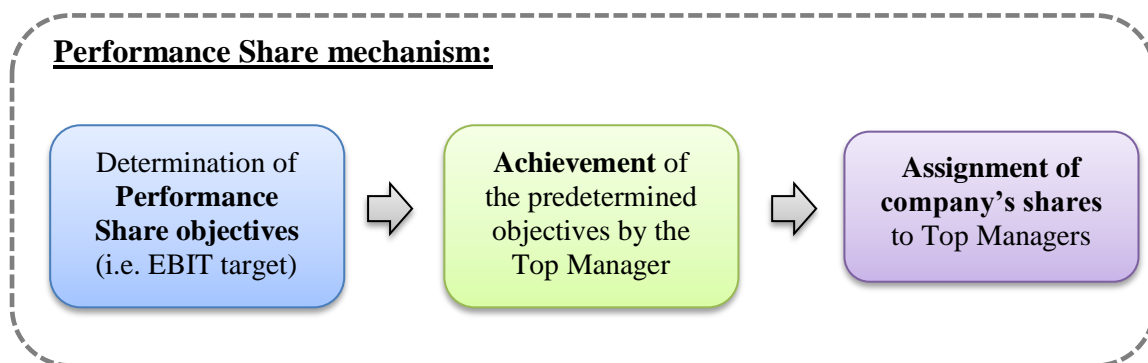
There are two reasons for the adoption of Performance Shares:



- ✓ Comply with the requirements of the regulation for the disbursement of a portion of variable remuneration in equity instruments, over a multi-year time horizon, subject to performance conditions,
- ✓ Align the interests of the firm's management with that of shareholders for the creation of value over the medium to long term.

Then, the general principle of Performance Shares is the following one: if Top Managers achieve predetermined performance objectives, the award is a predetermined amount of company's shares. In that way the interests of the shareholder and managers is the same: the creation of value for the company. Then, Performance Share Plans are equity-settled share-based payments, regulated by IFRS 2.

The following graph explains the Performance Share's mechanism:



*Source: personal elaboration*

Performance Share Plans are equity-settled share-based payment, regulated by IFRS 2.

Then, the accounting records are:

- Expense: for working services,
- Increase in Equity: the firm assigns company's shares to Top Managers, then it must increase its equity value.

In the recent years the alternative financial instrument of Performance Share has seen an exponential growth. Today many firms, also in the Italian market, use it. The following Italian listed firms have an active Performance Share Plan:

- ✓ Mediobanca,

- ✓ Autogrill,
- ✓ Luxottica,
- ✓ Monclear,
- ✓ Sanofi

Reassuring, the Performance Share are equity-settled share-based payments to Top Managers for the achievement of predetermined objectives. The award is a predetermined number of shares and it are used to align the managers and shareholders' interests in the medium/long period.

Furthermore, in some cases, the shares received by the Top Managers are generally subject to sale restrictions and/or risk of forfeiture until a specific performance measurement is satisfied.

### 3.6 Performance Share Units

The alternative financial instrument of Performance Share Units derives from the Performance Share, but it is more complicated. The general concept behind this instrument is the following one: the company, at grant date, defines the objectives to achieve the Performance Share Units. If the Top Manager reach the objectives, he will receive the award in a form of "virtual shares"<sup>53</sup>. These virtual shares represent the Units. In the common practice, one units is equal to one share. These means that the value of the units is linked to the share's price. At vesting date, the Top Manager will have a number of Units ("virtual share"). Company translates the amount of these virtual share in cash: Top Manager will receive the award in form of cash.

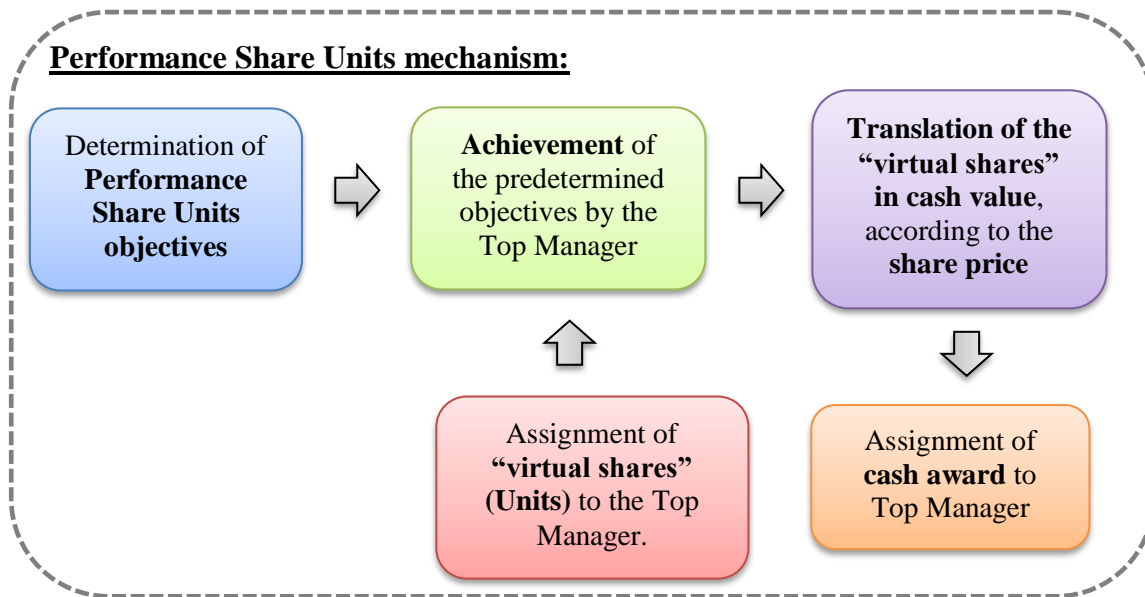
The final award is in the form of cash, but this value is the result of the company's share price calculation. The firm must apply the following formula to calculate the award:

Final award in cash = number of "virtual share" \* value of one share in the market.

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<sup>53</sup> Stock Plan Awards, J.P. Morgan, 2018.

According to the previous statements, the Performance Share Units are cash-settled shared based payments, regulated by the IFRS 2. The following graph shows the Performance Share Units mechanism:



*Source: personal elaboration*

Then, the Performance Share Units mechanism requires a translation of the “virtual shares” obtained by the Top Managers in cash value. In most cases the value of one “virtual share” is equal to the price value of one share, but the firm can also establish a different ratio. Furthermore, Performance Share Units are cash-settled shared-based payments, resulted by IFRS 2: the following accounting records must be recognized by the company:

- Expense: for working service,
- Cumulative Liability: the value of the “virtual shares” must be accounted and remeasured at each reporting period, considering the share’s price value.

Today, Performance Share Units are less common respect to Performance Share and Stock Options. The main reason is the complexity of the Performance Share Unit’s mechanism. In the Italian market, the Performance Share Units Plan is used by Banca Mediolanum.

### 3.7 Restricted Shares

Restricted Stocks are a type of company's shares that are not fully transferable until certain conditions have been satisfied. Upon fulfilment of these conditions, the shares become free and transferable to the person who holds it. Restricted shares are often used as a form of payment for employees, in which cases it becomes transferable to the satisfaction of certain conditions, such as a prolonged working period or the achievement of other objectives, such as a certain level of earnings per share or other financial goals. Restricted shares are a popular alternative to stock options, especially for executives, due to particularly favourable tax treatment and accounting rules. Moreover, Restricted Stock Shares are awards that entitle you to ownership rights (including voting and dividend rights) in your company's stock.

Furthermore, Restricted Shares refer to shares of stock whose sale or acquisition is subject to specific restrictions laid out by the issuing company and agreed upon by the eventual owner of the restricted shares. This means that the restricted shares issued by a company are not fully transferable to the person receiving the stock until certain conditions or restrictions are met. It typically becomes available for sale under a graded vesting schedule that lasts several years.

Reassuring, the firm issues Restricted Shares if the Top Manager reach some objectives or, for example, he remains in the same firm for a predetermined period of time. Usually, the Restricted Share are staggered during the time horizon. For example, suppose the firm issues 1.000 Restricted Shares to Jim, a Top manager of the firm. The company's share price is 10€. The horizon period is 5 years and the vest of the Restricted Shares is staggered. After one-year Jim, if the objectives are reached, obtain 200 shares. After two-year Jim receive other 200 shares, and so on. At the end of the vesting period Jim gains 1.000 shares. Depending on how the company's stock performs, Jim may receive more or less than \$10,000 (1.000\*10€)<sup>54</sup>.

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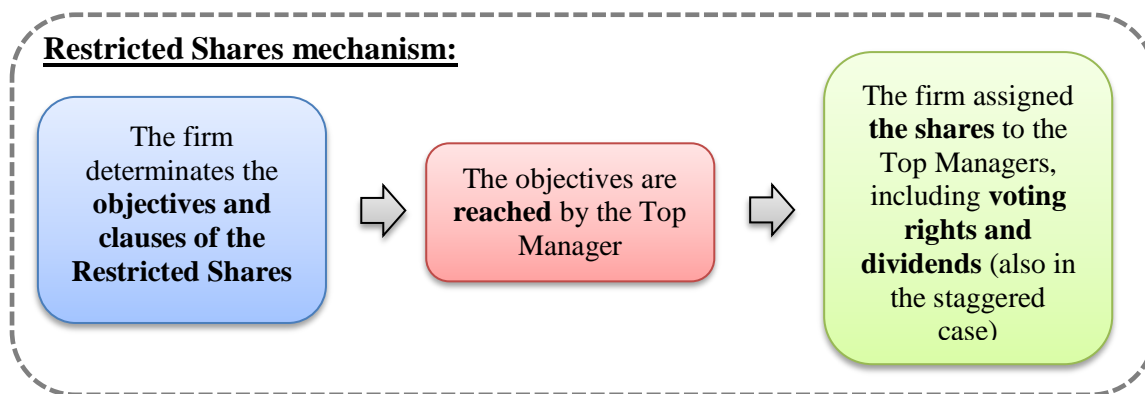
<sup>54</sup> Restricted Share, Morgan Stanley, 25 May 2016.

The beneficiary of the Restricted Share receives company's shares. Due to this fact the transaction is an equity-settled shared-based transaction, according to IFRS 2.

Two important Restricted Shares' elements are:

- ✓ The beneficiary immediately gains voting rights,
- ✓ The beneficiary immediately gains dividends.

The following graph explain the Restricted Shares mechanism:



*Source: personal elaboration*

The accounting records for Restricted Shares, that are equity-settled shared-based payments, according to IFRS 2, are:

- Expense: for working service,
- Increase in equity: the final award is issued by the firm in shares that are assigned to the Top Manager.

The Restricted Share must be remeasured at each reporting period by the entity. Moreover, the alternative financial instrument of Restricted Share is used a lot in the USA, while in the Italian market the firms prefers other forms of compensation.

### 3.8 Restricted Stock Units

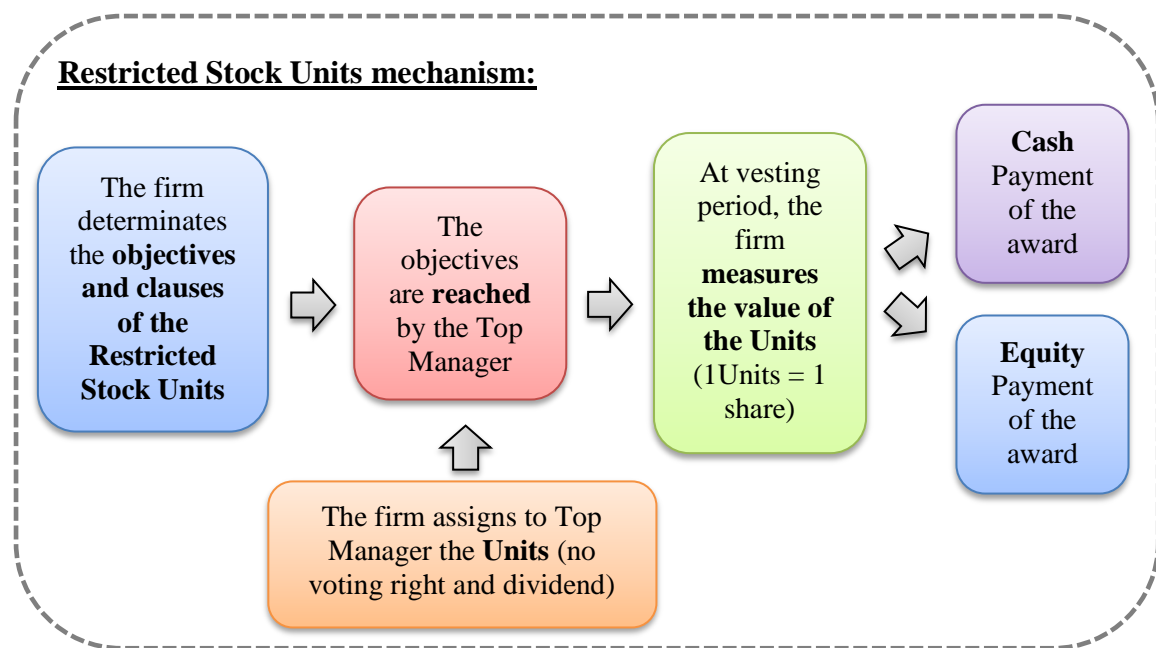
The Restricted Stock Units are very similar to the Restricted Stock, but they present some important differences. First, they are restricted: this means that if the Top Manager reaches some predetermined objectives he will unlock the shares and he will receive the award. In the other cases, the value of the Restricted Stock Units is equal to zero.

Furthermore, the Restricted Stock Units' mechanism is the following one: the firm established some objectives which can be a financial indicator (for example EBITDA or Net sales) or temporal goals (for example to retain a key manager in the firm for a period of time). Then, in most of the cases the Restricted Stock Units are staggered and the Top Manager, if he reaches the objectives, obtains the units (not the shares) at the end of each reporting period. At vesting period, the amount of units are measured using the share price. In the practice one unit is equal to one share. Then, obtained the value of the award, the Top Manager can reach the award in form of cash or in form of share, depending on the initial agreement.

Restricted Stock Units' mechanism is very similar to Restricted Share, but the two main differences are:

- ✓ The beneficiary doesn't immediately gain voting rights, but only after the vesting period,
- ✓ The beneficiary doesn't immediately gain dividends, but only after the vesting period,
- ✓ The award could be in form of cash or equity, while for Restricted Share the award is only in form of equity (shares),

The following graph explains how the Restricted Stock Units works and their key mechanism:



*Source: personal elaboration*

Then, according to IFRS 2, the Restricted Stock Units could be both an equity-settled shared-based payment or a cash-settled shared-based payment, depending on the initial agreement between the firm and the Top Manager.

The accounting records in the case the transaction is equity-settled are:

- Expense: for working service,
- Increase in Equity: the Top Manager receives company's shares,

The accounting records in the case the transaction is cash-settled are:

- Expense: for working service,
- Liability: the award is in the form of cash. The liability is the cumulative liability accounted each year.

Then, Restricted Stock Units are generally used to retain the key Top Managers in the firm for a period of time. If the Top Manager leaves the company he loses all the cumulative units. This retain mechanism is used in the multinational firm of big dimension, where the key people are fundamental for the success of the firm. One example in the Italian market

is the Vice-president of Exor, Alessandro Nasi: he has an active Restricted Stock Units' Plan in 2018.<sup>55</sup>

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<sup>55</sup> Exor Remuneration Policy, 6 July 2017.



## CHAPTER 4

### 4. Mittel Case: accounting and financial implication of the Mittel's Share Appreciation Rights Plan

#### 4.1 Overview of the Mittel company

The main objective of the forth chapter is to analyse the Mittel's Share Appreciation Rights Plan 2015-2020, from an accounting and financial point of view. The thesis will show all the accounting records and valuations associated to the Plan, according to the IFRS 2.

Mittel is an investment-merchant bank focused on investments in small and medium-sized Italian companies with high cash generation. It is a medium / long-term investor with an industrial approach and an active investment management, thanks to the services offered by the group. Its mission is the following one: Mittel wants to be a holding of investments, dynamic and efficient, focused on acquisitions of majority stakes in small and medium-sized Italian companies with high cash generation.<sup>56</sup> Today, with its industrial and strategic plans, Mittel aims (on the model of Tamburi Investment Partners) to make Mittel a merchant bank that enters a majority in companies capable of generating cash and therefore with an EBITDA above 10%.

Mittel is listed on the Milan's Stock Exchange in the FTSE Italia Small Cap, with a market capitalization of 155 million of euros at 01/09/2018. It operates in advisory, asset management and equity investment market. The total number of employees is 706 with 4 strategic and key Top Managers:

- CEO and President, Rosario Bifulco,
- CFO, Caterina Della Mora,
- Chief Operating Officer, Pietro Santicoli
- Head of Private Equity Division, Gianfranco Burei.

These four key figures are also beneficiaries of the Share Appreciation's Rights Plan issue by Mittel, with others 8 Top Managers for a total number of 12 beneficiaries.

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<sup>56</sup> <http://www.mittel.it/wp-content/uploads/Aggiornamento-al-26-aprile.pdf>, Mittel strategic Plan 2018.

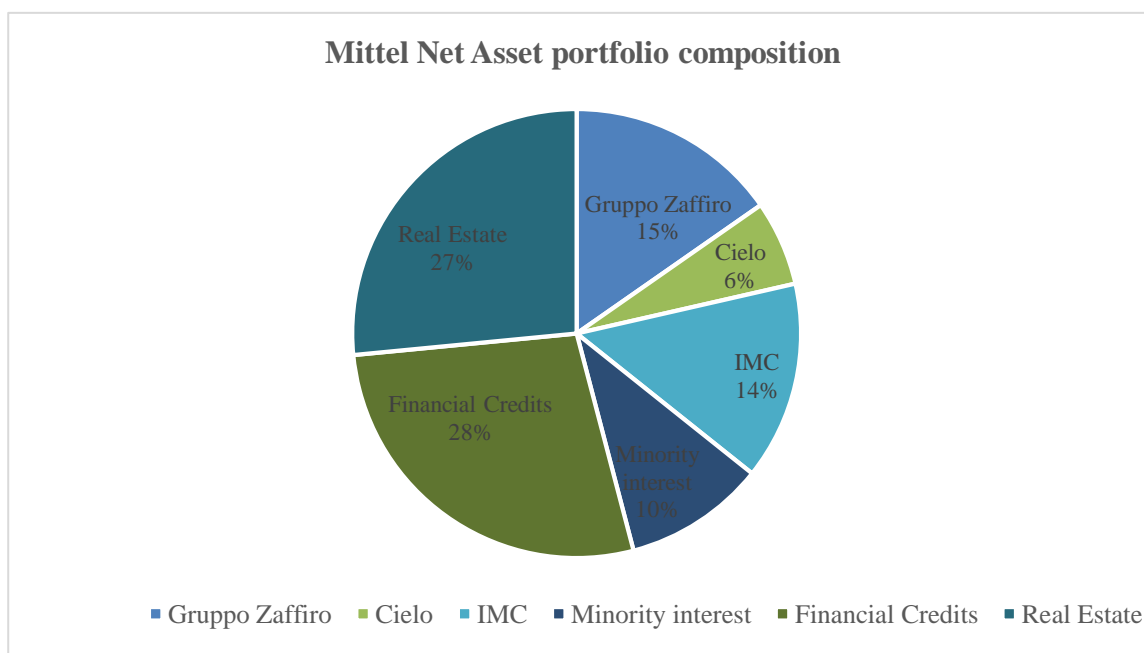
Moreover, the group has a consolidated profit of 16.9 million of euros (at 31 December 2017), mainly thanks to the process of divesting the Group's non-strategic assets accompanied by the reduction of the central costs and the first effects of the consolidation of the 3 majority equity investments acquired during the 2017-2018.

About the social capital, at the closing date of the financial year (31 December 2017), the subscribed and paid-up share capital is equal to Euro 87.907.017.00 divided into n. 87.907.017 ordinary shares with a par value of € 1.00 (one) each. The shares, each of which gives the right to one vote, are indivisible and issued under the regime of dematerialization. The following table reassumes the Mittel's social capital:

	Number of Shares	%
Ordinary Shares	75.549.615	85.94%
Own Shares	12.357.402	14.06%

*Source: Mittel's relation of corporate governance*

Furthermore, it important to highlight the transformation of net assets, as shown by the evolution of the group's portfolio. During 2017-2018 Mittel has acquired three core assets: Zaffiro's group, Cielo and IMC. The following graph shows Mittel's net assets portfolio composition:



*Source: personal elaboration of Mittel's balance sheet 2017*

#### 4.2 Benchmark analysis: the use of Stock Options and alternative financial instrument in the Italian market

Before analysing the Share Appreciation Rights plan issue by Mittel, the following chapter shows the current use of Stock Options and alternative financial instrument in the Italian market. The goal of this chapter is to understand the use of financial instrument, as Stock Option or alternative financial instrument, by the top 100 companies for market capitalization and then for their sector.

The thesis has studied the Relation of Corporate Governance and Remuneration Policy issued by the top 100 listed companies by market capitalization in the Italian market. The thesis has divided the top 100 listed companies for market capitalization, sector and index. Then, the companies are again divided according to their sector. At 01/09/2018, the market capitalization of the top 100 listed companies is the following one:

POSITION	SECTOR	COMPANY	INDEX	MARKET CAP.
1	OIL & GAS	ENI	FTSE MIB	59715,95
2	UTILITIES	ENEL	FTSE MIB	48345,29
3	FINANCIALS	INTESA SANPAOLO	FTSE MIB	43117,62
4	FINANCIALS	UNICREDIT	FTSE MIB	33909,74
5	CONSUMER GOODS	LUXOTTICA GROUP	FTSE MIB	28029,98
6	FINANCIALS	GENERALI	FTSE MIB	23758,96
7	CONSUMER GOODS	FIAT CHRYSLER	FTSE MIB	22600,02
8	CONSUMER GOODS	FERRARI	FTSE MIB	21945,91
9	INDUSTRIALS	ATLANTIA	FTSE MIB	20959,40
10	BASIC MATERIALS	TENARIS	FTSE MIB	18472,58
11	INDUSTRIALS	CNH INDUSTRIAL	FTSE MIB	13642,05
12	FINANCIALS	EXOR	FTSE MIB	13561,12
13	UTILITIES	SNAM	FTSE MIB	12734,08
14	FINANCIALS	POSTE ITALIANE	FTSE MIB	10406,44
15	TELECOMMUNICATIONS	TELECOM ITALIA	FTSE MIB	10049,09
16	UTILITIES	TERNA	FTSE MIB	9639,70
17	CONSUMER GOODS	MONCLER	FTSE MIB	9583,45
18	CONSUMER GOODS	CAMPARI	FTSE MIB	8396,25
19	FINANCIALS	MEDIOBANCA	FTSE MIB	7854,65
20	CONSUMER GOODS	PIRELLI & C	FTSE MIB	7465,74
21	HEALTH CARE	RECORDATI	FTSE MIB	6653,77
22	FINANCIALS	FINECOBANK	FTSE MIB	6150,81
23	INDUSTRIALS	LEONARDO	FTSE MIB	5827,62

24	FINANCIALS	UNIPOLSAI	FTSE MIB	5499,21
25	CONSUMER GOODS	PARMALAT	MID CAP	5404,07
26	INDUSTRIALS	PRYSMIAN	FTSE MIB	5174,98
27	HEALTH CARE	DIASORIN	MID CAP	5129,85
28	UTILITIES	A2A	FTSE MIB	4923,56
29	OIL & GAS	SAIPEM	FTSE MIB	4569,38
30	FINANCIALS	MEDIOLANUM	FTSE MIB	4533,42
31	HEALTH CARE	AMPLIFON	MID CAP	4325,24
32	UTILITIES	HERA	MID CAP	4249,14
33	TELECOMMUNICATIONS	INWIT	MID CAP	4178,77
34	FINANCIALS	BANCO BPM	FTSE MIB	4121,79
35	FINANCIALS	UBI BANCA	FTSE MIB	4057,61
36	UTILITIES	ITALGAS	FTSE MIB	3992,57
37	CONSUMER GOODS	BREMBO	FTSE MIB	3908,79
38	CONSUMER GOODS	DE' LONGHI	MID CAP	3702,15
39	TELECOMMUNICATIONS	TELECOM	FTSE MIB	3436,17
40	INDUSTRIALS	SIAS	MID CAP	3432,21
41	CONSUMER SERVICES	MEDIASET	FTSE MIB	3425,16
42	CONSUMER GOODS	FERRAGAMO	FTSE MIB	3310,21
43	UTILITIES	IREN	MID CAP	3145,38
44	INDUSTRIALS	BUZZI UNICEM	FTSE MIB	3125,46
45	FINANCIALS	MPS	MID CAP	3009,19
46	INDUSTRIALS	INTERPUMP GROUP	MID CAP	2943,90
47	UTILITIES	ACEA	MID CAP	2891,42
48	UTILITIES	ERG	MID CAP	2881,02
49	INDUSTRIALS	IMA	MID CAP	2852,76
50	FINANCIALS	BANCA GENERALI	FTSE MIB	2689,67
51	FINANCIALS	UNIPOL	FTSE MIB	2548,46
52	INDUSTRIALS	ANSALDO STS	MID CAP	2531,08
53	CONSUMER GOODS	CUCINELLI	MID CAP	2416,51
54	INDUSTRIALS	ENAV	MID CAP	2385,61
55	CONSUMER SERVICES	AUTOGRILL	MID CAP	2377,49
56	INDUSTRIALS	ASTM	MID CAP	2315,56
57	FINANCIALS	BPER BANCA	FTSE MIB	2294,05
58	TECHNOLOGY	REPLY	MID CAP	2181,38
59	INDUSTRIALS	FINCANTIERI	MID CAP	2169,68
60	FINANCIALS	CREDITO EMILIANO	MID CAP	2117,04
61	FINANCIALS	AZIMUT HOLDING	FTSE MIB	2056,30
62	OIL & GAS	SARAS	MID CAP	1945,59
63	INDUSTRIALS	CERVED GROUP	MID CAP	1903,05
64	CONSUMER GOODS	TECHNOGYM	MID CAP	1887,53
65	CONSUMER GOODS	TOD'S	MID CAP	1796,85
66	FINANCIALS	ANIMA HOLDING	MID CAP	1757,78

67	FINANCIALS	BENI STABILI	MID CAP	1718,69
68	FINANCIALS	BP SONDRIO	MID CAP	1681,21
69	INDUSTRIALS	DATALOGIC	MID CAP	1674,95
70	TECHNOLOGY	EI TOWERS	MID CAP	1607,26
71	CONSUMER SERVICES	MARR	MID CAP	1544,20
72	OIL & GAS	MAIRE TECNIMONT	MID CAP	1457,74
73	FINANCIALS	BANCA IFIS	MID CAP	1435,72
74	FINANCIALS	CATTOLICA	MID CAP	1346,67
75	CONSUMER SERVICES	RAI WAY	MID CAP	1340,38
76	INDUSTRIALS	GIMA TT	MID CAP	1174,99
77	INDUSTRIALS	SALINI IMPREGILO	MID CAP	1108,56
78	INDUSTRIALS	CEMENTIR	MID CAP	1099,75
79	FINANCIALS	TIP	MID CAP	1029,18
80	BASIC MATERIALS	SOL	MID CAP	995,64
81	INDUSTRIALS	ITALMOBILIARE	MID CAP	975,43
82	INDUSTRIALS	BIESSE	MID CAP	959,60
83	FINANCIALS	VITTORIA	MID CAP	940,58
84	FINANCIALS	FARMAFACTORING	MID CAP	907,78
85	CONSUMER SERVICES	JUVENTUS	MID CAP	883,03
86	INDUSTRIALS	DANIELI & C	MID CAP	862,69
87	INDUSTRIALS	CAREL INDUSTRIES	MID CAP	859,09
88	CONSUMER GOODS	CIR	MID CAP	827,81
89	FINANCIALS	DOBANK	MID CAP	818,09
90	CONSUMER GOODS	PIAGGIO & C	MID CAP	814,03
91	FINANCIALS	IGD	MID CAP	798,72
92	UTILITIES	ASCOPIAVE	MID CAP	750,78
93	FINANCIALS	CREVAL	MID CAP	746,31
94	INDUSTRIALS	ZIGNAGO VETRO	MID CAP	717,46
95	UTILITIES	FALCK	MID CAP	650,72
96	CONSUMER GOODS	FILA	MID CAP	650,57
97	CONSUMER GOODS	OVS	MID CAP	639,21
98	INDUSTRIALS	DANIELI & C RSP	MID CAP	605,04
99	CONSUMER GOODS	GEOX	MID CAP	592,01
100	CONSUMER SERVICES	RCS MEDIAGROUP	MID CAP	562,32

*Source: personal elaboration of the data provided by Borsa Italiana*

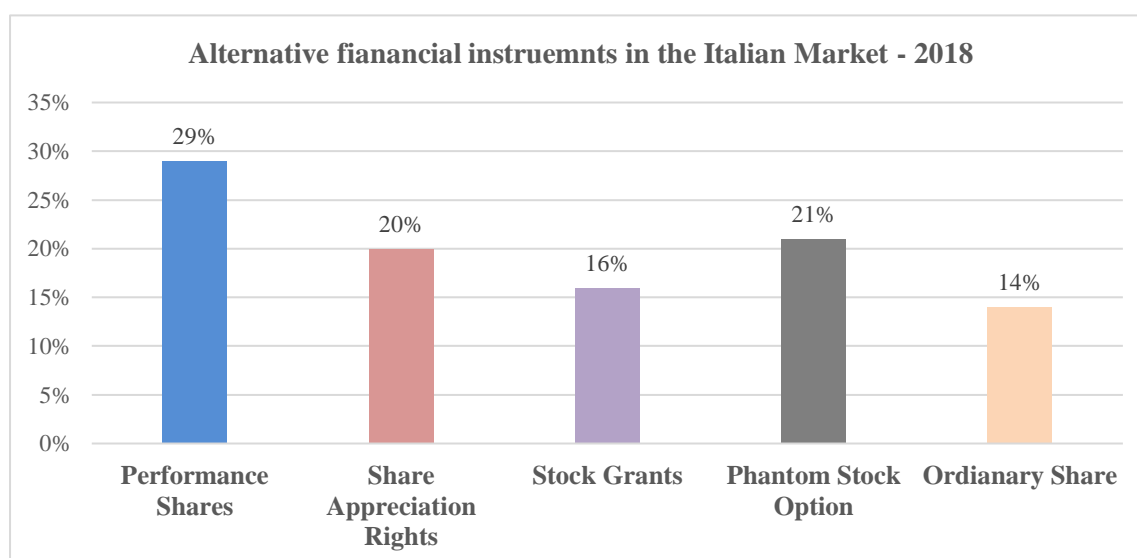
For Italian market capitalization, Mittel is 155<sup>th</sup> in this special ranking. The use of Stock Options and alternative financial instruments vary from sector to sector. Then, the results of the study on the Relation of Corporate Governance and Remuneration Policy issued by the top 100 firms for Italian market capitalization are:

- Stock Options Plan: 31 of the top 100 Italian listed company for capitalization have an active Stock Option Plan. This incentive tool, after having seen a significant decline in recent years, has now re-started to be used more by companies,
- Total number of Top Managers, belonging to top 100 Italian listed company for market capitalization, that have an active Stock Option Plan is 94. This data is for 2018. In the table below, there is the trend in the last 5 years:

Year	2018	2017	2016	2015	2014
Number of Top Managers	94	92	62	57	81

*Source: data until 2017 – Spencer Stuart database, data 2018 – personal elaboration.*

- Average Stock Options' Fair Value is equal to 1.040.096 €, with a maximum of 6.734.025 € and a minimum of 7.484 €.
- The use of alternative financial instrument to Stock Options, used by the top 100 Italian firm for market capitalization, is increased a lot. 48 companies out of 100 use this type of financial instruments.
- About alternative financial instruments, the most used are the Performance Share (29% of the sample), then there are Share Appreciation Rights (20%), Stock Grants (16%), Phantom Stock Option (21%) and Ordinary Share (14%). The use of alternative financial instruments is diversified and variegated because companies have different needs. The following table summarizes the use of alternative financial instrument used in the Italian market:

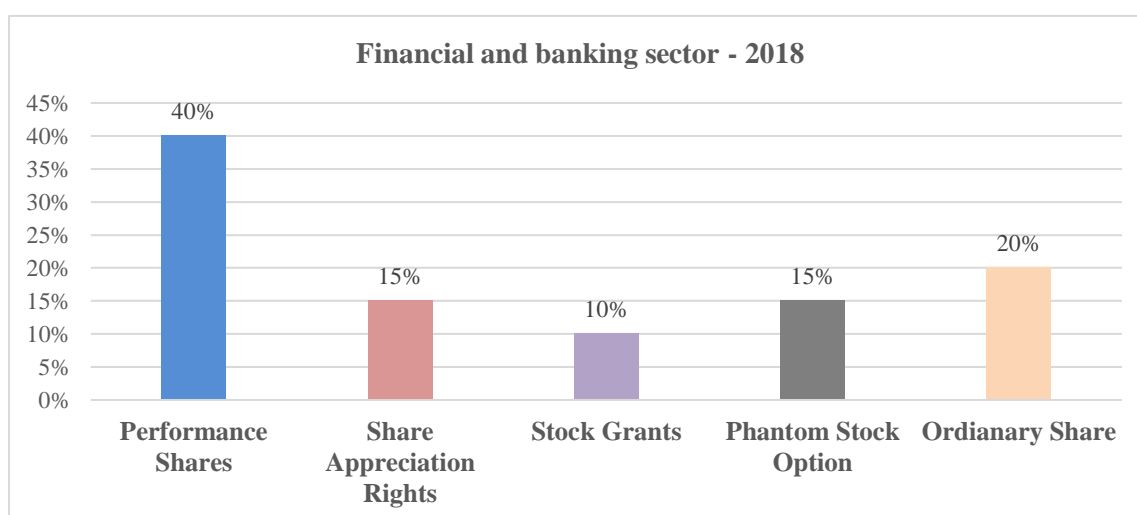


*Source: personal elaboration*

The following paragraphs divides the 48 companies that use the alternative financial instruments in five sectors (financial and banking sector, telecommunication sector, utility sector, industrial sector, other sectors), analysing the use of these instruments in each sector.

#### 4.2.1 Financial and banking sector

Companies that use alternative financial instruments in the financial and banking sector are 20 out of 48 (42% of the sample). This sector is the most disposed and inclined to the use of alternative financial instrument to the Stock Options. The most used are the Performance Shares (40%), then there are Ordinary Share (20%), Share Appreciation Rights (15%), Phantom Stock Option (15%) and Stock Grants (10%). The following graph reassumes the results:

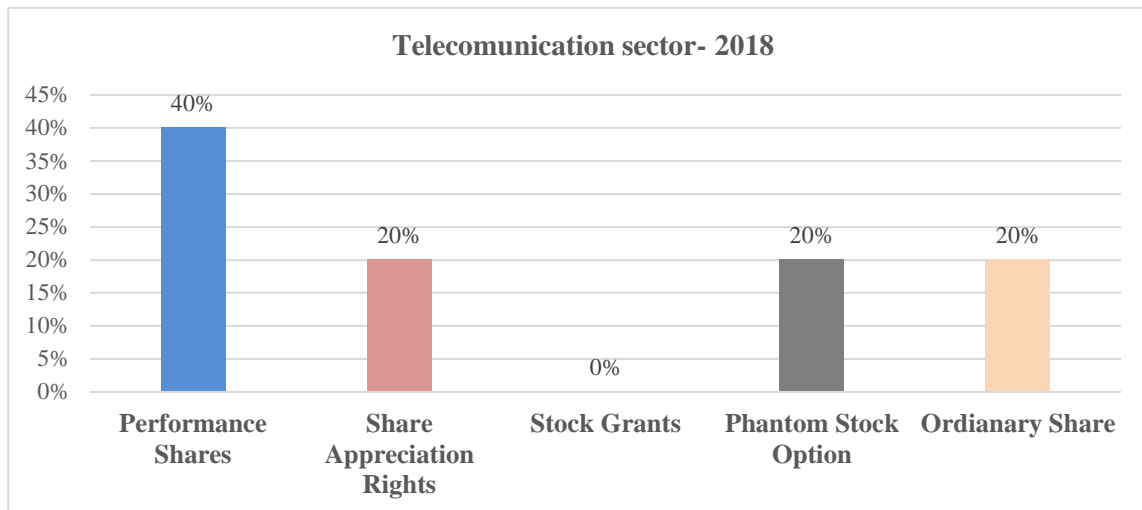


*Source: personal elaboration*

#### 4.2.2 Telecommunication sector

Companies that use alternative financial instruments in the telecommunication sector are 5 out of 48 (10.4% of the sample). In this sector, the most relevant firms are Telecom Italia and Mediaset. The most used are the Performance Shares (40%), then there are Ordinary

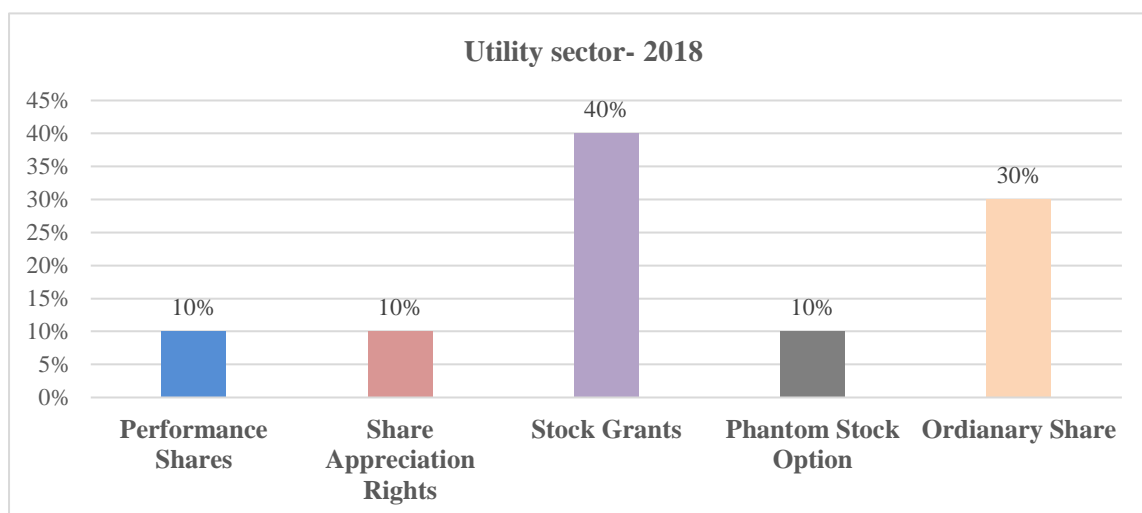
Share (20%), Share Appreciation Rights (20%) and Phantom Stock Option (20%). No company in the sample uses Stock Grants. The following graph reassumes the results:



*Source: personal elaboration*

#### 4.2.3 Utility sector

Companies that use alternative financial instruments in the utility sector are 6 out of 48 (12.5% of the sample). In this sector, the most relevant firms are Atlantia, Snam, Saipem and Saras. The most used are the Stock Grants (40%), then there are Ordinary Share (30%), Share Appreciation Rights (10%), Performance Share (10%) and Phantom Stock Option (10%). The following graph reassumes the results:

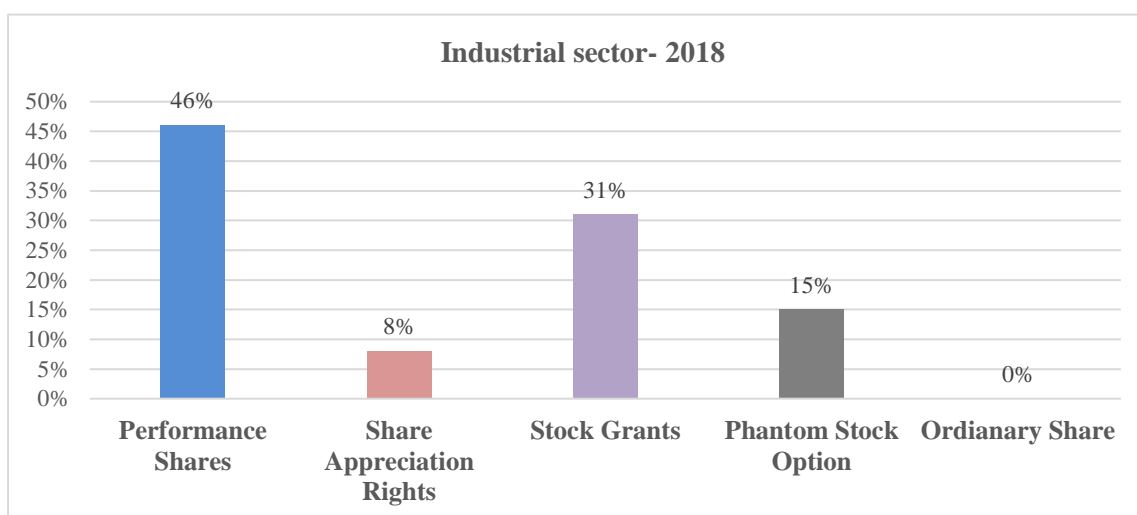


*Source: personal elaboration*



#### 4.2.4 Industrial sector

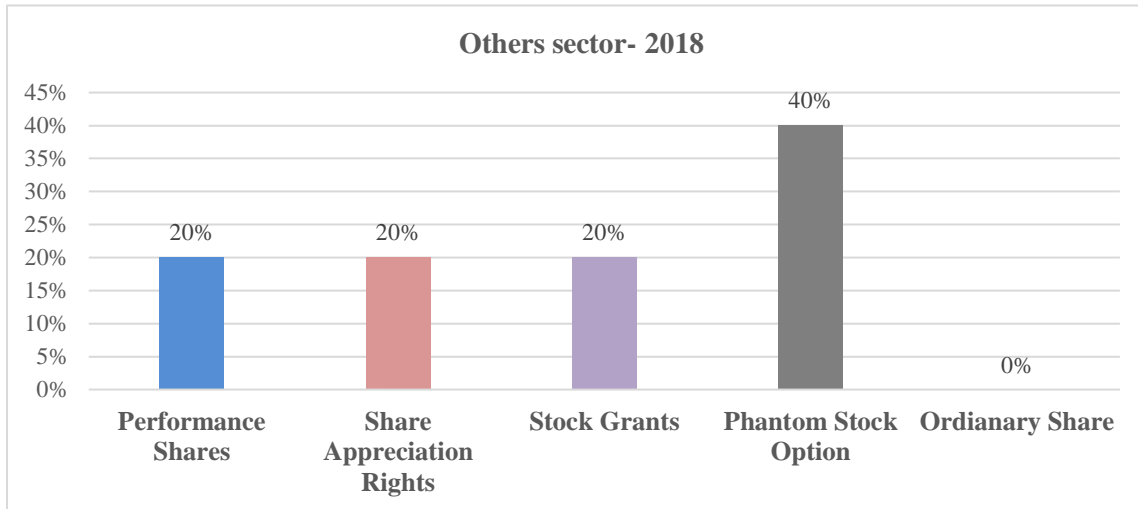
Companies that use alternative financial instruments in the industrial sector are 14 out of 48 (29.1% of the sample). In this sector, the most relevant firms are Fincantieri, Leonardo, Exor, FCA and Salvatore Ferragamo. The most used are the Performance Share (46%), then there are Stock Grants (31%), Share Appreciation Rights (8%) and Phantom Stock Option (15%). No company in the sample uses Ordinary Share. The following graph reassumes the results:



*Source: personal elaboration*

#### 4.2.5 Other sectors

This paragraph analyses the companies that are inside other sectors than the previous ones. These firm are 3 out of 48 (6% of the sample), and they use alternative financial instruments to Stock Options. Within this grouping, the most relevant firms are Autogrill and Amplifon. The most used alternative financial instruments to Stock Options are the Phantom Stock Option (40%), then there are Stock Grants (20%), Share Appreciation Rights (20%) and Phantom Stock Option (20%). No company in the sample uses Ordinary Share. The following graph reassumes the results:



*Source: personal elaboration*

The previous graphs show a large volatility in the use of alternative financial instruments to Stock Options across the various sectors.

#### 4.3 Mittel's Share Appreciation Rights Plan

Now the thesis focusses the attention on the Mittel's Share Appreciation Rights Plan. The following paragraphs will show the assumptions of the Plan and its accounting application on balance sheet and income statement.

The alternative financial instrument of Share Appreciation Rights, and how does it work, is already explained in detail in chapter 3.2. Furthermore, the general concept is the following one: at grant date is calculated the Fair Value of the Mittel stock price, if the stock's value increase the Top manager will receive a compensation equal to the difference between the Mittel 's stock value at vesting date and the Mittel's stock value at grant date. If the Mittel's stock value is decreased the Share Appreciation Right is equal to zero.

In the case the value of the share is increased, the Top Manager could obtain:

- Equity: Mittel's shares (Stock-settled SAR)
- Cash (Cash-settled SAR)

The type of payment is initially established in the agreement between the firm and the Top Manager.

The Mittel's Share Appreciation Rights Plan was approved by the Mittel's Board of Directors on 22 February 2015.<sup>57</sup> The main goal of the Plan is to strengthen the involvement and retention of the key strategic people, in consideration of the competences and responsibilities attributed to them. Moreover, the aim of correlating, among these key people, the economic incentive and the creation of sustainable value for the Group and its shareholders, in the medium-long term, is considered a key strategic issue for Mittel. Then, Mittel's Share Appreciation Rights Plan was issued when the Group was lossmaking in 2016: but it was considered strategic leverage for the Group and, after one year of its adoption, the firm returns to have profits.

Moreover, the choice of the performance indicator to be used as a gate will be made, from year to year, in reason for the strategic priorities of the Group that the Board of Directors will choose between various management and financial indicators (EBITDA; Profit; NAV; PFN; etc.). Based on the achievement of the Group and individual objectives, Mittel will determine the number of SARs to be attributed. The functions responsible for the administration of the Plan (Remuneration Committee) checks whether objectives have been achieved or not, submitting their assessments to the Board of Directors for the purpose of determining the extent of the component payable to stakeholders.

In case of extraordinary operation, such as M&A, the Board of Directors, having heard the opinion of the Remuneration Committee, can revise the objectives of the Mittel's Share Appreciation Rights Plan.

#### 4.4 Assumptions of the Mittel's Share Appreciation Rights' Plan

This chapter highlights the assumptions of the Mittel's Share Appreciation Rights' Plan that are fundamental to understand the accounting records of following chapters.

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<sup>57</sup> [http://www.mittel.it/wp-content/uploads/Relazione-e-Documents-Informativo\\_Mittel\\_FINALE-Clean.pdf](http://www.mittel.it/wp-content/uploads/Relazione-e-Documents-Informativo_Mittel_FINALE-Clean.pdf), Approval of Mittel's SAR Plan, 22 February 2016.

Then, if the Final Price of the Mittel's Stock is higher than the Initial Strike Price, the Top Manager will receive the compensation equal to the differences of the two prices. The Strike Price, that is the Stock Price at 22 February 2015, is equal to 1.27 €.

In addition, Mittel issue the Share Appreciation Rights' Plan as a Cash-settled share-based payments, regulated by the IFRS 2. This means that at the end of the vesting period Top Managers will receive the compensation in cash. This is a fundamental point from an accounting point of view.

The Mittel's Share Appreciation Rights Plan has a duration of 5 years, including 1 year of vesting period. The end of the Plan is scheduled for November 15, 2020.

The total number of SARs that the firm could assign is equal to 6.700.000 units. The beneficiaries of the Plan are four Top Managers: Mittel forecast a retention of 9 out of 12 of these Top Managers (75%).

The Assumptions are reassumed in the following graph and are fundamentals to complete understand the accounting records of the following chapters, issued by IFRS 2:

#### **Assumptions of Mittel's Share Appreciations Rights Plan**

- ✓ Nature of the Plan: Cash-settled share-based Plan (IFRS 2)
- ✓ Number of SARs: 6.700.000 units
- ✓ Strike-Price: 1.27 €
- ✓ Beneficiary: 12 Top Managers
- ✓ Duration: 4-years vesting period, 1-year exercise period.
- ✓ Retention: 75%

*Source: personal elaboration*

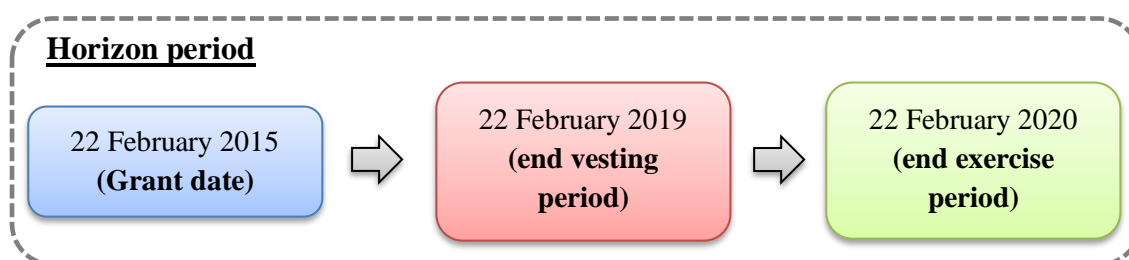
#### 4.5 IFRS 2 accounting records for the Mittel Share Appreciation Rights Plan

The use of Share Appreciation Rights is increasing in the last few years, especially in the Italian market. The following example shows the accounting records linked to a Cash-settled Share Appreciation Right of an Italian medium-size firm: Mittel. The assumptions of the model are explained in the previous paragraph.

The firm decides to issue a Cash-based Share Appreciation Right to its Top Managers in 2015. Then, the SAR's plan requires a fair accounting treatment, according to the IFRS 2.

The Strike Price or the Fair Value of the Shares at grant date (year 2015) is equal to 1.27 €. The Mittel Share Appreciation Right is Cash-settled, that is also the most common: then, if the share price increases during the life of the plan, the Top Managers will receive a cash compensation. The SAR's Plan has a duration of 4 years vesting period and one-year of exercise period, for the assignment of 6.700.000 Share Appreciation Right Units<sup>58</sup>. Now, as is required by the IFRS 2, the firm must elaborate the assumption on the Top Managers retention (obviously, if a manager exits the company before the 4-year horizon period he will lose the SAR's Plan), that is equal to 75%.

Mittel's Share Appreciation Rights Plan has a duration of 5 years: four years of vesting period and one year of exercise period. The grant date is the 22 February 2015, while the end of the exercise period is the 22 February 2020. The vesting period ends on February 22, 2019. As issue by the IFRS 2, the firm must recognize the accounting writing each year at reporting date (31 December). It is fundamental to remeasure the liability and expense based on the Stock Price, due to the fact that the Mittel's Share Appreciation Rights Plan is a share-based payment. The timeline above explains the horizon period:



*Source: personal elaboration*

<sup>58</sup> [http://www.mittel.it/wp-content/uploads/Relazione-sulla-Remunerazione-2016\\_2017\\_COMPLETA-PER-PUBBLICAZIONE-1.pdf](http://www.mittel.it/wp-content/uploads/Relazione-sulla-Remunerazione-2016_2017_COMPLETA-PER-PUBBLICAZIONE-1.pdf), Mittel's Remuneration Policy 2017.

Moreover, IFRS 2 requires that both expenses and liabilities (it is a cash-settled SAR) must be remeasuring at each reporting period, based on the current Share Price. The following graph shows the trend of Mittel's Stock Price in the last five years:

*Mittel's Stock Price trend – 5 years*



*Source: Bloomberg*

The analysis of the previous graph shows the following Stock Price, fundamental for the accounting records:

- 20 February 2015 (grant date of the Share Appreciation Rights Plan): 1.27€
- 31 December 2015: 1.45€
- 31 December 2016: 1.34€
- 31 December 2017: 1.61€
- 1 September 2018: 1.76€

The change of stock price during the horizon period is useful to account the Mittel's Share Appreciation Rights Plan. Then, using the previous analysed Mittel's assumptions, taken by Mittel's Remuneration Policy 2017<sup>59</sup> and personal documents, the following table

<sup>59</sup> [http://www.mittel.it/wp-content/uploads/Relazione-sulla-Remunerazione-2016\\_2017\\_COMPLETA-PER-PUBBLICAZIONE-1.pdf](http://www.mittel.it/wp-content/uploads/Relazione-sulla-Remunerazione-2016_2017_COMPLETA-PER-PUBBLICAZIONE-1.pdf), Mittel's Remuneration Policy 2017.

explains into details the double entry accounting records that Mittel must perform during each year:

Year	2015	2016	2017	2018	2019
Day	31 Dec	31 Dec	31 Dec	31 Dec	22 Feb
Fraction*	0.2136	0.4637	0.7137	0.9637	1
Mittel retention**	75% (9/12)	75% (9/12)	75% (9/12)	75% (9/12)	75% (9/12)
SAR's Mittel Value***	6.700.000* (1.45-1.27) = 1.206.000	6.700.000* (1.34-1.27) = 469.000	6.700.000* (1.61-1.27) = 2.278.000	6.700.000* (1.77-1.27) = 3.350.000	6.700.000* (1.81-1.27) =3.618.000
<b>SAR Liability - Cumulative amount****</b>	<b>193.201</b>	<b>163.106</b>	<b>1.219.355</b>	<b>2.421.296</b>	<b>2.713.500</b>
Current Balance	0	193.201	163.106	1.219.355	2.421.296
<b>SAR Expense</b>	<b>193.201</b>	163.106- 193.201= <b>-30.095</b>	1.219.355- 163.106= <b>1.056.250</b>	2.421.296- 1.219.355= <b>1.201.940</b>	2.713.500- 2.421.296= <b>292.204</b>

Notes to the accounting records:

\*Fraction: the grant date is the 22 February 2015. To calculate the competence of each year till 22 Feb 2019, the thesis divided the period in this manner:

- 31 Dec 2015: from 22 Feb and 31 Dec there are 312 days ( $365-53=312$ ). 53 are the days from 1 Jan and 22 Feb. The total horizon period is 4 years, or 1460 days ( $365*4$ ). Then the competence till 31 Dec 2015 is equal to  $312/1460 = 0.2136$ .
- 31 Dec 2016: the competence till 31 Dec 2016 is equal to  $312+365 = 677$  in percentage  $677/1460 = 0.4637$ .
- 31 Dec 2017: the competence till 31 Dec 2017 is equal to  $677+365 = 1042$  in percentage  $1042/1460 = 0.7137$ .
- 31 Dec 2018: the competence till 31 Dec 2018 is equal to  $1042+365 = 1407$  in percentage  $1407/1460 = 0.9637$ .
- 22 Feb 2019: the competence till 22 Feb 2019 is equal to  $1407+53 = 1460$  in percentage  $1460/1460 = 1$ .

**\*\*Mittel Retention:** According to IFRS 2, Mittel forecast in its assumptions a retention rate equal to 75%. The total number of beneficiaries of the SAR's Plan are 12. The firm forecasts that at the end of the horizon period 9 Top Managers out of 12 are inside the company.

**\*\*\*SAR's Mittel Value:** the calculation is the Total amount of SAR (6.700.000) times the differences between the Initial Share Price (1.27) and the current Share Price, at the data of recording.

**\*\*\*\*SAR's Liability – Cumulative amount:** the calculation is the SAR's Mittel Value times Mittel Retention times Fraction of the period.

According to IFRS 2, the Share Appreciation Rights Plan requires that Mittel remeasure each year the SAR Liability and the SAR Expense. Then, the table above is reflected in the Balance Sheet and Income Statement while the following table explained the accounting records for the five years:

<b>Year 1</b>	<b>Debit Record</b>	<b>Credit Record</b>
SAR Expense	193.201 €	
SAR Liability		193.201 €
<b>Year 2</b>		
SAR Expense		30.094 €
SAR Liability	30.094 €	
<b>Year 3</b>		
SAR Expense	1.056.250 €	
SAR Liability		1.056.250 €
<b>Year 4</b>		
SAR Expense	1.201.940 €	
SAR Liability		1.201.940 €
<b>Year 5</b>		
SAR Expense	292.204 €	
SAR Liability		292.204 €

*Source: Personal elaboration*



As the previous tables show, the increasing use of Share Appreciation Rights must be associated with a fair accounting treatment, according to IFRS 2.

#### 4.6 Performed Monte Carlo Analysis – Asset Pricing Model

Mittel's Share Appreciation Rights Plan is active on 01/09/2018, and its vesting period ends on 22 February 2019. To have a complete overview of the accounting process, the thesis forecast the possible Mittel's stock price on 31 Dec 2018 and 22 Feb 2019, using the Montecarlo simulation. One way to employ a Monte Carlo simulation is to model possible movements of asset prices using Excel or a similar program. There are two components to an asset's price movements: drift, which is a constant directional movement, and a random input, which represents market volatility: both data are taken by Bloomberg. By analysing historical Mittel's price data, the thesis can determine average price movement for a security.

For the calculation of Mittel's future price at 31 Dec 2018 and 22 Feb 2019, the prudential assumptions are the following ones:

- Drift: 0.05
- Monthly volatility: 0.087
- Initial Stock Price: 1.76 €
- Horizon time: monthly

*Source: Bloomberg*

Then, applying Monte Carlo simulation to Mittel's Stock Price, the results are in the following table:

<b>Date</b>	<b>Stock Price</b>	<b>€</b>	<b>Change in Stock Price</b>
<b>31/08/2018</b>	1,76	-0,34643	-0,045469674
31/09/2018	1,714530326	0,973889	0,051749457
31/10/2018	1,766279783	-1,61367	-0,043032613
31/11/2018	1,723247170	1,00582	0,157246221
<b>31/12/2018</b>	<b>1,770493392</b>	1,100723	0,040155104
<b>22/02/2019</b>	<b>1,810648496</b>		

*Source : personal elaboration*

As shown in the table above, the forecast of Mittel's Share Price at 31 Dec 2018 is equal to 1.77 €, while the Mittel's Stock Price at 22 Feb 2018 is equal to 1.81€: these two Share's Prices are the prices used in paragraph 5 for the accounting model of the Mittel's Share Appreciation Rights Plan and they represent a realistic approximation.

#### 4.7 Accounting implication of IAS 32 and IFRS 2: future trends of alternative financial instruments used in the remuneration policy

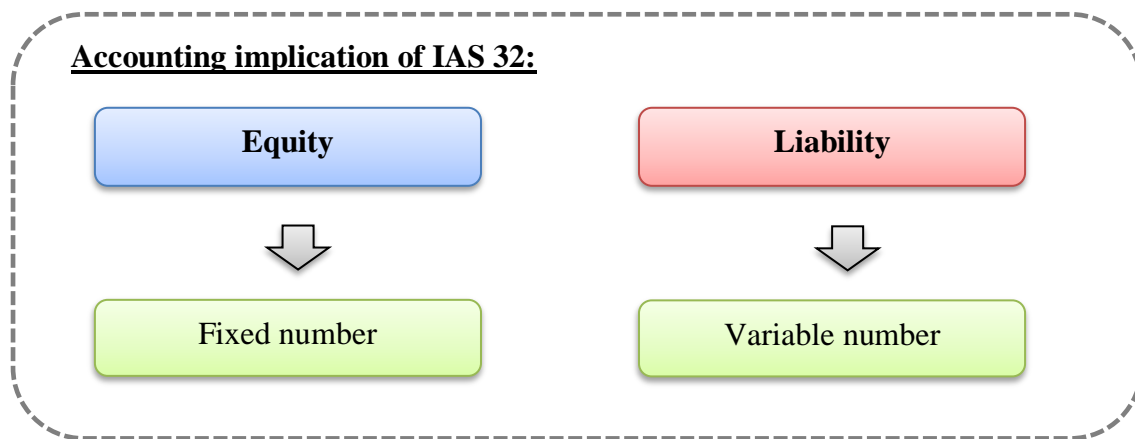
The final paragraph shows the need of homologation between IAS 32 and IFRS 2. Both International Accounting Standards are about the use of financial instruments and their accounting policies. As the thesis previously described, the stated objective of IAS 32 is to establish principles for presenting financial instruments as liabilities or equity and for offsetting financial assets and liabilities. The fundamental principle of IAS 32 is that a financial instrument should be classified as either a financial liability or an equity instrument according to the substance of the contract, not its legal form, and the definitions of financial liability and equity instrument.

Moreover, according to IAS 32, financial instrument is an equity instrument only if the instrument includes no contractual obligation to deliver cash or another financial asset to another entity and if the instrument will or may be settled in the issuer's own equity instruments, it is either:

- a non-derivative that includes no contractual obligation for the issuer to deliver a variable number of its own equity instruments;
- a derivative that will be settled only by the issuer exchanging a fixed amount of cash or another financial asset for a fixed number of its own equity instruments.

Furthermore, a contractual right or obligation to receive or deliver a number of its own shares or other equity instruments that varies so that the fair value of the entity's own equity instruments to be received or delivered equals the fixed monetary amount of the contractual right or obligation is a financial liability.

The following graph reassumes the accounting implication of IAS 32:



*Source: Personal elaboration*

Then, the thesis has shown, through a detailed analysis of the 100 Italian listed company in order of capitalization, that the use of alternative financial instruments is increasing significantly in the last years. The use of these instruments involves, in most of the cases, the equity of the firms. The chapter 3 has shown the accounting of these instruments and 48 companies out of 100 use them. Also, the division in five macro sectors (financial and banking sector, telecommunication sector, utility sector, industrial sector, other sectors) shows a significant use in all sectors. Therefore, the future trends forecast a continuous increase of alternative financial instrument used in remuneration policies and this requires a homologation between the accounting standard IAS 32 and IFRS 2 in the classification and measurement between equity and liability, to maintain and guarantee a fair representation of alternative financial instrument in the balance sheet.

## *Conclusions*

The application of alternative financial instruments in the Italian market is continuously increasing. As the thesis showed, 48 company out of 100 (in order of market capitalization) use these types of instruments to remunerate Top Managers. Also, the division in five macro sectors (financial and banking sector, telecommunication sector, utility sector, industrial sector, other sectors) shows a significant use in all of these sectors.

Today, companies can use various types of these financial instruments: as the chapter 3 showed, company can customize these tools according to their needs. It's important to complete understand how these alternative financial instruments work to maintain and guarantee a fair representation of alternative financial instrument in the balance sheet.

Moreover, the Mittel case is the explanation of the previous phenomenon. Mittel, that is an Italian company of medium size, issued a Share Appreciation Rights Plan to remunerate the variable compensation of their managers. The accounting policy used by the company, and explained in chapter 4, could be a benchmark for the other firms.

The application of the IFRS 2 is fundamental to have a complete overview of how to account alternative financial instruments. The chapter 2 of the thesis showed the accounting, managerial and financial implication of the IFRS 2. The thesis has divided the analysis for the equity-settled shared-based payments and cash-settled shared-based payments, showing the recognition principle, the measurement principle and the modification/cancellation principle issue by the standard.

Furthermore, it is important to highlight the dual accounting for IFRS 2 and IAS 32: of course, the high utilization of alternative financial instrument inside the Italian and European market require an approval and homologation process by the International Accounting Standard Board.

Finally, the increasing utilization of alternative financial instruments is not just a temporary phenomenon but the number of companies that will adopt such alternative financial instruments will always be greater. According to this statement, the International Accounting Standard Board have to comply with these instruments from an accounting point of view, to maintain and guarantee a fair representation of alternative financial instrument in the balance sheet.

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- [www.wallstreetjournal.com](http://www.wallstreetjournal.com)
- [www.ilsole24ore.it](http://www.ilsole24ore.it)
- [www.mckinsey.com](http://www.mckinsey.com)
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- [www.altalex.com](http://www.altalex.com)
- [www.gazzettaufficiale.it](http://www.gazzettaufficiale.it)
- [www.confcommercio.it](http://www.confcommercio.it)
- [www.aci.it](http://www.aci.it)
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## *Summary*

The thesis is about the accounting and managerial implication of IFRS 2 on alternative financial instruments and Stock Options. The main goal is to show the increasing use of these instruments on the Italian market: through a deeper benchmark analysis of the 100 Italian listed companies in order of market capitalization, the thesis shows that today is common to issue alternative financial instrument inside the remuneration policies. Then, it is important to understand clearly how to account these alternative financial instruments in the balance sheet. According to this issue, the thesis analyzes the relative accounting standard IFRS 2 and the accounting policy used by the Mittel Group to account a Share Appreciation Right Plan.

The thesis is divided in four main chapters, excluding introduction and conclusion:

1. Chapter I: Remuneration policy and International Accounting Standard,
2. Chapter II: Accounting, managerial and financial implication of IFRS 2,
3. Chapter III: Alternatives financial instruments to Stock Options,
4. Chapter IV: Mittel Case: accounting and financial implication of the Mittel's Share Appreciation Rights Plan.

The first chapter is about the use of remuneration policy and their structure, analyzing the short-term variable compensation (Management-by-Objective program) and medium-long term variable compensation, where there are Stock Options and alternative financial instruments.

Competitive pressure is pushing all organizations to pay more attention to the costs of human resources. The remuneration policy is the document in which the company describe the methodology and system used to remunerate the work done. Today, according to the European regulation, the listed companies are obliged to issue the "Remuneration policy statement" each year, in which they explain in the detail the set of remuneration systems and incentive systems adopted. Then, the Remuneration policies provide an important statement for the balance sheet: to have a broad and complete overview about the Top Executive Remuneration and to better understand the International Accounting Standard applied, the analysis focus its attention on the three main components of the Top Executive's remuneration: Fixed Compensation, Short-term Variable Compensation and Long-Term Variable Compensation.

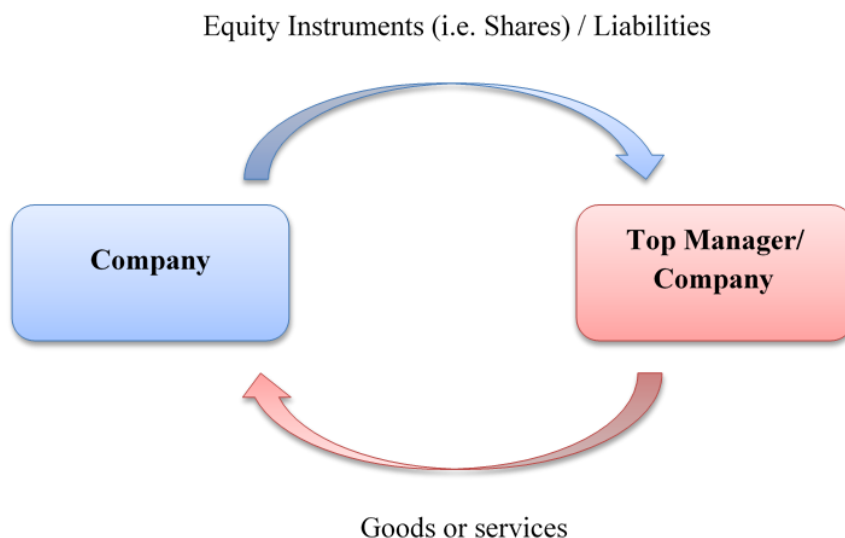
The variable compensation, which is strictly related to alternative financial instruments and Stock Options, highly increase its importance inside the remuneration policy: it is part of non-fixed remuneration and it depends, in some way, on the results achieved by Top Managers. Companies need to structure variable remuneration system that are divided in two main components:

- 1) Short-term variable remuneration system. (MBO)
- 2) Medium/long-term variable remuneration system. (LTI)

The variable medium-long term component of remuneration (LTI) is that part of the remuneration, generally deferred, which compensates employees for the achievement of wider objectives, the achievement of which requires periods that override the year.

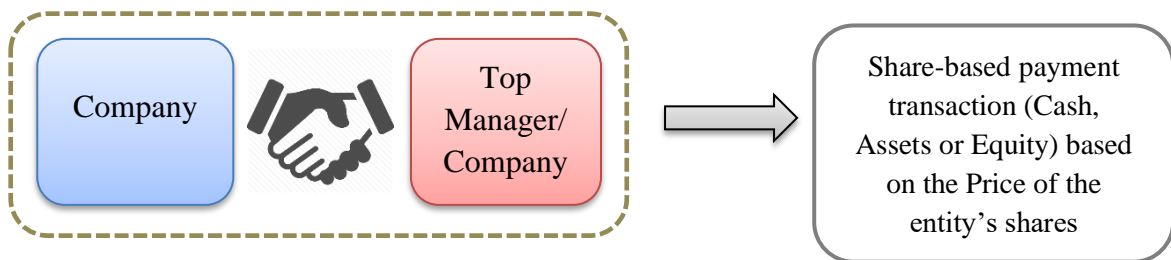
Then, in the medium/long variable compensation part of the remuneration policy, there are the alternative financial instruments, regulated by the IFRS 2.

IFRS 2 – Share Base Payment – has primary importance to completely understand the Top Executive, Top Managers and Board Member total compensation. IFRS 2 fall in the medium/long term variable compensation and it has a great weight on total compensation. IFRS 2 Share-based Payment requires an entity to recognize share-based payment transactions (such as granted shares, share options, or share appreciation rights) in its financial statements, including transactions with employees or other parties to be settled in cash, other assets, or equity instruments of the entity. Specific requirements are included for equity-settled and cash-settled share-based payment transactions, as well as those where the entity or supplier has a choice of cash or equity instruments. The following graph represents the general transaction regulated by the IFRS 2:



*Source: personal processing of IFRS 2*

Moreover, according to the IFRS 2 the accounting standard defined the Share-based payment arrangement, between the entity and the counterparty:



*Source: personal processing of IFRS 2*

Moreover, the IFRS 2 divided the shared-based payment in three categories:

- 1) Equity-settled share-based payment transactions, in which the entity receives goods or services as consideration for equity instruments of the entity (including shares or share options); then the company receives goods or services as consideration for its own equity instruments or those of another entity in the same group.
- 2) Cash-settled share-based payment transactions, in which the entity acquires goods or services by incurring liabilities to the supplier of those goods or services for amounts that are based on the price (or value) of the entity's shares or other equity instruments of the entity. Transactions involving share appreciation rights (SARs) - as the Mittel case - fall into this category;
- 3) Choice between cash or equity, transactions in which the entity receives or acquires goods or services and the terms of the arrangement provide either the entity or the supplier of those goods or services with a choice of whether the entity settles the transaction in cash (or other assets) or by issuing equity instruments.

There are a wide range of Financial Instruments used in the Remuneration Policy to remunerate the Top Executive, CEOs, Top Managers and Board Member. Before analyzing the accountancy of these, it is fundamental to completely understand how these financial instruments work.

The remuneration policy explains how the companies use and implement them. Companies can decide to use a single Financial Instrument to compensate its Top Managers or more than one: it is strictly related to the dimension, market capitalization and internal structure complexity of the firm. Furthermore, IFRS 2 is applicable to Stock Options. They are financial instrument used by the firm to remunerate the Top Managers. In particular, the

Stock Options issue by the Companies to remunerate the Top Managers, CEOs and Board Member are similar to the option financial instruments but they present particular and relevant differences. In addition, Stock Options are American call options that give the right to buy shares in a company at a certain strike price (called strike): in particular, stock options are a particular type of Call Long Option. The stock options have been designed as a tool to reward and retain employees / managers, considered strategically relevant for a company.

Through the free allocation of stock options (call options), the company grants its employees the right to purchase shares of the same company or another company belonging to the same group, at a predetermined price (strike price). Stock options will be exercised if the strike price is lower than the current value of the underlying share. Otherwise, the options lose all value.

Then, the main differences between the Long Call Option and the Stock Option is the fact that the Top Manager don't pay the initial premium because the option are given by the company for free. Now, it is important to show the timing of stock options. The stock option plans usually provide for different times during which the employee may decide to exercise his option rights and purchase the shares offered at a predetermined price.

Mainly, there are three different period that characterized the financial instrument of stock option:

- 1) Granting: A phase in which the company grants its managers the right to purchase a certain number of shares in a predetermined future period and at a predetermined price (Strike Price). This is the phase in which the company assigns the option to the managers.
- 2) Vesting: This is the phase between the grant period and the exercise period. During this phase, the managers cannot exercise the options buying the shares at the strike price. The length of the vesting period is conditioned by the purpose of the plan. The period will be short if you want to reward top managers for past performance or longer if you want to link the incentive to future performance. On average the retention period is between three and five years.

3) Exercising: This is the final phase of stock options, in which the managers can decide to exercise the option and buying the shares of the company at the predetermined strike price. In the exercising phase, two are the possible situation:

c) Strike Price < Stock Price at exercising date: In this case, the manager exercise the Option buying the share at the Strike Price. Then, he can gain an immediate profit selling the share in the active market at the actual Stock Price. The differences between the Stock Price at exercising date and the predetermined Strike Price is the profit gain by the Manager.

d) Strike Price > Stock Price at exercising date: In this case, the manager does not exercise the Option. If the manager exercise the option, he buy the share at a higher price respect the current price on the market, having a loss.

Moreover, the theoretical basis underlying the stock options explains that they are useful to reduce the conflict of interest between the ownership of the company (the shareholders) and control of it (the directors and managers). Thanks to this financial instrument, the objective of the shareholders and the goal of the Top Managers is the same and it is equal to the increasing value of the company: in fact, both the parties have gains if the stock value of the company increase.

Furthermore, the analysis of the IFRS 2 is divided in five main parts:

- 1) Recognition principal,
- 2) Measurement principle for Equity-settled shared-based payments,
- 3) Measurement principle for Cash-settled shared-based payments,

Starting from the recognition principle, the situation is different in the case of equity-settled transaction or cash-settled transaction. In the first case, there is an increase in equity, in the second case the firm incurred in a liability.

Then, IFRS 2 highlights the accounting writing in debit entry and credit entry for Stock Options and alternative financial instruments.

Starting from the recognition of the debit entry for the company that grant the Stock Options or alternative financial instruments. The possible accounting book could be:

- An Expense: this affect immediately the income statement.

- An Asset: In this case, the object received by the company must be qualified as AN asset according to the International Accounting Standards. (i.e. IAS 16, IAS 38).

Then, the classification and definition as an asset of the objective received is fundamental to have a right accounting balance.

In addition, the credit entry presents two possible outcomes:

- Increase in equity: for equity-settled transaction.
- Liability: for cash-settled transaction.

About the recognition of share-based payments, another important element is the timing. IFRS 2 established that share-based payment transaction should be recognized when they are acquired/received. The time of recognition differs if the company receives goods (i.e. an asset) or services (i.e. Top Manager). The general rule is the following one: goods must be recognized when they are received while services must be recognized when they are obtained.

Then, the measurement principle is divided in parts: for Equity-settled transactions and Cash-settled transactions.

The measurement of Equity-settled transaction on balance sheet is a complex process that involved mathematical and actuarial methods, because the firm have to calculate the value of the Stock Options (or alternative financial instruments) and the corresponding possible increase in equity.

The general principle in IFRS 2 is that an entity measures the fair value of goods or services received and recognizes a corresponding increase in equity. But, the main problem is link to the fact that if an entity cannot reliably estimate the fair value of goods or services received, the entity must measure their value indirectly using the fair value of the equity instruments granted.

Then, the first main element to complete understand the IFRS 2 is the concept of Fair Value, that is defined by the IFRS 13. The Equity-settled transaction required that the value of the goods or services that the firm receives, and the corresponding increase in equity, must be calculated at the Fair Value of the goods/services received by the firm.

If it is not possible to estimate reliably the fair value of the goods or services received, the fair value of the equity instruments granted is used as a proxy. Therefore, the accounting standard highlight an important difference if the counterparty of the share-base payment transaction is an employee of the firm or not.

The main differences between the two cases is the fact that the Fair Value of goods/services received by non-employee must be valued more reliable. This fact creates a difference in the determination of the measurement basis, measurement date and recognition date.

In the case the counterparty is an employee of the firm (i.e. Top Manager), an entity must use the fair value of the equity instruments, measured at the grant date. In the case the counterparty is a non-employee, the calculation is the Fair Value of the goods/service received.

The valuation of the Stock Options' Fair Value for Equity-settled share-base payments is a complicated process that involved mathematical and actuarial models.

Of course, the Fair Value's valuation is easier for listed company than unlisted company in which the consultant has to perform a strong and deeper analysis on the underlying security. Unless an option with the same or comparable terms is listed (which rarely occurs) an entity cannot obtain the fair value externally. Therefore, it must estimate the fair value of a Equity-settled share-based payment using an option-pricing model. IFRS 2 does not require entities to use a specific option-pricing model to calculate fair value. However, it does require that the adopted valuation technique is consistent with generally accepted valuation methodologies for pricing financial instruments, incorporating all factors and assumptions.

The three most used models to calculate the Fair Value of Stock Options for equity-settled share-based payments are: Binominal model, Black-Scholes-Merton model and Monte Carlo Simulation. The IFRS 2 accepts these three methods.

The second category are the Cash-settled share-based payments. The corresponding accounting writing in cash-settled share-based transaction is a liability. In addition, for cash-settled awards, the general principle in IFRS 2 is that an entity measures the fair value of the goods or services received based on the fair value of the liability at each reporting period. According the principal, the companies must remeasure the liabilities at each reporting period during the life of the cash-settled share-based payments. An important element to remember is the fact that the cash-settled payment is linked to the company's share value. Then, for cash-settled share-based payment transactions, the goods or services acquired, and the liability incurred are measured at the fair value of the liability. Until the liability is settled, the liability is remeasured at fair value at each reporting date (and the settlement date). Any changes in fair value are recognised in profit or loss for the period.

The ultimate cost of a cash-settled award is the cash paid to the counterparty, which is the fair value at settlement date. Until the award is settled, an entity presents the cash-settled award as a liability and not within equity. Thus, changes in the measurement of the liability are reflected in the statement of profit or loss and other comprehensive income.

Furthermore, in the third chapter, the thesis analyzes the accounting principle of alternative financial instrument used in the remuneration policy and their mechanisms. Then, a complete overview of how the alternative financial instrument work is fundamental to completely understand the application of the International Accounting Standard and IFRS 2. During the last 10 years the use of this instruments increase a lot and the firms must compliance their balance sheet and accounting principle with the standards issue by the IASB.

The main seven alternative financial instruments are the following ones: Share Appreciation Rights, Stock Grants, Phantom Stock Options, Performance Share, Performance Share Units, Restricted Shares and Restricted Stock Units.

Share Appreciation Rights: This instrument is similar to Stock Options, but it presents many differences. The general concept of Share Appreciation Right is the following one: at grant date is calculated the Fair Value of the current stocks, if the stock's value increase the Top manager will receive a compensation equal to the difference between the stock's value at vesting date and the stock's value at grant date. If the stock's value is decreased the Share Appreciation Right is equal to zero. In the case the value of the share is increased, the Top Manager could obtain:

- Equity: shares of the company (Stock-settled SAR)
- Cash (Cash-settled SAR)

The type of payment is initially established in the agreement between the firm and the Top Manager. In the case of stock-settled SAR, the Top Manager has the double opportunity to maintain the shares or selling it immediately in the market receiving cash. Then, the award obtained by the Top Manager is equal to the spread between the initial value of the stock and the final value of the stock of the company.

Stock Grants: The Stock Grant Plans are common in the medium size firm, due to their easier way of application. The general principle is the following one: the Stock Grant Plans



provide for the assignment of shares, free of charge or under particularly favourable conditions, to employees of an enterprise or a group. Then, if the employees reach some predetermined objective they receive a predetermined amount of company's shares. This alternative financial instrument doesn't allow to employee to gain immediately cash. Furthermore, once obtained the shares, the employee can sell in the open market the company's share receiving cash. Then, indirectly the employees can also gain cash. The IFRS 2 regulates the Stock Grant's accounting writing. Because there is not the possibility to receive cash, the transaction is an equity-settled shared-based payment. As show in chapter 2, the accounting records for this typology of transaction is:

- Expense: for working service.
- Increase in Equity: the share assigned to Top Manager.

Phantom Stock Options: Phantom Stock Option Plan are very similar to Stock Option Plan and Share Appreciation Right. The general mechanism is the following one: the company plans the payment of a cash bonus to the employee by linking it to changes in the share price over a given period. The Phantom Stock Plan does not constitute an operation to assign shares to employees or Top Manager, as it does not determine any allocation of securities, but only the provision of a sum of money linked to the performance of the shares. Then, if the company's share price is increased over the specific horizon period the Top Manager receives the award. Moreover, they grant the beneficiaries the right to receive payment in the future of a differential equal to the possible increase of the market value of the share in question. The premium is provided only in cash. This alternative financial instrument takes elements from both Stock Option Plan and Share Appreciation Right. The Phantom Stock Option is similar to the Share Appreciation Rights because the value of the premium is linked to the appreciation of the company's shares price. The main differences are the two following items.

- There isn't the possibility to gain the premium in form of equity instruments (company's shares),
- Phantom Stock Options may reflect dividends and stock splits.

Performance Share: With the Performance Share Plans the firm assigns to Top Managers company's shares based on the evaluation of the performance and the results achieved. In this way it aligns the interests of management and shareholders in the creation of long-

term value. The plan provides the allocation of company's shares to employees as an equity portion of the variable remuneration attributed to the end of the annual or multi-year performance assessment process and provided that the performance conditions identified by the remuneration policies are met.

Then, the general principle of Performance Shares is the following one: if Top Managers achieve predetermined performance objectives, the award is a predetermined amount of company's shares. In that way the interests of the shareholder and managers is the same: the creation of value for the company. Then, Performance Share Plans are equity-settled share-based payments, regulated by IFRS 2. Performance Share Plans are equity-settled shared-based payment, regulated by IFRS 2. Then, the accounting records are:

- Expense: for working services,
- Increase in Equity: the firm assigns company's shares to Top Managers, then it must increase its equity value.

Performance Share Units: The alternative financial instrument of Performance Share Units derives from the Performance Share, but it is more complicated. The general concept behind this instrument is the following one: the company, at grant date, defines the objectives to achieve the Performance Share Units. If the Top Manager reach the objectives, he will receive the award in a form of "virtual shares". These virtual shares represent the Units. In the common practice, one units is equal to one share. These means that the value of the units is linked to the share's price. At vesting date, the Top Manager will have a number of Units ("virtual share"). Company translates the amount of these virtual share in cash: Top Manager will receive the award in form of cash.

The final award is in the form of cash, but this value is the result of the company's share price calculation. The firm must apply the following formula to calculate the award:

Final award in cash = number of "virtual share" \* value of one share in the market.

Furthermore, Performance Share Units are cash-settled shared-based payments, resulted by IFRS 2: the following accounting records must be recognized by the company:

- Expense: for working service,

- **Cumulative Liability:** the value of the “virtual shares” must be accounted and remeasured at each reporting period, considering the share’s price value.

**Restricted Share:** Restricted Stocks are a type of company’s shares that are not fully transferable until certain conditions have been satisfied. Upon fulfilment of these conditions, the shares became free and transferable to the person who holds it. Restricted shares are often used as a form of payment for employees, in which cases it becomes transferable to the satisfaction of certain conditions, such as a prolonged working period or the achievement of other objectives, such as a certain level of earnings per share or other financial goals. Restricted shares are a popular alternative to stock options, especially for executives, due to particularly favourable tax treatment and accounting rules. Moreover, Restricted Stock Shares are awards that entitle you to ownership rights (including voting and dividend rights) in your company's stock. Furthermore, Restricted Shares refer to shares of stock whose sale or acquisition is subject to specific restrictions laid out by the issuing company and agreed upon by the eventual owner of the restricted shares. This means that the restricted shares issued by a company are not fully transferable to the person receiving the stock until certain conditions or restrictions are met. It typically becomes available for sale under a graded vesting schedule that lasts several years.

The accounting records for Restricted Shares, that are equity-settled shared-based payments, according to IFRS 2, are:

- Expense: for working service,
- Increase in equity: the final award is issued by the firm in shares that are assigned to the Top Manager.

**Restricted Stock Units:** The Restricted Stock Units are very similar to the Restricted Stock, but they present some important differences. First, they are restricted: this means that if the Top Manager reaches some predetermined objectives he will unlock the shares and he will receive the award. In the other cases, the value of the Restricted Stock Units is equal to zero. Furthermore, the Restricted Stock Units’ mechanism is the following one: the firm established some objectives which can be a financial indicator (for example EBITDA or Net sales) or temporal goals (for example to retain a key manager in the firm for a period of time). Then, in most of the cases the Restricted Stock Units are staggered and the Top Manager, if he reaches the objectives, obtains the units (not the shares) at the end of each

reporting period. At vesting period, the amount of units are measured using the share price. In the practice one unit is equal to one share. Then, obtained the value of the award, the Top Manager can reach the award in form of cash or in form of share, depending on the initial agreement.

The accounting records in the case the transaction is equity-settled are:

- Expense: for working service,
- Increase in Equity: the Top Manager receives company's shares,

The accounting records in the case the transaction is cash-settled are:

- Expense: for working service,
- Liability: the award is in the form of cash. The liability is the cumulative liability accounted each year.

Then, the main objective of the forth chapter is to analyse the Mittel's Share Appreciation Rights Plan 2015-2020, from an accounting and financial point of view. The thesis shows all the accounting records and valuations associated to the Plan, according to the IFRS 2. Mittel is an investment-merchant bank focused on investments in small and medium-sized Italian companies with high cash generation. It is a medium / long-term investor with an industrial approach and an active investment management, thanks to the services offered by the group. Before analysing the Share Appreciation Rights plan issue by Mittel, the following chapter shows the current use of Stock Options and alternative financial instrument in the Italian market. The goal of this chapter is to understand the use of financial instrument, as Stock Option or alternative financial instrument, by the top 100 companies for market capitalization and then for their sector.

The thesis has studied the Relation of Corporate Governance and Remuneration Policy issued by the top 100 listed companies by market capitalization in the Italian market. The thesis has divided the top 100 listed companies for market capitalization, sector and index. Then, the companies are again divided according to their sector.

For Italian market capitalization, Mittel is 155<sup>th</sup> in this special ranking. The use of Stock Options and alternative financial instruments vary from sector to sector. Then, the results of the study on the Relation of Corporate Governance and Remuneration Policy issued by the top 100 firms for Italian market capitalization are:

- Stock Options Plan: 31 of the top 100 Italian listed company for capitalization have an active Stock Option Plan. This incentive tool, after having seen a significant decline in recent years, has now re-started to be used more by companies,
- Total number of Top Managers, belonging to top 100 Italian listed company for market capitalization, that have an active Stock Option Plan is 94. This data is for 2018.
- Average Stock Options' Fair Value is equal to 1.040.096 €, with a maximum of 6.734.025 € and a minimum of 7.484 €.
- The use of alternative financial instrument to Stock Options, used by the top 100 Italian firm for market capitalization, is increased a lot. 48 companies out of 100 use this type of financial instruments.
- About alternative financial instruments, the most used are the Performance Share (29% of the sample), then there are Share Appreciation Rights (20%), Stock Grants (16%), Phantom Stock Option (21%) and Ordinary Share (14%). The use of alternative financial instruments is diversified and variegated because companies have different needs.

The 48 companies that use the alternative financial instruments are divided in five sectors (financial and banking sector, telecommunication sector, utility sector, industrial sector, other sectors). The following points shows the use of alternative financial instruments in each sector.

Financial and banking sector: Companies that use alterative financial instruments in the financial and banking sector are 20 out of 48 (42% of the sample). This sector is the most disposed and inclined to the use of alternative financial instrument to the Stock Options. The most used are the Performance Shares (40%), then there are Ordinary Share (20%), Share Appreciation Rights (15%), Phantom Stock Option (15%) and Stock Grants (10%).

Telecommunication sector: Companies that use alterative financial instruments in the telecommunication sector are 5 out of 48 (10.4% of the sample). In this sector, the most relevant firms are Telecom Italia and Mediaset. The most used are the Performance Shares (40%), then there are Ordinary Share (20%), Share Appreciation Rights (20%) and Phantom Stock Option (20%). No company in the sample uses Stock Grants.

Utility sector: Companies that use alternative financial instruments in the utility sector are 6 out of 48 (12.5% of the sample). In this sector, the most relevant firms are Atlantia, Snam, Saipem and Saras. The most used are the Stock Grants (40%), then there are Ordinary Share (30%), Share Appreciation Rights (10%), Performance Share (10%) and Phantom Stock Option (10%).

Industrial sector: Companies that use alternative financial instruments in the industrial sector are 14 out of 48 (29.1% of the sample). In this sector, the most relevant firms are Fincantieri, Leonardo, Exor, FCA and Salvatore Ferragamo. The most used are the Performance Share (46%), then there are Stock Grants (31%), Share Appreciation Rights (8%) and Phantom Stock Option (15%). No company in the sample uses Ordinary Share.

Other sectors: this paragraph analyses the companies that are inside other sectors than the previous ones. These firm are 3 out of 48 (6% of the sample), and they use alternative financial instruments to Stock Options. Within this grouping, the most relevant firms are Autogrill and Amplifon. The most used alternative financial instruments to Stock Options are the Phantom Stock Option (40%), then there are Stock Grants (20%), Share Appreciation Rights (20%) and Phantom Stock Option (20%). No company in the sample uses Ordinary Share.

Now the thesis focusses the attention on the Mittel's Share Appreciation Rights Plan. The following paragraphs shows the assumptions of the Plan and its accounting application on balance sheet and income statement. Furthermore, the general concept is the following one: at grant date is calculated the Fair Value of the Mittel stock price, if the stock's value increase the Top manager will receive a compensation equal to the difference between the Mittel 's stock value at vesting date and the Mittel's stock value at grant date. If the Mittel's stock value is decreased the Share Appreciation Right is equal to zero. The assumptios of the Mittel's SAR Plan are: Nature of the Plan: Cash-settled shared-based Plan (IFRS 2), Number of SARs: 6.700.000 units, Strike-Price: 1.27 €, Beneficiary: 12 Top Managers, Duration: 4-years vesting period, 1-year exercise period, Retention: 75%.

The following table explains into details the double entry accounting records that Mittel must perform during each year:

Year	2015	2016	2017	2018	2019
Day	31 Dec	31 Dec	31 Dec	31 Dec	22 Feb
Fraction	0.2136	0.4637	0.7137	0.9637	1
Mittel retention	75% (9/12)	75% (9/12)	75% (9/12)	75% (9/12)	75% (9/12)
SAR's	6.700.000*	6.700.000*	6.700.000*	6.700.000*	6.700.000*
Mittel Value	(1.45-1.27) = 1.206.000	(1.34-1.27) = 469.000	(1.61-1.27) = 2.278.000	(1.77-1.27) = 3.350.000	(1.81-1.27) =3.618.000
SAR Liability - Cumulative amount	<b>193.201</b>	<b>163.106</b>	<b>1.219.355</b>	<b>2.421.296</b>	<b>2.713.500</b>
Current Balance	0	193.201	163.106	1.219.355	2.421.296
SAR Expense	<b>193.201</b>	163.106- 193.201= <b>-30.095</b>	1.219.355- 163.106= <b>1.056.250</b>	2.421.296- 1.219.355= <b>1.201.940</b>	2.713.500- 2.421.296= <b>292.204</b>

According to IFRS 2, the Share Appreciation Rights Plan requires that Mittel remeasure each year the SAR Liability and the SAR Expense.

Finally, the thesis has shown, through a detailed analysis of the 100 Italian listed company in order of capitalization, that the use of alternative financial instruments is increasing significantly in the last years. The use of these instruments involves, in most of the cases, the equity of the firms. Also, the division in five macro sectors (financial and banking sector, telecommunication sector, utility sector, industrial sector, other sectors) shows a significant use in all sectors. Therefore, the future trends forecast a continuous increase of alternative financial instrument used in remuneration policies and this requires a homologation between the accounting standard IAS 32 and IFRS 2 in the classification and measurement between equity and liability, to maintain and guarantee a fair representation of alternative financial instrument in the balance sheet.