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Market Response to the Announcement of M&A
Operations: An Empirical Study of Stock Price Reaction in
the European Consumer Industry

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A chi ogni giorno cammina al mio fianco

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Abstract

For several years, consumer goods (CG) companies have relied upon the strength of developing markets to compensate for sluggish economic growth in more mature economies. However, recent economic headwinds in major developing countries like China, Brazil, and India are forcing companies throughout the consumer products industry to work harder just to maintain profitable growth. In this situation, the industry is likely to witness more M&A activity as large CG companies and private equity firms take advantage of sizable cash reserves, low interest rates, and easy access to credit to increase exposure to faster-growing markets, consumer segments, or product categories.

This paper investigates the effects of mergers and acquisitions (M&As) in the European Consumer Industry. It presents evidence that M&A announcements have positive effects on stock prices. It also finds that the *wealth effect* is larger for target shareholders compared to acquirer shareholders. Besides, it demonstrates the correlation between *value creation* (measured in terms of CAR¹) and certain independent variables. Findings, sometimes contrary to previous literature, enable to build a multivariate regression model that explains the consistency and variability of the CARs detected for the Combined Entity, through variables emerging from the previous evidence as statistical and conceptually more relevant.

¹ Cumulative Abnormal Return

Introduction

“Sometimes your best investments are those you don’t make” (Trump, 1987) is a quote of business magnate, and current president of United States, Donald Trump. It refers to the question whether it is wise to invest in a new project or not. A new investment means often the upside potential of high profits, but on the other hand there is the risk of making a bad investment decision, losing money. In the ideal world an investor knows the outcome of his investment in advance. However, this is not realistic. Therefore, an investor will always face risk on his investments.

But wouldn’t it be great when at least the general effects of an investment were clear in advance? Mergers and acquisitions (from now on M&As) are common types of investments with, in most cases, unexpected outcomes. Knowing in advance the general effects of M&As in a certain geographic area and/or in a specific industry would make it easier to make investment decisions.

This thesis investigates the effects of the announcement of M&As on firm stock price. In the current literature the effects of M&As are widely discussed, but strikingly, most of those papers are relative old (written begin 2000s or earlier) or focused on different industries.

In fact, in front of a wide literature on financial institution aggregations, the European consumer industry still has a small number of research aiming to highlight the effects of the phenomenon of concentration. However, the effects of operations involving companies operating in the consumer industry, as well as the dynamics affecting the sector are growing the interests of a more recent literature.

During the last decades, consumer goods companies are increasingly using M&A as a strategy to expand global reach, enter new markets and consolidate the focus on their core brands. Acquisitions are also used to vertically integrate and optimize supply chain operations, or for securing critical resources or proprietary technologies in certain product categories. In the context of post-economic crisis, companies in the food, drink, consumer goods and retail sectors are actively involved in M&A activity, especially in developing nations.

After the implementation of the NAFTA and GATT agreements, many companies in the food and beverages industry have focused on M&A. These mergers have been for enhancing the advantage of existing distribution systems or underutilized plant capacity. Post-2008, the sector witnessed increased M&A activity on account of the need to access a broader customer base, leverage economies of scale and create stronger brand awareness. The availability of private equity capital and corporate cash, along with the loosening of lending standards, are emerging as catalysts for M&A activity.

This is testified by the fact that, Consumer Markets was again the top sector for European M&A activity, thanks to values of USD350 billion (up 26% on 2015 and accounting for 33% of total activity) and volumes which hit a new record high (4,830 completed deals, +3%).

This paper encapsulates a general and theoretical framework of the phenomenon of aggregations, and hence a measurement and analysis of the effects of a sample of external growth operations carried out in the years from 2010 to 2016 by European companies, through the methodology of the event-study.

First, this study will try to present the evidence about the *value creation* effects that the aggregation announcement has made on the acquirer, acquired entity and the combined entity of the two companies.

In the second place, it will aim to identify the correlation between *value creation* and a series of variables representative of the characteristics of the operation, or of the companies involved in it, hypothesized to be relevant.

Finally, through a multivariate regression model, it will try to explain the consistency and variability of the CARs in relation to those variables.

In the first chapter, we will define the phenomenon of M&A, as an indispensable tool to activate business growth processes, present the three main sources in literature that seek to explain the motivations that drive companies to grow externally, and discuss about the cyclical dynamic of the phenomenon, with an analysis of the main characteristics of the Five Merger Waves.

In the second chapter, we will describe the acquisition process. This, although may seem not directly related to the final aim of the work, is in reality of fundamental importance in order to fully understand the phenomenon. The process may be very articulate and different from current management. In addition, there are structured procedures and phases more or less standardized in all acquisition operations. Anyway, experience shows that the effective articulation of the process can vary significantly according to the characteristics of the counterparts, as well as the target company.

In the third chapter, we will present a general overview of the European consumer industry. How it evolved in the last years, the trends that have characterized it, and the future outlook.

In the fourth chapter, we will analyze the literature on M&A, with a particular focus on those works basing on the methodology of the event study. The fifth chapter will introduce the methodology of the analysis, and the research objectives. The next chapter will describe the criteria used to select the sample, and an overview of the 106 companies (53 bidders and 53 targets) examined. The seventh chapter will be devoted to describing the main results of the empirical analysis.

Finally, the last chapter will contain the conclusive considerations that, given the necessary caveats related to the generalization of analysis carried out on samples of contained numeracy, can be inferred from the empirical verification.

1. M&A activity as a growth strategy

The acquisition identifies the process through which a company, the bidder, acquires a stake or the total control of another company (usually defined as target). These are complex interventions that often represent an indispensable tool to activate business growth processes and create value for shareholders. Such processes cause permanent modifications to the ownership structure of one or more companies. Usually, the price at which the target shares are valued is higher than their market value (there is a greater or lesser purchase premium depending on the case). Upon completion of the transaction, the bidder assumes ownership of the total assets and liabilities attributable to the target enterprise. In the merger process, two or more companies join forces and integrate their own structures (managerial, technological, physical, etc.) in order to create a new company.

According to the Anglo-Saxon literature, acquisitions and mergers are examined and considered together, referring to M&A activity and identifying them as a way of external growth. In practice, as mentioned above, they represent very different forms of business concentration. Each of them has different characteristics depending on the degree of concentration, and the type of transaction being made. The mergers, for example, constitute the form of concentration that presupposes the maximum degree of integration between the two (or more) entities that participate (Cortesi, 2000).

Although strategically speaking the two operations can be compared, they present further differences regarding the legal independence. Acquisition is the process through which the bidder acquires, wholly or in part, the capital of the target company, while maintaining its legal independence as a result of the transaction. The acquisition is defined as total if the bidder obtains the entire capital of the target. Partial if it concerns only a stake.

As for the merger, we mean the formation of a single economic unit deriving from the combination of two or more companies. It consists in a real integration between the activities of the enterprises involved. Here companies lose their legal individuality to come together in a single organizational structure (Caiazza, 2011).

Economic operators have identified the strategic imperative to compete in the current market system in the growth-diversification-investment in human resources trinomial. Nevertheless, at least in the European context, not all companies have sufficient financial and managerial resources to choose internal growth strategy. Thus, the most credible alternative becomes the growth for external lines, through M&A operations. Therefore, these operations can also be defined as external growth processes, through which an enterprise acquires the skills and resources needed to implement a given strategy, by acquiring another enterprise already in the market. Choosing either internal or external growth is basically a make-or-buy choice, where it is key to clearly understand the advantages and disadvantages of the options.

1.1 Three perspectives for analyzing the phenomenon

The phenomenon of acquisitions has, over the last decades, reached a major dimension in modern economies. The wave of business concentration processes, involving all sectors of the world economy, finds the root causes in the processes of internationalization, market and business globalization, technological advancement and increased competition among market players (Napolitano & Sicca, 2001).

The intensity and complexity of the concentration processes occurred over the last two decades, have attracted the attention of managers and professionals who have investigated the acquisition phenomenon from different perspectives. This is a phenomenon characterized by a high degree of complexity due to the multiplicity of available technical forms, and to the variety of achievable goals and results. There are three main sources in literature that seek to explain the motivations that drive companies to grow externally, i.e. through mergers and acquisitions, and the effect of such transactions on the performance of the companies involved.

- **First school: Synergy motives**

A first school of thought is that of motivational synergy. According to it, the bidder (who interprets the role of the purchaser) undertakes an acquisition because it considers such as a profitable form of investment; only the probable synergies, operating and/or financial, in favor of the shareholders, would induce the managers to engage in an M&A operation (Goergen & Renneboog, 2003).

Williamson study (1975) are in line with this current. He identifies transactional cost reduction as one of the motivations for vertical acquisition. Scott (1989) instead, identifies multimarket contact as one of the determinants of the conglomerate acquisitions. The multimarket contact occurs when two companies compete on multiple markets, and this allows an enterprise to respond to a competitor's "attack" not only on the market where it has been challenged, but also on one of the others in which it competes.

- **Second school: Managerial empire building motives**

A second approach (Marris, 1964) focuses on the separation between ownership and control, by identifying the motivation of the acquisitions in the maximization of the manager's utility function. As this function consists of pecuniary elements (prestige, power, etc.) and not directly related to the size of the managed group, acquisitions would be carried out at the mere goal of growth, respecting a "minimum" profitability.

This approach was resumed in the 1980s into the context of the agency theory. The agency theory, also referred to as the principal-agent theory, states that when a principal delegates a certain activity to an agent, the agent could accomplish that task by pursuing his own interests rather than those of the principal. To avoid this behavior, the agent should be monitored.

Amihud and Lev (1981) have shown that managers, unlike shareholders who are able to diversify their portfolios, can not diversify their risk of losing their job. For this reason, they make conglomerate acquisitions to decrease the variability of the performance of the businesses they manage, thus reducing the likelihood of being replaced.

- **Third school: Market for corporate control**

A third approach is based on the concept of market for corporate control. It was developed in the Anglo-Saxon world (Manne, 1965) and probably applicable only to that world, at least in its more orthodox version. According to this approach, acquired companies are those managed not effectively. In this way, the company is underestimated by the market, i.e. the value to which it is affordable is lower than the value that could have been obtained if it was managed efficiently. So, the first step after the acquisition is completed would be replacing the old top management team. The necessary conditions for this approach, are the existence

of teams of managers competing with each other, and the efficiency of the stock markets, which stand up as efficient management guarantors.

However, these are very simplistic visions of a complex phenomenon, probably all partially true and applicable in specific situations. The lack of a satisfactory theory explaining the determinants of M&A operations is reflected in empirical work aimed at investigating the characteristics of acquired companies or the effects of acquisitions without precise references to theoretical models. It also leads to dissatisfaction with the theoretical models on the phenomenon, which led some authors (Roll, 1986) to provocatively affirm that acquisitions simply happen because the decision-making processes of owners or managers of buyers are not rational, but they are distorted by excessive optimism that induces them systematically to overstate the true value of the target businesses (Benfratello, 1999).

1.2 Typologies of M&A

It is appropriate to make a distinction between acquisition and merger operations based on the type of deal that is being implemented. We will refer to the synergies arising from these transactions and to the taxonomy introduced by W.L. Megginson, A. Morgan and L. Nail in 2002:

- *Vertical operations*: between companies that occupy different positions in the supply chain, and are therefore linked by a customer/supplier relationship. The benefits of this solution lie in the scope economies (lower average cost of the product due to the use of the same assets or a similar type of know-how) and in the integration economies obtained through the internalization of activities that were previously performed outside.
- *Horizontal Operations*: agreements that take place between companies belonging to the same industry. In this way, it is possible to increase the market share, sometimes by acquiring a direct competitor. Another direct consequence is the increase in the contractual power with customers and suppliers. Horizontal operations should stimulate the achievement of economies of scale, which in turn contribute to improve efficiency and productive efficacy.

- *Conglomerate operations*: referred to companies belonging to different businesses. The main benefit of this kind of operation is diversification, i.e. the relative volatility of the portfolio of managed assets, which is in line with the lesser risk perceived by the Market with regard to the new entity. Where the two parties share part of the technologies and know-how that are used in the business processes, there may also be the opportunity to exploit economies of scope. In order to maximize the diversification effect, it will be appropriate to hold activities with negative correlated returns or, in any case, low correlation.

A further classification refers to the type of agreement in place: it is defined as *private placement*, the deal achieved by private negotiation among the parties (option accessible to companies that are not listed on the stock exchange). The alternative is to launch an offer to the target company's shareholders to buy the target company's shares (*Takeover bid*).

An other subdivision distinguishes between *friendly takeovers*, where there is an agreement between the parties, and the *hostile takeovers*. The latter is only possible if the target company is listed on the stock exchange, and no shareholder controls the absolute majority of the company (fragmented ownership).

Hostile takeovers represent a real attack on shareholders and a threat to target management as they bring significant changes to strategy and organizational structure. In this case, the management of the two companies are in strong contrast. The buyer, instead of looking for approval from the management of the target company, directly address the company shareholders. This can be extremely risky for the good outcome of the transaction, for the price to be paid to obtain the control and for the negative implications of the subsequent integration phase (Cortesi, 2000). Sometimes, however, operations that arise as hostiles are subsequently transformed into friendly, or almost friendly, as a common interest in minimizing the damage may rise.

In the contrary, friendly acquisitions are characterized by the buyer's management seek for the direct approval from the target management, regarding the proposed transaction.

In general, the vertices of both companies collaborate to find an agreement on terms of operation and management arrangements following the acquisition. In some instances, target management can even perceive acquisition as the source of creating new wealth and opportunities. The climate that is set up is based on respect and collaboration, even if this does not mean that situations of contrast or coexistence problems can not be encountered in the future (Cortesi, 2000).

M&A operations are, as already stated, included within the company's strategic management processes. They must be evaluated, at least in a first approximation, as alternative development options for different external and internal growth solutions. There may be many reasons why it is intended to be acquired, but at the same time there may be as many valid alternatives (Cortesi, 2000).

1.3 Motivation behind M&A operations

Acquisition and merger operations can be undertaken for multiple purposes. Below is a list of the main reasons that motivate M&A transactions:

- *Strategic*: in case the objective is to improve the competitive positioning, or the refocusing of the core business.
- *Economical*: If the objective is to reduce costs, improve earnings, increase the free cash flow and/or get a more satisfactory rating.
- *Financial*: if the scope is to exploit international transactions to reduce taxation (Pfizer –Allergan is an example². Moreover, there are additional tax benefits that the transaction can make. An example is the possibility of using the pre-existing losses of the incorporated company to reduce the overall tax burden on the incorporating company. Another benefit may arise from the changing size of the company. It may allow the new company to have a higher debt ratio (total debt/ total assets), and thus benefit more from the deductibility of the interest income.

² For Pfizer one of the key positive aspects of the deal was that it brought significant tax benefits. The merger structure turned Pfizer into an indirect subsidiary of Dublin-based Allergan, with a low tax burden. The combination of tax savings, coupled with the liquidity gained through the acquisition, was expected to bring Pfizer to significant growth rates in the medium to long term.

While the internal growth alternative, mentioned earlier, involves the direct realization of new investments, external growth goes through the acquisition of running business complexes and represent a number of advantages for the bidder. Examples are the lower cost that may lead to the purchase of a functioning structure compared to the creation of a new one (for example, staff training costs), or the cost and time needed to acquire a sufficient market share to ensure the investment's viability.

Many authors have focused on analyzing the elements necessary for a good integration between the two original corporate structures. M&A operations can be a tangible growth strategy. Increasing the market share in an industry by acquiring many small players, and thus improving performance through economies of scale, can contribute to the formation of substantial economic profits.

Consider the example of NationsBank, which acquired between 1988 and 1997 some thirty-one local banks (retail banks) in the United States. At the time of the acquisitions, NationsBank worked to integrate the corporate culture of the individual entities acquired and to share their best practices: this contributed to the significant reduction in costs associated with the various local banks acquired. During this period, earnings grew annually (on average) by 32%, with returns for shareholders around 22% per annum.

Value creation through M&A can take place in different ways. For example, a company may want to enter a market where an innovative product is marketed without having the ability to develop an in-house product quickly enough to capture its economic and strategic value. In this case, acquiring a small business with an innovative product already in the development phase can become the most efficient choice. If they want to access new geographic areas, it may take many years to develop internally local sales forces. Choosing external growth (acquiring local sales forces from another entity), may take considerable less time.

It is important to wonder whether an M&A operation is the right thing to do for the business. When buying another business, both the tangible assets (like plant and equipment) and intangibles (such as patents, customer scheduling and know-how of the employed) are integrated in the new company. The alternative is to invest a similar amount of money to

create (or buy) the same assets internally. Assuming a company has opportunities for organic growth, internal investment will generate, on average, higher returns per euro (dollar) invested, than in the case of acquiring another company in the Capital Market.

However, organic growth is not always a potential substitute for M&A. The need to speed up ongoing processes, limits on buyer capacities, or barriers to the imitation of competitors can turn organic growth into something too expensive, and therefore impossible to execute.

One of the pivotal issues in the work of several successive economists in recent decades concerns the vision of acquisition and mergers as alternative forms of investment. Companies will implement M&A strategies when they are the most profitable way to increase their production capacity and when they gain new knowledge and skills, otherwise unavailable. Other positive features are the ability to access new products and geographic areas, and the ability to reallocate their assets under the control of more competent managers. So, many of the factors influencing investment decisions are equally important in relation to an acquisition operation.

Some of those factors considered to play a significant role in the implementation of an acquisition or merger operations are listed below:

❖ **Efficiency**

Businesses can combine their operations by acquiring corporate assets, decreasing production costs, boosting output, improving product quality, obtaining new technologies or delivering brand new products. The potential economies obtainable through the M&A may be both operational or managerial. The first can be derived from economies of scale³, economies of

³ Economies of scale is the cost advantage that arises with increased output of a product. Economies of scale arise because of the inverse relation between the quantity produced and per-unit fixed costs; i.e. the greater the quantity of a good produced, the lower the per-unit fixed cost because these costs are spread out over a larger number of goods. Economies of scale may also reduce variable costs per unit because of operational efficiencies and synergies. Economies of scale can be classified into two main types: *Internal* – arising from within the company; and *External* – arising from extraneous factors such as industry size.

scope⁴, or better allocation of resources by accessing less expensive manufacturing technology or better configuration of the assets.

Other motives can be better use of information, increased focus on company core skills, better brand image exploitation, and reduced transaction costs. Related to the subject of efficiency is corporate control: many economists consider a Corporate Control Market an important safeguard against management inefficiencies. An active market for corporate assets can also provide benefits in terms of more efficient relocation of resources from relatively inefficient companies to more efficient ones, during periods of industrial upswing or contraction.

Also consider that a merger, although it may have beneficial effects for newly formed entity shareholders, may have negative repercussions for the consumers, especially where it consolidates positions of competitive advantage (think of forms of oligopoly or, ultimately, monopoly). On the other hand, improvements in productive efficiency can stimulate the creation of higher quality products at a relatively lower cost compared to the pre-merger stage.

In case the above-mentioned scenario is realized, it will be necessary to consider the implications that the process of integration between the two structures may entail in terms of rationalization and possible downsizing of the workforce (if the objective is to reduce the excess capacity inside the company or even eliminating redundant positions). Creating value in an M&A transaction, matching interests from different business queries, is therefore a process generally difficult to accomplish. Empirical studies in this regard confirm that target shareholders receive on average 30% of the market premium, to be added to the intrinsic value of the target prior to deal's announcement. For the buyers instead, there is less indication of the benefits to shareholders as result of an M&A transaction. Empirical studies show that, on average, the shareholders of the acquiring company suffer a loss of value on securities between 1% and 3%.

⁴ Economies of scope is an economic theory stating that the average total cost of production decreases as a result of increasing the number of different goods produced. For example, McDonald's can produce both hamburgers and French fries at a lower average expense than what it would cost two separate firms to produce each of the goods separately. This is because McDonald's hamburgers and French fries are able to share the use of food storage, preparation facilities and so forth during production.

❖ Improving target performance

It may be the case for companies that can significantly reduce costs to improve margins and cash flows. Acharya et al.⁵ (2010) analyzes a sample of private equities that acquire, improve and subsequently sell target businesses. In their sample, the operating margins of acquired businesses increase by an average of 2.5% over the period under the control of private equity, compared to a sample of similar companies not involved in any operation. Clearly, it is easier to improve business performance in the case of companies with lower margins and ROICs compared to businesses that are over-performing the market.

Consider the case of a company with operating margins of 6%. Reducing the cost of 3% (from 94% to 91% of total revenues). The operating margin increased by 9% and can contribute to an improvement in the value of the company by about 50%. Conversely, if the company's operating margins were 30%, raising the value by 50% would mean increasing the margins of 45% (expectation that would easily be classified as unachievable).

❖ Financial and tax benefits

Companies could diversify their earnings by acquiring other businesses, including their assets, and increasing their presence outside the traditional core business. Diversifying an enterprise's profits might be a good move to lower volatility and reduce bankruptcy risk.

Prior to 1980⁶, there could have been significant benefits from the reduction in taxable charges, though, empirical research has failed to confirm a strong correlation between acquisition and merger operations and the objective of reducing the tax base.

❖ Expropriation of stakeholders

Targeted businesses may want to be detected in order to recover from past financial problems or to break down unfavorable work contracts. Other companies may seek to acquire through debt in order to increase the risk-return profile of the target, and thus make the transaction more attractive for any funds and/or buyers (this mechanism would increase the risk carried by existing debt holders).

⁵ Acharya, Gottshalg, Hahn, Keoe, Corporate Governance and Value Creation: Evidence from Private Equity, New York University - Leonard N. Stern School of Business, February 17, 2010

⁶ Romano, A Guide to Takeovers: Theory, Evidence, and Regulation, Yale Journal Of Regulation (1992).

❖ **Effects on market power**

In this regard, an example is given from the first two M&A waves. Most industry scholars agree on two factors: the acquisition and merger operations carried out between 1884 and 1904 are mostly aimed at creating monopolies, while the second wave of M&A, which runs from 1910 to 1929, is mainly inspired by the opportunity to develop oligopolies⁷. These trends have to be related to the gradual introduction of anti-trust legislation aimed at countering merger operations that were classified as anti-competitive (e.g. in the United States there was a first promulgation in this regard in 1950). For this reason, gradually mergers between large companies holding a good share of the market became rare.

❖ **Obtain skills and technologies faster compared to organic growth**

A striking example is provided by Cisco Systems, a company that has made extensive use of technology acquisitions to grow rapidly and gain a good slice of the Internet Furniture Market. From 1993 to 2001, Cisco acquired 71 companies at an average price of US \$ 350 million. Cisco's sales at the same time rose from \$ 650 million in 1993 to \$ 22 billion in 2001 (about 40% of the 2001 revenue coming directly from new acquisitions).

❖ **Greed of management**

Managers' incentives could favor operations of acquisition or mergers that in the long run would reduce the value of the company complex. In this context, situation of over-diversification and over-emphasis on growth goals, or more simply bad purchasing decisions, are often observed⁸. A topic related to this issue is the agency problem (already defined in the previous chapter), regarding the conflict of interest that arises between the agent (manager) and the principal (partner/shareholder). These problems can also develop due to the presence of free cash flows available to managers. The latter have a strong incentive to use FCF to grow the company beyond the optimum size: Managers can perceive growth as a way to boost their power. In addition, growth is often the easy way to increase the compensation.

⁷ An interesting contribution about this theme is given by: Stigler, Monopoly and Oligopoly by Merger, 40 American Economic Review (May 1950), reprinted in The Organization of Industry (1968)

⁸ A reading about this theme is Morck, Shleifer & Vishny, Do Managerial Objectives Drive Bad Acquisitions? 45 JOURNAL OF FINANCE 31 (March 1990)

When this growth is disproportionate to the company's capabilities, there is a conflict of interest between managers and shareholders. In addition, conflicts arising from the presence of excess FCF can contribute to the intensification of M&A waves in times of industrial shock, or in the presence of bullish financial markets.

In essence, the large presence of FCF is likely to encourage management to put in place investments that will likely have negative VAN⁹. However, it is not uncommon for driving motivations to contradict the company's interest, and that the growth needs for acquisition are artificially created, rather than necessary for a real competitive repositioning or for achieving operational efficiency goals we mentioned earlier.

The boundary between the desire to protect the interest of the manager and the overestimation of the benefits of external growth (or underestimation of the risks associated with it) is often blurred. In such situations, a fundamental action must be taken by the shareholders, who have the task of protecting their interests at the meeting and requesting a detailed statement of management information on future decisions and operations of the company.

A further form of control is exercised by the Market, which rewards managers who act in the interests of their own company, and punishes those who pursue their exclusive interests.

❖ **Market timing**

Another important factor has to do with market timing: in periods of strong economic expansion (as it happened before the financial crisis of 2007), companies tend to be particularly active with acquisition and merger operations. Myers and Majluf¹⁰ (1984) argue that in financial bubbles companies use overvalued shares to finance investment in other companies. When managers believe they have overvalued stocks, then they may decide to swap them with real assets.

⁹ (Jensen 1986)

¹⁰ Myers, Majluf corporate financing and investment decisions when firms have information that investors do not have Journal of financial economics 13 (1984), 187-221

In agreement with Martynova and Renneboog (2008), recent empirical studies show that the fifth wave of M&A (from 1993 to 2000) has been amplified by the market timing of managers. This study confirms what was previously said only for acquisitions financed through shares, while for other means of payment no significant results were obtained.

❖ **Growth pressure**

One of the primary reasons for pursuing an M&A transaction lies in the desire to expand. Such transactions have proven to be sometimes the only viable path for growth. External pressure, along with environmental stimuli, can force managers to undertake M&A¹¹ operations. Conversely, demand for two-digit growth by analysts and investors may prove to be difficult to satisfy. For listed companies, such pressure can be so strong that it does not allow margins to achieve an aggregation plan that is organic and managed consistently in all its phases.

❖ **Mergers as a means for company restructuring**

Sometimes distressed company can become attractive to businesses that, having a better business status, intend to pursue expansion strategies or purely speculative strategy. Clark and Ofek¹² (1994) examine a sample of 38 acquisitions between 1981 and 1988. A common feature of these acquisitions is that they were mostly friendly takeovers, and that bidder and target usually came from the same industry. The authors used six different measures to analyze the post-acquisition performance of the combined entity: the feedback was unfavorable to buyers, which, based on the parameters analyzed by the authors, were unable to successfully restructure the distressed targets. Nonetheless, the market demonstrated a good attitude in anticipating the outcome of the restructuring process involving, or at least integrating, an acquisition and/or merger operation.

Typically, processes leading to functional and durable restructuring are those where the buyer's premium for the target is limited, while there is a positive correlation between the depth of the crisis faced by the target and the successive successful outcome of the

¹¹ Sliwotzky e Wise, The Growth Crisis-and how to escape it, Harvard Business Review, Financial analysis, July 2002

¹² Clark, Ofek *Mergers as a means of restructuring distressed firms: an empirical investigation* Journal of financial and quantitative analysis, vol.29, no.4, December 19

negotiation. A higher leverage in the next stage of the deal seems to undermine the success of an acquisition operation, while the median performance in the target affiliate industry, after the merger, is positively correlated with the six measures used to evaluate the subsequent performance of the bidder¹³.

1.4 The five merger waves

In modern economic systems, growth through mergers and acquisitions is a phenomenon that has achieved great dimensions. This, from the late 1800s, has manifested in a cyclical manner, which mainly affected North American and British markets. In Europe, it only assumed significant dimensions from the second World War. This is certainly attributable to the smaller development of the securities markets, with the exception of the English market.

The phenomenon of acquisitions developed through five "great waves" (Gaughan, 1999), the first four of them date back to the period between 1897 and 1989 (1897-1904, 1916-1929, 1965-1969, 1984-1989) while the last one began in the late 1990s.

It is interesting to analyze, briefly, the five M&A waves in their main characteristics:

❖ Wave 1893-1904

The first wave begins after a period of economic expansion. One of the most peculiar features is the simultaneous consolidation of the various manufactures sector into a single industry. This consolidation contributes to the emergence of the first giants in the distribution of gas, mining and steel. Due to the horizontal consolidation, that allowed for a more solid capitalization of the firms and growth in terms of profits and operating margins, important monopolies¹⁴ were created. In 1890, Sherman antitrust act¹⁵ was promulgated with the purpose of preventing cartels and monopolies (the promulgation was largely ineffective in the direct opposition to monopolies, at least initially). The peculiarities of this first wave are the

¹³ The six performance measures used are: 1. Bidder overpayment, method of payment and relative target size; 2. Financial distress and post-merger leverage; 3. Concessions; 4. Target's industry's post-merger performance; 5. Similarity of industry; 6. Management expertise.

¹⁴ Stigler, G. Monopoly and Oligopoly power by merger. American Economic Review, 40 (1950): 23-34

¹⁵ Sherman antitrust act: the aim was to tighten and monitor the mergers between companies that could limit fair and efficient competition in their respective markets

implementation of mostly friendly deals, coupled with the prevalence of cash-financed acquisitions.

❖ **Wave 1910-1929**

The industries more influenced by this wave were food and beverage, paper production, and iron manufacturing. This wave had inferior proportion compared to the previous one. Indeed, where the former involved in M&A transaction more than 15% of the total assets of the US market, the second one did not reach the 10%. A further difference is the growing oligopoly formation: in the wake of the wave, industries were no longer dominated by a single large company. On the contrary, two or more companies dominated the industries, that had therefore become predominantly oligopolistic. Especially small businesses, those who survived the previous wave of M&A, were the most dynamic.

In line with the first wave of M&A, the vast majority of the deal were friendly, while the way to finance the acquisition, this time, switched towards a clear propensity for the use of equity. The financial crisis of 1929 signed the end of the second wave of acquisitions and mergers, bringing a severe stagnation period and highlighting the limits and the risks inherent in the growing financial markets.

❖ **Wave 1955-1975**

Events such as the Great Depression of 1929 and the Second World War inhibit M&A activity at least until the early 1950s. The new wave begins with the introduction of further restrictions on corporate aggregations, with the primary purpose of preventing acquisitions and/or anti-competitive mergers. Mergers in the first M&A wave (mostly horizontal) and in the second (mostly vertical) evolve through the renewed concept of diversification. The latter stimulates and builds on the development of conglomerate companies, large companies that operate in numerous business, not always related one the other.

An example is provided by General Electric, which nowadays operates in a wide range of businesses, from healthcare, through transportation, to the original energy sector. Thus, diversification can become an important factor in decreasing the volatility of cash flows by reducing the direct exposure to specific industry risks. The conglomerate will be less

vulnerable to shocks in an industry, as it can generate revenues in different compartments and allow, in the most desirable scenarios, that losses generated in an industry are offset by revenue from another.

According to some authors¹⁶, the diversification process may imply changes in the market structure: in the medium term, corporate strategies would be able to model and reformulate the structure and the main drivers of the market. It is clear that the third wave showed a significant increase in investments in non-related-business (from 9% to 21%) in the case of Fortune 500 companies¹⁷, confirming the key role carried out by diversification in the post war period.

❖ Wave 1984-1989

This period has divergent features compared to the previous ones. Bids tend to be hostile, i.e. they can not count on the support, or at least the approval, of the target management. Also the size (in terms of total assets) of the target relative to that of the bidder changes: it becomes significantly greater than the past.

Acquisitions are financed less with equity, as in the previous wave, and more with a composition of debt and cash. Moreover, in the fourth wave of M&A, divestments subsequent to the acquisition reaches peaks between 20% and 40%. Clearly, they were phenomenon of expansion as prodding of subsequent downsizing (by selling the target). This technique was used by expanding companies, in general, with the aim of increasing their market shares and their competitive position.

During this period lay the foundations for eliminating the inefficiencies resulting from the 'conglomerate' option implemented between 1955 and 1975. Numerous studies show that in

¹⁶ In particular, Chandler (1991) refers to the concept of Multidivisional Enterprise, stating: "The structure follows the most complex strategy and structures are the result of the chaining of innumerable basic strategies."

¹⁷ Fortune 500 is an annual list compiled and published by Fortune magazine ranking the top 500 US companies based on their sales, even though Fortune makes sales adjustments to many companies, particularly to exclude the impact of corporation tax. Companies with the necessary requirements are all those whose budgets are publicly available (which are a larger universe of so-called public companies, as is commonly termed in the sense of "companies having ordinary shares traded on a stock exchange")

the 1980s a direct bid to a competitor of the same industry had a positive correlation with the return perceived by the bidder's shareholders¹⁸. On the other hand, the opposite would seem to happen to target shareholders. After 1989, mainly due to another crisis in the stock market, the volume and intensity of M&A operations fell down, signing the end of the fourth wave of M&A.

❖ Wave 1993-2000

The 1990s confirmed a decade of renewed economic prosperity; an expansive phase for financial markets, favored by a globalization process that pervades and increasingly affects modern business. M&A activities are also taking place in the continental Europe, where quantitative thresholds and the dynamism experienced in the US market are attained. Globalization of markets favors the increasing number of cross-border deals: to keep pace with global growth, organizations seek foreign target companies to propose acquisitions and/or mergers operations. To this period belong some 'mega deals' that would have been unthinkable in the previous years. Among the major are: Citibank and Travelers, Chrysler and Daimler-Benz, Exxon and Mobil.

Positive responses to the new atmosphere are technological innovation, ICT (information and communication technology). But above all, it is the new focus on corporate competences in order to gain a competitive advantage (which can be pursued through better use of available resources and capacities). During this period, the nature of the mergers is largely friendly, while the main source of finance is equity.

Even in this case, the wave of M&A runs out of cause for a major economic downturn: the beginning of the new millennium sees the burst of the dot-com bubble¹⁹ (speculative bubble developed between 1997 and 2000).

¹⁸ Shleifer, A and R.W. Vishny, Takeovers in the 60s and 80s: Evidence and Implications. *Strategic Management Journal*, 12 (1991): 51-59

¹⁹ Like any other crisis generated by a speculative bubble, the Dot.com crisis has developed through the classic sequence:

1. Extreme trust from investors in the potential of a product/company
2. Fast growth in product price
3. event that wobbles the expectations of significant gains
4. High sales
5. Final collapse of the product price

A summary of what has been described in this section is represented in the table below.

Table 1.1: Summary of the M&A Waves (adapted from Nouwen (2011))

	Wave #1	Wave #2	Wave #3	Wave #4	Wave #5
Period	1893 - 1904	1910s - 1929	1955 - 1975	1984 - 1989	1993 - 2000
Predominant means of payment	Cash	Equity	Equity	Cash / Debt	Equity
M&A outcome	Creation of Monopolies	Creation of Oligopolies	Diversification/ Conglomerate Building	"Bust-up" takeovers; LBO	Globalization
Predominant nature of M&A	Friendly	Friendly	Friendly	Hostile	Friendly
Beginning of wave	Economic expansion; new laws on incorporation; technological innovation.	Economic recovery; better enforcement of antitrust laws.	Strengthening laws on anti-competitive M&A; Economic recovery after WW2.	Deregulation of financial sector; Economic recovery.	Strong economic growth; deregulation and privatization.
End of wave	Stock Market crash; First World War.	The Great Depression.	Market crash due to an oil crisis.	Stock market crash.	Burst of the internet bubble; 9/11 terrorist attack,

1.5 M&A activity in the period 2009-2016

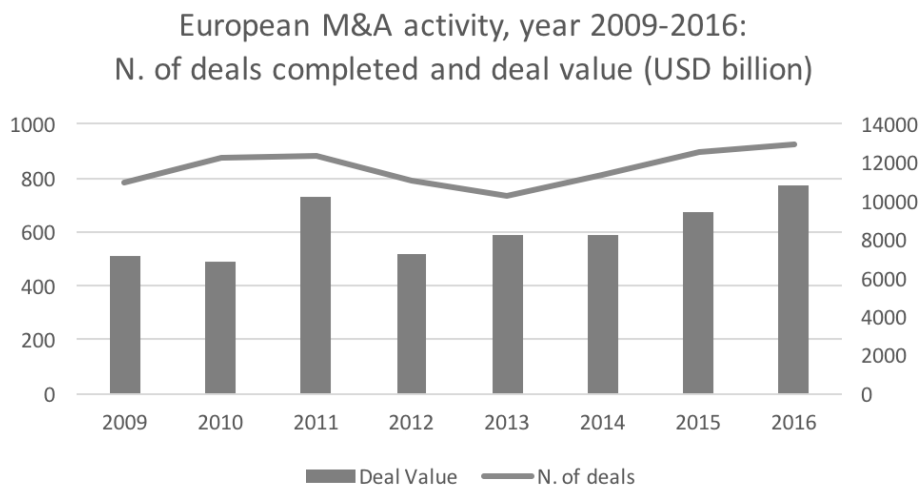
In a period characterized by a sluggish growth in the world economy, and uncertainties related to the outcome of the electoral consultations in the United States and Europe, the global M&A market has consolidated its positions. The over 35,000 transactions completed in 2016 represent the new record globally, while the over \$ 3,200 billion in counterparts are the third best result ever, after the record high of \$ 3,800 billion in 2007 and over \$ 3,700 billion registered in 2000. The contextual difficulties, the additional restrictions imposed by the US administration on tax-reverse transactions and the opposing opinions of the Authorities that have vanished up several, already announced, billionaire transactions, did not stop the external growth strategies adopted by the companies in recent years.

For more explanations see: <http://www.consob.it/web/investor-education/la-bolla-delle-c.d.dotcom>

In Europe, M&A activity continued to grow in 2016 and reported the best performance since 2008. It maintained its leading position in the global M&A market in terms of volumes (around 40% of deals completed worldwide), however, although its contribution in value improved, it remained under 25% (21% in 2015, 24% in 2014 and 29% in 2013).

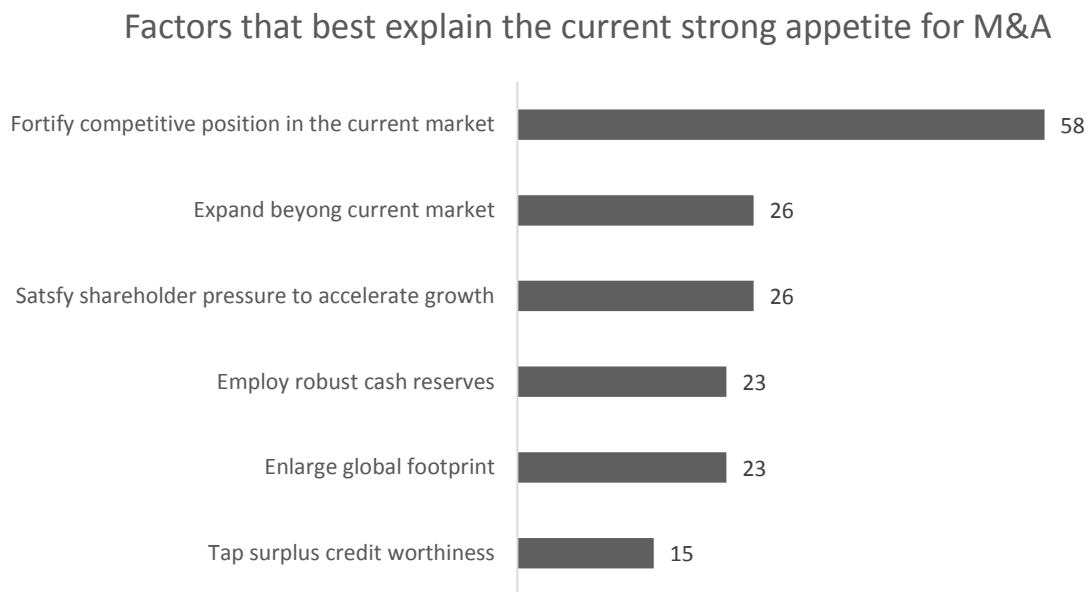
Represented below are the number of deals and the total value of the operation within the period 2009-2016.

Table 1.2: N. of deals completed and deal values, year 2009-2016



As shown in the graph, after the post crisis years, M&A activity has started a stable recovery, destined to continue in the near future. KPMG and Fortune Knowledge Group surveyed over 550 M&A executives to get an overview of the factors that most explained the current appetite for M&A. When asked, respondents noted the need to fortify a competitive position in current markets (58%), as well as the need to expand beyond current boundaries and to satisfy shareholder need for growth (both 26%).

Table 1.3: Factors explaining M&A appetite



The previous paragraphs gave a general picture of the reasons that have, in the years, led companies to pursue acquisition and/or merger operations. In the next chapter, we will go on to analyze in more detail the phases through which a process of acquisition is articulated, and those that represent the major critical issues to be addressed.

Do not forget that the M&A process, by its nature, will end when the two structures are integrated and are able to manage and select internal processes according to an ongoing logic. What we will do in the last part of this paper is to assess whether the stock price of the companies involved in M&A transactions has improved, or in the contrary deteriorated, following the announcement of these operations.

2. The M&A process

Acquiring an enterprise is something very articulate and different from current management. It has nothing similar to deal with a supplier or the purchase of a plant. A company is a complex reality with multiple trading aspects and articulated and not always clear financial and strategic aspects (Marangoni, 2000).

There are structured procedures and phases more or less standardized in all acquisition operations. Anyway, experience shows that the effective articulation of the process can vary

significantly according to the characteristics of the counterparts, as well as the target company (Marangoni, 2000).

The acquisition process can be described through three macro phases, each of which is articulated into further sub-phases, highlighting the main problems that need to be overcome in order to make the decision. Each stage needs specific skills. For this reason, they are assigned a highly qualified team of experts, well-suited to the task to be performed (Conca, 2010).

Phase 1: Preventive Strategic Assessment and Evaluation

Phase 2: Negotiation

Phase 3: Ex-post integration

2.1 Preventive Strategic Assessment and Evaluation

At this early stage, the acquisition process must be consistent with the buyer's wishes and precise in defining sustainable realization modes. To this end, it will be vital to conceive a proper strategic approach which usually comes to rely on a professional figure (mostly advisor and consultants of various degrees) examining the reference sector and the competitive environment in which the buyer wants to search and contact potentially attractive companies.

Therefore, the prior strategic analysis has the task of answering the question relative to the real convenience of a process of acquisition or merger, in order to assess whether it represents the right way of interpreting the various instances of growth. The process is articulated in well-defined phases ranging from the strategic approach, to the definition of goals, through the identification of the ideal profile of the target till the subsequent search for the alternatives.

To this purpose, it is useful to implement a strategic audit with the aim of analyzing the following points:

- 1) Recognition of the weaknesses in the enterprise;*
- 2) Analysis of the competitive sector and competitive variables;*
- 3) Identification of achievable synergies*
- 4) Verification of the financial feasibility of the operation;*

5) *Influences and repercussions on customer relationships.*

The ultimate aim of the strategic analysis will be to identify the best candidates, and start a first screening phase aimed at the primary skimming of the candidates identified.

To effectively outline the context in which the buyer intends to operate, and to accurately ascertain the ideal profile of potential targets, the following points will have to be considered:

- 1) *Characteristics of the company to be acquired*
- 2) *Leverage levels applicable to the acquisition*
- 3) *Timing of the operation*
- 4) *Implications in terms of economic-financial sustainability for the acquirer*
- 5) *Offer Price Limit*

2.2 Identification and selection of target companies

Initially, a first list of potentially attractive businesses will be developed. In that list, it will be identified the ideal company to acquire. At the same time, those companies that are difficult to reach have to be excluded (Conca, 2010).

Once the general criteria have been established, the company will be identified and the subsequent evaluation will be carried out. The number and type of target companies depend on the objectives and the scope of the project. The more limited the goals are, the narrower the circle within which to choose the target will be.

Once the candidates are identified, a ranking of companies will be drawn up and, once established, the first contacts will start. This phase has many difficulties. As an example, a business may not be for sale and, therefore, not prepared to consider third party bids. Not only that, it is possible to find a large variety of situations, each of which requires different approaches and specific risks of failure. The peculiarity of the situation and the lack of experience on how to move, make the process even more problematic.

A common occurrence is the target company being a direct competitor. At first, starting a contract can be considered simple, as companies are already familiar and already had collaborative relationships. But, they may underestimate the problems that can arise. Firstly,

the start of the negotiation puts the proposer in a "psychological" submission. In fact, it recognizes to the counterpart a force that can be used to increase negotiating power and thus demand more favorable trading conditions. Also, it is advisable not to break the relationships and collaboration agreement that have been built over time, and that must be maintained regardless of the outcome of the transaction.

Another case to be taken into account is the acquisitions between listed companies. In this regard, the management of contacts and the result of preliminary negotiations may make the operation hostile or friendly.

To start the contact, it is possible to directly contact the target company or to contact a consulting company firm that act as an intermediary. In the first case, the immediate identification of the buyer's name, the transparency of the intent, the containment of the times, the simplicity and the immediacy of the approach occur. With the alternative strategy, however, there is the possibility of not exposing yourself personally, the ability to operate on the market with a mandate of generic exploration and the demonstration of the intensity of the intention. The seller will therefore take the proposal more seriously.

We therefore come up with a list of few names, where, for each candidate, it is worth mentioning the negotiating strategy to be undertaken and identifying the relevant parameters for choice, as: critical aspects to follow, concretely realizable synergies, probability of success and estimate of probable price (Conca, 2010).

It is also important to consider the strategic proximity of the target company, e.g. to assess whether it is a related or unrelated acquisition, i.e. horizontal, vertical or pure diversification acquisition (Rossi, 1999). These different strategies have already been treated in detail during the previous chapter.

One of the most critical factor is the duration of the individual phases, and the overall times for the process. Environmental factors that are not directly controllable (think of the cyclicity of business activities and systemic risk) must also be taken into account. Those factors can inhibit the appeal of the aggregation project.

The time factor also plays a key role. Rapidity in the implementation of the various phases of the acquisition process can help counteract competition and anticipate the access times in a market with good growth potential. In this context, the imbalance in terms of contractual power between the parties leads to a shortening of trading times. Conversely, situations of substantial balance between the strengths of the contractors contribute to widening the time to reach the final deal, making the negotiation more laborious.

Another critical aspect is the frequency with which management may be obliged to review, if not fully reconsidered, the initial work hypotheses (those developed in the target selection phase and in the preparation of the strategic acquisition plan) (hypothesis of circularity).

Each incremental phase will allow to evaluate the degree of consistency (and feasibility) of the decisions on which the M&A's strategic goals are based. On the other hand, they will be the precondition for the conception and implementation of a new decision-making stage. Iteration of the process is manifested, for example, when target analysis does not meet the expectations that were developed at the initial selection. This can be the result of a more thorough financial assessment, when the chosen alternative does not appear to be feasible, or the synergies (cost, revenues, etc.) become too risky to be rationally taken into account. Even during the due diligence phase there may be some problems that justify the abandonment of the considered alternative.

We can therefore say that, in the initial stages, the overwhelming critical factor is represented by the correctness of the fundamental strategic vision, with reference to the sustainability of its realization and the timing (programmed) necessary for its completion. All this is then compared to the interest shown on specific targets, looking at the goodness of the choices made in their selection.

The two paragraphs below illustrate some factors that seem to be able to influence the choice of the target, and to be taken into account when it is decided to start the negotiation. In particular, we will distinguish between two types of target identified in the literature (growth and value companies), and we will see how target purchases in specific periods of their growth can affect the final output of the process.

2.2.1 Types of Target (growth vs value firm)

Rau and Vermaelen²⁰ (1998) argue that managers with the highest M/B ratio (Market value of assets) are more easily induced to overestimate their ability to handle overconfidence, and will be affected by what Roll²¹ (1986) defines *hubris* (excessive pride and confidence in their abilities). Lakonishok et al.²² (1994) defines glamorous companies: those with high stock returns in the past and characterized by high growth in free cash flows.

According to the authors, shareholders, as well as management and board of directors, will more easily have confidence in the choices of the second, and will likely approve the acquisition plans they have presented. There seems to be evidence in favor of glamorous firms, at least in the relevant passage of the merger or acquisition agreement.

Moreover, Rau and Vermaelen point out that, in value companies, the managers, directors and large shareholders will be more cautious before embarking on a particularly expensive negotiation which potentially proves the survival capability of the buyer. In addition, the two authors calculate abnormal returns around 8% for value acquirers in case of mergers and 16% in OPAs. For glamor acquirers, abnormal returns are 17% in the case of merger and 4% in the case of OPA (the latter result is not statistically significant).

Singh and Zollo point out how target quality (weighted on the basis of pre-acquisition performance) has a negative impact on the performance of the new entity, and both the level of management replacement and the actual integration between the two actors in the process of M&A. Fuller et al.²³ (2002) analyzes the impact of liquidity and factors that limit competition in an M&A transaction.

²⁰ Rau, Vermaelen Glamor value and the post acquisition performance of acquiring firms, Journal of Financial Economics 49 (1998) 223

²¹ Roll, The Hubris hypothesis of corporate takeovers The Journal of Business, vol.59, no.2, part.1 (April 1986), 197-216

²² Lakonishok, Shleifer, Vishny Contrarian Investment, Extrapolation, and Risk The Journal of Finance, December 1994

²³ Fuller, K., J. Netter and M. Stegemoller. 2002. 'What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions'. The Journal of Finance 57 (4): 1763-1793

Private and subsidiary companies will hardly be bought or sold with the same flexibility as publicly traded companies. That said can create liquidity gap within trading, decreasing the number of interested buyers and making investments private businesses less attractive, at least on the basis of an initial feasibility study.

Chang²⁴ (1998) formulates the so-called monitoring hypothesis: Private-owned target companies, acquired through stock exchanges, more easily encourage the creation of power groups by shareholders. These groups can have beneficial effects in terms of management control and value creation for buyers in an acquisition. Finally, Beitel's (2004) results show that excess returns for bidder, and subsequently for the combined entity, are significantly lower when bidders buy slowly growing target companies, with an indication of the preference of shareholders for targets that grow faster.

2.2.2 Acquire with the right timing the most promising targets

One of the archetypes of M&A operations is to deal with the acquisition of companies that are in an early stage of development, perhaps in emerging industries, rather than engaging in the concept and the subsequent development of innovative products.

Johnson & Johnson made use of this strategy to acquire companies with good growth prospects in the field of medical devices. When Cordis was acquired, in 1996, it was able to generate \$ 500 million in revenues. Since 2007, its earnings have grown up to \$ 3.8 billion, reflecting an annual growth rate of 20%. In 1996, Johnson & Johnson also acquired the DePuy orthopedic device manufacturer when it was generating \$ 900 million in earnings per year. Since 2007, DePuy's revenues have grown up to \$ 4.6 billion, with an annual growth rate of 20%.

For this reason, it is crucial to make investments before competitors and market operators can conceive the potential hidden behind some emerging companies. Often, these are real bets, from which to expect, sometimes, failures.

²⁴ Chang, Takeover of privately held targets, methods of payment and bidder returns. Journal of Finance, April 1998

2.2.3 Relative size of assets

The relative size of target and acquirer assets can be an important factor to be taken into account in an M&A operation. Beitel claims that the acquisition of smaller-sized target companies, compared with the bidder, contributes to creating excess returns for the shareholders of the acquired company. On the contrary, there are no significant results for the bidder. The author concludes by saying that in the case of relatively larger target acquisition, there are potential for the creation of significant economies of scale.

Eckbo et al.²⁵ (1990) argue that buying a relatively large target represents a more risky event for the buyer than compared to the purchase of a smaller one. The greater relative size can contribute to creating more synergies, although managing larger acquisitions can sometimes prove to be difficult. When the size of the target grows, there may be greater bargaining power for the buyer, but at the same time the transaction may become more expensive compared to those involving smaller companies.

However, it is still unclear the relation between the relative size of target assets and that of the buyer, in terms of post M&A performance. Part of the literature associates a greater relative not only to future generous gains, arising from the creation of economies of scale and operational synergies (Seth, Song and Pettit⁵⁴ 2002), but also to a higher risk in the post M&A period. This higher risk may be associated to the higher costs deriving from integrating the two large structures, and those costs resulting from a possible failure of the operation (Shimizu et al.⁵⁵ 2004). On the other hand, most empirical evidence reports a non-significant relation between the target asset size and the concurrent post-acquisition performance (Healy et al 1992).

2.3 Financial valuation

The assessment of the financial aspects is a particularly delicate moment of the process, since considerations regarding the economic and financial profile of the transaction represent the indispensable premise for defining a probable price range around which to negotiate (Conca, 2010).

²⁵ Eckbo, B.E., R.M. Giammarino, and R.L. Heinkel. *Asymmetric information and the medium of exchange in takeovers* // Review of Financial Studies, 1990. – # 3. – pp. 651-676

At this stage, the company to be acquired is evaluated with in-depth analyzes that allow us to examine and understand the underlying reality. The first point to deal with is collecting the information, which must be up-to-date and reliable. It is possible to encounter some difficulties, especially by the seller, who has to provide confidential elements and data. It is important to have the right information about the target company, in order to do a thorough analysis of it, and thus determine the price in a more accurate manner. Thanks to the information acquired, it is possible to express an opinion about the company's capabilities and prospects of value creation, and thus define the parameters of the methodologies to be used for deriving a price.

The elements that are usually analyzed in detail are listed below:

- the financial statements of the last 3/5 years;
- the auditing budgets of the last 3/5 years;
- management reports;
- studies and market analysis;
- budget and business plan.

The analysis of the historical data, allows understanding the profitability metrics and the process of generating cash flows, that are peculiar to the business model of the company.

After that, there will be a comparison of the historical data, the business model, the business plan and the reference market. The business plan is a key element in the target analysis, as it provides the information needed to understand the strategies of development and possible evolution scenarios of the target, although it may have a more or less formalized and formulated wording (Salvi, 2012).

In the case of multiple buyers, to facilitate access to information, it is often proposed the solution of the data room. It consists of organizing an external physical site, usually at the audit firm or consultancy office, a data collection center for the company to be sold, so as to make available to potential investors all the information useful for the operation.

Subsequently, the objective value of the target is determined. That is defined as the value of the enterprise without considering any synergy. The estimate of the objective value, value that must be accepted by both parties, represents a turning point in the process, and represents the starting point of the negotiation. In fact, the final price will not differ much from it.

One of the central issues in M&A operations is the process of price formation. There are still some "shadows", some of which are inevitable, and others resulting from the shortage of information on past operations (Salvi, 2012).

Significant factors in determining the final price, as stand alone value, are:

- the subjects involved in the operation;
- the target company profile;
- the deal structure;
- the negotiating aspects.

In many acquisition projects, the ability to achieve synergistic effects is extremely high. More and more frequent, however, there are criticisms around the excessive price level of the recent acquisitions.

The problem is not so much the price level itself, but:

- the relation between the price paid for a company and its real value;
- the effect on the future value of the company considering the achievable synergies.

There may be different methods of evaluating companies, each of which produces different results. It is key for the two counterparts, to choose a model that is good for both.

Among the most important valuation methods and models are the following:

- the equity method,
- the income model,
- the mixed-income model,
- the financial model,
- the multiples model

- the real option model.

It is useful to briefly analyze the fourth and fifth of the models above, those that probably come in the best practices.

❖ **The financial model method**

Known as DCF (discounted cash flow), this method leads to determining the value of the business complex based on the following addends:

- Operating cash flows (free cash flow before the financial interests) that the economic activity will generate within the time horizon of the business plan (usually 3-5 years);
- Terminal value, i.e. the value of the company complex at the end of the observed time horizon, obtained by extrapolating the expected results over that period.

The estimated value will correspond to the value of the Company's net asset value (enterprise value). In order to obtain the total market value of the shares (or units), the net financial position must be deducted from the net asset value by the difference between the amount of financial debt and liquid financial assets.

Equity value = Enterprise Value - NFP

In the estimate and forecast, cash flows are affected by variables such as the growth rate of profits, the discount rate to be applied, the time window used and anything else that contributes to the final result.²⁶

Without going into details that may transcend the purpose of this work, below it is provided an example of EV calculation and equity value, based on a stable growth model (assuming that the enterprise, reaching the maturity stage grows at a fixed growth rate g), as identified by Gordon (1956)²⁷:

²⁶ Reference is made to the different ways of estimating the terminal value depending on whether a stable growth pattern is used or a model with multiple growth stages, each dependent on peculiar growth rates for the period considered. As far as the discount rate of cash flows is concerned, consider the difference in the use of WACC (with the direct EV calculation) or alternatively in the use of the cost of equity, to be used if it is estimate the cash flows available to the shareholder (in this case the calculation will provide us with the estimate of the value of the assets).

²⁷ Gordon, Shapiro: Capital Equipment Analisis. The required rate of profit, Management Science, October 1956.

$$EV = \sum_{t=0}^T \frac{FCFO_t}{(1 + WACC)^t} + \frac{\frac{FCFO_{t+1}}{(WACC - g)}}{(1 + WACC)^t}$$

$$EQUITY\ VALUE = \sum_{t=0}^T \frac{FCFE_t}{(1 + K_e)^t} + \frac{\frac{FCFE_{t+1}}{(K_e - g)}}{(1 + K_e)^t}$$

❖ The multiples method

This is a "relative" assessment method, often used to control the robustness of the main evaluation techniques based on "absolute" values. Within the vast category of multiples, we can distinguish between multiples of risk capital (based on equity value) and multiples of enterprise value (based on the EV).²⁸ Below are some examples of the main multiples used in practice:

²⁸ For further considerations refer to: Damodaran, *Valutazione delle aziende*, edizioni Apogeo (2006)

Table 2.1: Equity Value Multiples

Multiple	Definition	Advantages	Disadvantages
P/E ratio	<ul style="list-style-type: none"> □ Share price / Earnings per share (EPS) EPS is net income/weighted average no of shares in issue □ EPS may be adjusted to eliminate exceptional items (core EPS) and/or outstanding dilutive elements (fully diluted EPS) 	<ul style="list-style-type: none"> □ Most commonly used equity multiple □ Data availability is high 	<ul style="list-style-type: none"> □ EPS can be subject to differences in accounting policies and manipulation □ Unless adjusted, can be subject to one-off exceptional items □ Cannot be used if earnings are negative
Price / cash earnings	<ul style="list-style-type: none"> □ Share price / earnings per share plus depreciation amortization and changes in non-cash provisions. 	<ul style="list-style-type: none"> □ Cash earnings are a rough measure of cash flow □ Unaffected by differences in accounting for depreciation 	<ul style="list-style-type: none"> □ Incomplete treatment of cash flow □ Usually used as a supplement to other measures if accounting differences are material
Price / book ratio	<ul style="list-style-type: none"> □ Share price / book value per share. 	<ul style="list-style-type: none"> □ Can be useful where assets are a core driver of earnings such as capital- intensive industries □ Most widely used in valuing financial companies, such as banks, which rely on a large asset base to generate profits 	<ul style="list-style-type: none"> □ Book values for tangible assets are stated at historical cost, which is not a reliable indicator of economic value □ Book value for tangible assets can be significantly impacted by differences in accounting policies
PEG ratio	<ul style="list-style-type: none"> □ Prospective PE ratio / prospective average earnings growth. 	<ul style="list-style-type: none"> □ Most suitable when valuing high growth companies 	<ul style="list-style-type: none"> □ Requires credible forecasts of growth □ Can understate the higher risk associated with many high-growth stocks
Dividend yield	<ul style="list-style-type: none"> □ Dividend per share / share price. 	<ul style="list-style-type: none"> □ Useful for comparing cash returns with types of investments □ Can be used to establish a floor price for a stock 	<ul style="list-style-type: none"> □ Dependent on distribution policy of the company □ Yield to investor is subject to differences in taxation between jurisdictions □ Assumes the dividend is sustainable
Price / Sales	<ul style="list-style-type: none"> □ Share price / sales per share. 	<ul style="list-style-type: none"> □ Easy to calculate □ Can be applied to loss making firms □ Less susceptible to accounting differences than other measures 	<ul style="list-style-type: none"> □ Mismatch between nominator and denominator in formula (EV/Sales is a more appropriate measure) □ Not used except in very broad, quick approximations

Table 2.2: Enterprise Value Multiples

Multiple	Definition	Advantages	Disadvantages
EV/Sales	<ul style="list-style-type: none"> Enterprise value / net sales 	<ul style="list-style-type: none"> Least susceptible to accounting differences Remains applicable even when earnings are negative or highly cyclical 	<ul style="list-style-type: none"> A crude measure as sales are rarely a direct value driver
EV/EBITDAR	<ul style="list-style-type: none"> Enterprise value / Earnings before Interest, Tax, Depreciation & Amortization and Rental Costs 	<ul style="list-style-type: none"> Proxy for operating free cash flows Attempts to normalize capital intensity between companies that choose to rent rather than own core assets Most often used in the transport and retail industries 	<ul style="list-style-type: none"> Rental costs may not be reported and need to be estimated Ignores variations in capital expenditure and depreciation Ignores value creation through tax management
EV/EBITDA	<ul style="list-style-type: none"> Enterprise value / Earnings before Interest, Tax, Depreciation & Amortization. Also excludes movements in non-cash provisions and exceptional items 	<ul style="list-style-type: none"> EBITDA is a proxy for free cash flows Probably the most popular of the EV based multiples Unaffected by depreciation policy 	<ul style="list-style-type: none"> Ignores variations in capital expenditure and depreciation Ignores potential value creation through tax management
EV/EBIT and EV/EBITA	<ul style="list-style-type: none"> Enterprise value / Earnings before interest and taxes (and Amortisation) 	<ul style="list-style-type: none"> Better allows for differences in capital intensiveness compared to EBITDA by incorporating maintenance capital expenditure 	<ul style="list-style-type: none"> Susceptible to differences in depreciation policy Ignores potential value creation through tax management
EV/NOPLAT	<ul style="list-style-type: none"> Enterprise value / Net Operating Profit After Adjusted Tax 	<ul style="list-style-type: none"> NOPLAT incorporates a number of adjustments to better reflect operating profitability 	<ul style="list-style-type: none"> NOPLAT adjustments can be complicated and are not applied consistently by different analysts
EV/opFCF	<ul style="list-style-type: none"> Enterprise value / Operating Free Cash Flow OpFCF is core EBITDA less estimated normative capital expenditure requirement and estimated normative variation in working capital requirement 	<ul style="list-style-type: none"> Better allows for differences in capital intensiveness compared to EBITDA Less susceptible to account differences than EBIT 	<ul style="list-style-type: none"> Introduces additional subjectivity in estimates of capital expenditure
EV/Enterprise FCF	<ul style="list-style-type: none"> Enterprise value / Free cash flow Enterprise FCF is core EBITDA less actual capital expenditure requirement and actual increase in working capital requirement 	<ul style="list-style-type: none"> Less subjective than opFCF Better allows for differences in capital intensiveness compared to EBITDA Less susceptible to account differences than EBIT 	<ul style="list-style-type: none"> Can be volatile and difficult to interpret as capital expenditure is often irregular and “lumpy”
EV/Invested Capital	<ul style="list-style-type: none"> Enterprise value / Invested capital 	<ul style="list-style-type: none"> Can be useful where assets are a core driver of earnings, such as for capital-intensive industries 	<ul style="list-style-type: none"> Book values for tangible assets are stated at historical cost, which is not a reliable indicator of economic value

It is important to note that the use of multiples should be included in a valuation process that guarantees a causal link between the price and the parameter considered. That link can be derived on the basis of an "absolute" valuation formula: the value of the enterprise varies with the economic variable chosen as a performance parameter. It is also necessary that the multiple demonstrates a fairly stability over time, coupled with the presence of elements capable of explaining differences in their values with reference to similar, or at least comparable, companies.

Calculations may be done on the basis of:

- Current multiples, calculated on the basis of the data available in the last financial statements,
- Leading multiples, calculated on the basis of the following year's estimates,
- Trailing multiples, obtained by looking at the balance sheet results of the previous twelve months.

The multiples that have been briefly listed above, are more generally classified as trading multiples, i.e. multiples extracted directly from the financial statements of companies operating on the market (referred to publicly traded companies).

For the purposes of our work, the so-called *transaction multiples* are more relevant: they are multiples derived directly from the analysis of M&A transactions. For example, if company A acquires control of company B for five billion euros, and company B has sales in the budget of ten million euros, then the multiple associated with this transaction (EV/Sales) will be equal to 0.5x. A multiplicity of transactions is therefore a typical metric to be used when, at the time of the acquisition, the objective is to evaluate a target company on the basis of the previously observed transactions on the market, with comparable undertakings (i.e. for similar asset size, same industry, and business similarity).

The underlying idea behind this methodology is that, looking at a group of companies similar to the target, also with reference to the price at which the transactions took place, it is possible to normalize the valuation of the specific target to the results of the past transactions.²⁹

The analysis of previous transactions is also included in the comparative analysis, and is known for its functionality for analyzing an M&A transaction, also because it is based on data and information publicly available. Certainly there are limits to the use of multiples based on previous transactions. Often the purchase premium is to be eliminated from the calculation by subtracting from the calculation of the multiple. Moreover, the data available on past transactions may not be sufficiently detailed, and a more or less level of approximation may be necessary.

Below, it is a brief list of the various phases of an evaluation process, based on the previous transactions:

- Compile a full list of companies operating in similar industries and/or with similar assets magnitude;
- Filter the list up to a range of 5-10 transactions, preferably involving companies with similar sources of earnings, market capitalization, industry and geographic location;
- Decide the multiple to be used. The most commonly used are forward or trailing EV/Revenue or EV/EBITDA;
- Calculate the average of the analyzed multiples, and the value of the multiple relative to our company;
- Apply the average obtained to our reference company to get an idea of sustainability and feasibility of the transaction.

2.4 The price-making process

The result of the process of estimating a company's value and the price actually paid to the company may be different, as the nature of the two sizes is different. In fact, the estimation of the value is the result of a theoretical process focused on the identification of the objective

²⁹ For more references, see: <http://www.wallstreetoasis.com/finance-dictionary/what-is-comparable-analysis>

value of the economic capital of the company in question. While the price is the result of a negotiating process subject to the market supply-demand law.

Therefore, it is impossible to identify ex ante the purchase price in an acquisition. Another reason why this gap exists is that, in terms of value, we can refer to the stand alone value, i.e. the value of the company as an independent entity, while the acquisition value is understood as a value in the perspective of a specific buyer. This means that it takes into account the benefits that the acquired company can generate in its economic sphere, such as the expected results.

Thus, in the price determination phase, there is usually a range of possibilities, within which buyer and seller try to find an agreement (Salvi, 2012). The buyer should set a price limit beyond which he should not go because, in that case, excessive and unjustified transfer of wealth from the purchaser to the seller would occur. In particular, the seller would receive not only an amount equal to the additional value created through the acquisition, but it would even benefit from a further prize. (Zanetti, 2001).

The acquisition purpose, as previously said, is creating value. This happens if:

$$W(A + B) > W(A) + W(B)$$

where: $W(A + B)$ represents the value of the new corporate entity; $W(A)$ represents the buyer's value in the absence of the acquirer, bidder's stand-alone value; $W(B)$ represents the value of the target enterprise, the stand-alone value of the target.

Hence, it is possible to understand that the merger of the two companies involved, bidder and target, determines a higher value than the simple sum of the stand alone values of the two (Zanetti, 2001).

In conclusion, it is possible to say that the price paid, usually, lies between the stand alone value and the acquisition value (convenience principle), that is:
stand alone value + an additional value

The additional value, or subjective value, includes factors such as:

- the value of the synergies achievable following the acquisition;
- the value of risk differentials;
- cash flows;
- value deriving from the opportunities that can be created following the acquisition.

The higher the added value, the greater the value of the target for a particular buyer. As a consequence, the objective value will be the same for each type of buyer, while the additional component will depend on the subject, based on the evaluations it will make, and on the synergies it considers most interesting. Price determination is the function of numerous subjective and objective factors involved in negotiating.

Price fixing is one of the final elements, resulting from a subjective assessment of the investment. Of course, it is affected by the negotiation ability of the parties (Salvi, 2012).

2.5 The achievable synergies.

In the course of the evaluation process, one can not fail to address the problem of synergies, as it is rare that the acquisition does not involve the realization of synergies (Conca, 2010). By definition, synergies are uncertain as they have a future manifestation (Rossi, 1999).

In the buyer's view, the analysis is particularly delicate. In fact, any over-estimation errors could induce the buyer to offer a higher price than the actual value. On the contrary, the seller will assume an opposite behavior, as it will try to highlight all the synergies in order to come up with the highest possible price. Though, without knowing directly the buyer's goals and strategies, he will not be able to quantify them, and will be forced to proceed with hypothesis. But beyond the obvious negotiating tactics, the seller may find himself in a state of overestimating his business also for affective reasons, especially in small-medium businesses (Marangoni, 2000).

It is important, however, to point out that synergistic effects concern only certain types of buyers, such as industrial buyers. In the opposite, a financial investor would be less interested in the synergistic effects. For this reason, it is common that the financial investor, with no additional benefits, is obliged to offer a lower price. Therefore, it is usually stated that they buy "at discount".

To analyze synergies, it is good to evaluate some critical points, such as:

- identify the achievable synergies;
- estimate the times and conditions of implementation;
- determine the effects on the economy and the consequences on cash flows;
- establish the payback period, and the maximum period beyond which no action is to be taken;
- assess the degree of risk associated with any synergic hypothesis;
- consider the impact at strategic level.

Experience teaches that, in addition to the need to make good use of opportunities, with a proactive attitude, we must not underestimate the problems that may arise in the future. In fact, there may be risks and traps. We must therefore consider a limited number of synergistic effects, give priority to the most relevant variables, avoid assessing overlapping synergistic effects, proceed with precautionary hypotheses on the level of benefits to be achieved, and evaluate the investments and actions needed to achieve synergic hypotheses (Conca, 2010).

The main types of synergies are:

- operational synergies;
- financial synergies;

Operational synergies affect the formation of economies of scale, higher pricing power, the combination of different functional areas and the greater growth in new or existing markets. This kind of synergies may have effects on margins, returns, growth and, through these elements, the value of the company involved in the merger or acquisition operation.

Financial synergies affect factors such as debt capability, tax benefit utilization, diversification and cash slack. For the sake of completeness, we only recall the usual sources of financial synergies: better use of excess liquidity, greater tax benefits arising from the use of past losses and higher tax deductions, increased debt capability, and hence the value of the company.

Theoretically, there is a potential for developing synergies in each acquisition operation. First of all, it is good to ask what forms these synergies are expected to take. Will they reduce the incidence of costs on revenues and increase the duration of the growth period? Moreover, synergies in order to have a value effect must be able to influence one of the four inputs of the valuation process: they must generate incremental cash flows from existing assets, higher growth rates, lengthy growth periods or lower cost of capital.

Another question to ask is the timing of these cash flow effects: seldom synergies have instantaneous consequences, and since the value of the synergies is the present value of the cash flows generated by them, the longer the time it takes for them to show, the less the value.

The quantitative assessment of synergistic effects is one of the themes on which the probability of success of an acquisition often depends. In fact, an error in the price estimate can be a problem in terms of adequate financial return.

Evaluation takes place in two separate phases (Conca, 2010):

- 1) Preliminary phase. Studying an acquisition project from the outside, using only public information and direct knowledge of the industry and the target. This is the typical case of hostile acquisitions;
- 2) The next step, when the bidder has access to detail information and to due diligence, as in the case of friendly acquisitions.

2.6 The negotiation phase

Once analyzed, through the prior strategic analysis, the market context in which to operate and the range of interesting targets for an M&A transaction, the third step begins: the negotiation phase between the parties.

At this stage, the management's contribution has a residual value compared to the previous stages: there are rare situations in which the negotiation phase is handled solely by internal staff within the company. The role of management is anchored to support, to supply information (to facilitate dialogue between counterparties) and rarely to the actual

development of the process³⁰. Negotiation can not ignore the relationship between the contractors, and the presence of a mutual utility to the realization of the deal.

A peculiar case is when bidder and target are competitors in the same industrial sector: the beginning of the negotiations can develop under psychological susceptibility, especially considering the market shares held by each of them. This, can potentially stimulate the final conditions of exchange based on a substantial iniquity. High competition among competitors can raise barriers between the parties, discouraging the potential buyer from making a purchase offer, even in condition of mutual convenience (this may occur if the target shareholders are unlikely to dilute or sell its assets in the company to the buyer).

Usually, external consulting firms, which identify potential candidates, are given the task of starting the contacts with the most attractive of them. The alternative to this mechanism may consist of identifying privileged interlocutors and people who, for various reasons, enjoy the trust of management, and target's and acquirer's shareholders. Once the first contacts are started, the selected targets are further filtered along with the first contacts triggered in the bargaining phase.

The factors to be considered at this stage are mostly about the realistically synergies that can be obtained, the evaluation of the real probability of reaching an agreement, the probable price estimate, as well as the critical aspects to overcome, also looking to the post-acquisition (integration) phase.

With the advancement of the merger/acquisition project, the counterparty relationship is further formalized through the confidentiality agreement³¹. In this way, the state of progress of the negotiation is more clearly explicated, along with a formal framing of the operation, without prematurely entering into the definition of the operational details.

The confidentiality agreement has the task of pointing and illustrating some of the most sensitive variables in the acquisition process, among which:

³⁰ T.Ubertazzi, *Il processo di acquisizione di imprese*, Padova, CEDAM, 2008, p. 175

³¹ For more details: http://www.investopedia.com/terms/c/confidentiality_agreement.asp

- 1) Standstill agreements: the parties agree not to enter into negotiations with third parties for a certain period of time;
- 2) Issues related to insider trading, which may be particularly damaging if the target company is listed on the Stock Exchange;
- 3) The obligation of exclusivity, that is: the seller's obligation not to proceed to other negotiations for a period of time defined a priori.

Part of the elements listed above can be argued within the so-called letter of intents³². It represents a guideline to handle negotiation effectively, without going into too many details. For example, it may indicate:

- Contracting parties;
- Object of the transaction;
- Purchase price;
- Payment methods;
- Any additional remuneration arrangements;
- Issuance of warranties on the state of the company by the seller, as well as a first discussion on the post-acquisition management.

In the event that the first move comes from the seller, most of the times is the advisor to receive a sales mandate for the sale of the business. If the scanning of the initiatives to be taken is well-defined, and there are no particular problems in combining the expectations and prospects of target and acquirer, the M&A process can last even less than the ten/twelve months usually necessary.

It is now worthwhile to dwell on what is, perhaps, the most quantitative and qualitative part of the process of acquisition: the so-called due diligence³³. Usually, this phase involves a series of cognitive investigations needed to analyze the current state of the company's interest

³² Defined, by Italian jurisprudence as an "atypical" legal contract, as it is a contract not specifically disciplined. It can be defined in all respects as a pre-contractual document, tendentially not binding to the parties.

³³ In general terms, this is a cognitive analysis of the company subject to an M&A transaction, commissioned by one of the parties and carried out by its consultants (different from the advisor).

and its future potential, the identification of implicit liabilities and potential risks and the identification and definition of contractual guarantees to be negotiated.

Without focusing too much on the details, below is a list of the areas of analysis of the due diligence process:

- Market and industry: product analysis, market share, competitive positioning, industrial processes and production costs, research and development costs.
- Economic-financial: verification of management and accounting data, analysis of historical and prospective assets and liabilities, business plan sensitivity analysis, analysis of the process of cash flow generation and sustainability over time (etc.)
- Legal: examination of the contracts and definition of the attached guarantees, analysis of any litigation in progress (etc.)
- Tax: verification of the tax situation, presence of potential tax liabilities and analysis of the tax impacts of the M&A transaction;
- Environmental: analysis of compliance with current legislation, analysis of internal procedures foreseen by law (etc.)
- Human resources: in particular analysis of the legal, organizational and personnel aspects of employment;
- Business information system: analysis of the efficiency and effectiveness of the company information system used (etc.)

The due diligence analysis can therefore provide a thorough insight about the state of health of a specific company, to assist counterparties in carrying out a legally valid negotiation, basing on objectively verified information. The due diligence activity is therefore aimed at understanding the actual desirability of the M&A transaction. Secondly, it has the goal of verifying if the offered price finds actual results in the company's historical and present records, and whether the prospects of development that are usually incorporated in the business plan are reliable.

The following is an exemplifying scheme of the main negotiation phases of M&A, starting from the selection of the most interesting targets, until the final acquisition /merger agreement is finalized and formalized:

Phase 1 Selection of target companies

Phase 2 Financial-Economic evaluation

Phase 3 Skimming of candidates and advancement of negotiations

Phase 4 Possible confidentiality agreement (looking for a deal with target shareholders maybe looking for sustainable exit strategies)

Phase 5 Evaluation of any antitrust enforcement (along with the geographic area of membership)

Phase 6 Conclusion and formalization of the agreement

2.7 Ex-post integration

The latest macro-phase of the acquisition process concerns the ex-post integration. This phase takes place after the formal termination of the contract, with particular goals associated, that distinguish it from the previous phases. Although many investors have been neglecting this phase at the time of pre-acquisition planning, this is the most critical stage of the whole process and aims to achieve a harmonious coexistence between the two realities that merge (Cortesi, 2000).

Integration is an interactive and gradual process where individuals and organizations learn to work together and collaborate in transferring strategic skills and capacity for value creation (Cortesi, 2008). The real challenge is to create a favorable atmosphere for such transfer, limiting the problems that may arise (Zollo, 1998).

This phase only occurs when integration between old and new companies is needed, or in operations aimed at combining the two business units for synergies. The goal is to achieve benefits through a joint work between the two companies. An example where integration does not take place is those acquisitions whose objective is to acquire capital ownership. In those cases, a complete management autonomy is maintained.

It's not always easy and straightforward to make integration, especially when partners have very different cultures and management styles. This phase therefore represents the "moment of truth", in which both the feasibility of the initial strategic project and the management's ability to manage the situation and achieve the expected results are measured (Conca, 2010).

Therefore, it is not a simple exchange of resources and skills, but something that affects the processes and behavior of the two companies. Even in the specific case of acquisitions, as well as in mergers, this process does not only concern the merger of the acquired company with the characteristics of the acquirer. It requires particular attention from both parties to their respective potentialities. The aim is to create a new common reality able to benefit from the strengths of both units (Cortesi, 2008).

Among the various reasons that motivate the push to integrate, it is worth remembering that only at this stage, the enterprise can make that change, often pursued and never captured. The acquisition becomes thus an irreparable change management tool, which follows a logic of immediate change opportunity.

As mentioned above, the main purpose of the acquisition process is to be able to exploit the potential value in the company to be acquired. The increase in the stock market prices of the company subject to acquisitions depends on the weather the market expects an improvement in performance, and consequently an improvement in the value of the shares. This can be motivated by the action of new management, new strategies and/or new opportunities that were not exploited previously.

The underlying logic behind the acquisitions is identified in "... thinking of the best way to enhance and make the company's assets more valuable"³⁴ (Conca, 2010).

The integration process is multi level³⁵ (Cortesi, 2008):

- the integration of procedures, which is achieved through the combination of accounting systems and the creation of a single legal entity. It is the first and simplest level of integration;

³⁴ G.E. Osculati, «Strapagare è pericoloso», *Milano Finanza*, 30 ottobre 1999.

³⁵ P. Shrivastava, «Postmerger integration», *Journal of business Strategy*, 1986

- the integration of resources, affecting tangible goods, product lines, production systems and technologies;
- managerial and cultural integration, which represents the most critical and difficult level to achieve. It consists in blending together different cultures and management visions.

Resources and competencies are the core elements of the corporate system. Their transfer or sharing is fundamental to the success of a merger or acquisition process. Corporate resources, intended as productive factors at the disposal of the enterprise, can be divided into: tangible resources (financial resources such as debt capability and self-financing capacity and physical resources such as size, location, flexibility, plants and raw materials); intangible resources (such as resources related to technology, reputation and business culture) and human resources (such as skills, knowledge, experience, analysis and decision-making skills).

As regards with competencies, defined as the ability of the enterprise to combine and employ its resources through organizational processes and cultural mechanisms, they can be divided into specialized skills (technological-productive skills, function skills, process skills) and general skills (external, internal, incremental and radical integration).

Referring to skills and resources, it is important to understand how these are transferred and/or shared in the integration process. In fact, there may be a transfer of competences from one enterprise to another, a sharing of resources and competencies between the two companies, or there is a third possibility where there is no passage, but a logic of developing new strategic capabilities. This last case, will still be the result of existing capabilities. In this, not only is there a dimensional growth but also a growth in terms of learning. Transfers and strategic capability sharing, if properly managed, should lead to the creation of synergies (Cortesi, 2008).

The realization of synergies, however, represents a process that involves long implementation times. According to a research carried out on the success of acquisitions, it is noted that on average, the time needed to achieve a satisfactory integration is at least two years. In order

for the integration phase to proceed appropriately, it is therefore necessary to accurately plan the timing and the modes.

Good planning of the integration process can anticipate potential problems, develop greater awareness of the scope of the operation, and decrease the chances of failure.

It is important to consider:

- the definition of integration needs;
- planning the integration process in phases, times and actors;
- Prepare ad-hoc structures for process management.

In order to have a general picture, once having examined the resources and skills, it has to be considered the personal body of the companies involved.

A good integration, in fact, has to create a positive atmosphere among the subjects belonging to different organizations and cultures. This, will enable the realization of the sought synergies. Very often, there is the presence of the merger syndrome phenomenon. It refers to the stress, anxiety and impotence of employees during the acquisition operations. They expect the worst because of the fear and the uncertainty of a good outcome of the operation (Cortesi, 2008).

2.7.1 Problems that may arise during the integration phase

The story of many acquisitions teaches that the benefits anticipated in the pre-acquisition phase have shown practical translation limits in times and levels hypothesized. This can be justified by a strategic vision error and by management's inefficiency. Some managers, who have managed acquisition processes, state that the problems caused by integration have been the most disadvantageous aspect due to the difficulties, the uncertainties, the time and energy dispersion, the risks and the pitfalls of the process.

A frequent recurring error is to focus attention on integration problems only at a stage after the acquisition, as if synergies could be achieved automatically once acquired a particular company (Conca, 2010).

But what problems may occur during the integration phase? It is not always the way things are going, but there may be some obstacles that, at best, can be solved with iterations and adjustments and, in the worst case, can lead to the failure of the operation.

The main problems can be:

- determinism, or the tendency to remain anchored to the original justification for a concentration operation that reveals a different reality. The mistake lies in not adapting the initial justification to the new context that came into being;
- value destruction for employees and managers as a result of merger & acquisition transactions;
- lack of a leadership capable of explaining and motivating the members of the organizations the end of the operation, with the aim of creating a unified vision of the two companies.

As mentioned above, many acquisitions have failed because proper integration has not been carried out. A major problem that may arise is the replacement of executives. In most cases, it is useful to keep in the new entity created the managers of both companies, buyer and acquired, avoiding a management change. This is crucial because managers have a real knowledge of their company. They have experience and relationships with the stakeholders, so the appointment of new managers would certainly not contribute to the creation of value (Krug Jeffrey et al., 2011). In some cases, it is crucial for the success of an M&A operation to hold the target business managers (Dumbar et al., 2014).

Other problems that may arise during the integration phase may be (Conca, 1993):

- cultural and organizational integration;
- the generation of consensus;
- the transferability of resources and skills;
- the adaptation and response time.

Concerning cultural and organizational integration, there may be a variety of critical areas to be addressed, considered the real barriers that hinder the integration process. These can be

divided into primary barriers, or cultural types, and secondary barriers, which depend on patterns of people's behavior and internal organizational procedures.

Corporate culture represents the set of values, ideas, behaviors and habits that are the cornerstone of thinking and decision making. Thus, it characterizes the *modus operandi*. It is evident that different business cultures involve different relationship models with the economic environment and the competitive system.

The cultural problems are added to the constraints of behavioral nature, i.e. habits, which can vary from enterprise to enterprise. For example, think of a domestic company and a multinational company. They will certainly have behaviors, ways of thinking and working, completely different.

With regard to the consensus generation, it must be avoided to impose situations that prove to be in the long run ineffective. Rather, it should be aimed for adequate communication in order to clarify the objectives of the operation, illustrate the phases of the integration process and identify the areas and the people most involved. This is to reduce the uncertainty, avoid distorted information circulation and motivate people involved.

The transferability of resources and competencies occurs when the acquired company does not completely retain its strategic and operational autonomy. We can talk about hard resources, such as technologies, patents, etc., or soft resources, such as organizational skills, teamwork skills, and so on.

Finally, with regard to the adaptation and response times, the main objective will be to contain the time when the new integrated structure can start to operate. To do this, it is necessary to be clear about the tasks to be done, the responsibilities and the will to motivate and stimulate the team involved in the process. This is the only way to minimize the time (Conca, 2010).

2.8 Financing of acquisitions

Very often financing problems tend to be underestimated, resulting in unexpected consequences. Instead, it is necessary to thoroughly analyze the financial viability of the

project. Financially, acquisition decisions can be assimilated to an investment process. Accordingly, it should follow the normal analysis and evaluation rules to which these projects are subject.

The feasibility of an operation may be linked to the buyer's ability to use external financing sources to cover any financial needs of the transaction. In alternative, if the buyer does not have the own resources to complete the transaction, he must resort to debt.

It is not always easy to obtain the necessary coverage. In fact, there may be cases where the possibility of obtaining cover falls. This implies the abandonment of the project, regardless of its strategic importance. In addition, an optimal financing structure can be the lever to support the process of value creation. For an industrial buyer, the use of the debt can be functional both to the acquisition and to the process of integration of the target company. For a financial investor instead, this instrument is one of the major driver for maximizing the return on an investment. Therefore, for a financial buyer, it can affect the price of a transaction.

In the recent years, from 2008 onwards, there has been an inferior use of debt compared to the past. In 2010, the average value reached about 4.5 times the EBITDA, while in the previous years it reached 6 times the EBITDA (Salvi, 2012).

Financial needs originate in two distinct moments:

- at the closing, to cover the requirements linked to the agreed price (direct requirement);
- at a later stage, to manage the integration between the two companies (indirect requirement).

Below are some features of the financial requirements arising from the acquisitions:

- the financial need generated by the acquisitions is often of significant importance in relation to the size of the acquirer;
- it manifests mainly at the closing. Therefore, it is concentrated in time;
- the coverage methods affect the financial structure of the acquirer;

- the hedging arrangements must be assessed in light of medium to long-term financial plans;
- the hedging arrangements require the maintenance of an adequate margin of maneuver for future financial transactions;
- financing of acquisitions is often carried out with non-ordinary instruments (commercial banks are replaced by merchant banks).

In conclusion, it is important to plan the amount of financial needs from the early stage of the operation, based on the successive moments in which the outputs are manifested. The identification of the time sequence of needs, allows the programming of the most appropriate forms of coverage, using both equity and debt (Conca, 2010).

2.8.1 Financing Methods

The conditions under which acquisitions are financed may alter the financial balance of the acquisition at the post closing stage. This demonstrates that investments and financing represent related decisions, that affect one the other.

In the case of acquisitions, the choices regarding the coverage of needs are influenced by a number of factors, including:

- the amount of funding;
- the reputation of the buyer in the market;
- the buyer's financial solidity;
- the consensus expressed by the market on the operation as a whole.

For what concerned the feasibility, we have to assess whether market conditions are eligible for funding. There are moments where the level of liquidity in the financial market tends to favor the use of certain sources, rather than others.

Finally, the financial flexibility profile is not only useful to evaluate the convenience of the operation in the short term, but also to assess whether the option would influence future

financial decisions. This is necessary, since a choice that is considered optimal today, may not be the same in later times.

Working in a flexible way means leaving ample margins of financial maneuver. Financing alternatives, which can be combined depending on the amount of funding and the conditions of the financial structure, are:

1. self-financing;
2. debt;
3. equity;
4. hybrid instruments.

Self-financing is the use of financial resources internally available. This type of financing is the most traditional form. Though, it allows sometimes, only partial coverage. Rapidity of access and confidentiality, since it does not require information on the nature of the transaction, are the features that make it a privileged and strategic form of financing. A major drawback, is that it is economically less convenient than other alternatives.

Self-financing plays a central role in financial policy. For this reason, in many companies the size of the liquidity reserve falls within the objectives of the financial management. The ability to immediately have a significant amount of liquidity, allows managers to capture market opportunities, through a short-term acquisition exploiting the available resources. This can psychologically affect the seller, placing it in a submission mode to the buyer (Conca, 2010).

The use of debt is a traditional form of covering the needs of the acquisition. Due to the increasing level of financial needs, there is usually the presence of at least a partial debt financing. Financing can take place through different modes and channels, which involve specific management features and problems. One can opt for technical tools negotiated through financial intermediaries, or for financial transactions that pass through the regulated market.

In the recurring of debt financing, it is crucial to seek out a financial partner who takes on the characteristics of the sponsor. The most common banking funding instruments fall into the category of senior debt, i.e. privileged debts, accompanied by real or personal collateral. The most common technical forms are medium to long-term debts such as mortgages, stand-by credit and evergreen credit. Among the short term credit, ordinary bank lending is the most common (Conca, 2010).

The case of equity financing, will deal with an increase in capital. The issuance of new shares is aimed at obtaining the resources necessary for the payment, in whole or in part, of the operation. The role of the equity component is crucial for financial and psychological reflections. In fact, on the one side it exacerbates part of the risk on the shareholders and on the other it increases the credibility of the project. For this reason, it is common to recur to equity financing.

The issuance of new shares differs according to:

- type of stock issued;
- nature of the issuer;
- target market to which the issuance is addressed.

Regarding the target parties of the shares issuance, there will be old and new shareholders. Often, the alternative is only theoretical because the old shareholders are unable to invest additional liquid assets. Therefore, it becomes mandatory to resort to new shareholders. New shareholders may be: private equity funds, venture capitalists, business angels and private shareholders (Conca, 2010).

For what concerns the hybrid instruments, they are tools introduced in recent times. Those are new types of highly flexible options that are not fully recaptured neither into the form of debt or equity. They are highly flexible, as they capture the benefits of the various existing alternatives trying to limit their weaknesses.

Hybrid instruments include:

- mezzanine debt,

- convertible bonds and warrants,
- securitization,
- sale/leaseback (Conca, 2010).

2.9 Type of payment in M&A transactions

First of all, it is worth pointing out that payment terms apply primarily to acquisition operations. Though, some, such as payment in securities, are also valid for mergers.

According to some authors, it is possible to address the problem by representing the various forms of payment in descending order with respect to the simplest and most immediate alternative. The type of payment established at the closing stage, must be regulated under the contract of sale (Conca, 2010).

The table below illustrates, in addition to the various types of payment offered by the buyer, what the shareholder of the acquired company perceives as a result of the acquisition.

Table 2.1: Method of payment

Conditions offered by the Acquirer	What target shareholders receive
Cash	Liquidity in exchange for stock, distributed in one or more tranches
Earn-out	Liquidity in exchange for stock, in multiple tranches, deferred over time in relation to certain performance criteria
Stocks	An amount of buyer's shares for each share held, determined on the basis of a pre defined exchange ratio
Vendor placing	An amount of buyer's shares for each share held determined on the basis of an exchange ratio, that is then sold to an institutional investor in exchange for cash
Bonds	An amount of bonds issued by the acquirer for each share held, determined on the basis of a pre defined exchange ratio
Convertible bonds, warrants, preferred stocks	An amount of convertible bonds, warrants or preferred shares issued by the acquirer for each share held, determined on the basis of an exchange ratio and convertible into ordinary shares under specified conditions

P.S. Sudarsanam, The Essence of M&A, Londra, Prentice-Hall, 1995

There may be different payment methods. These, are used in relation to the modalities and the timing of the price clearance. It is important to consider that the price can sometimes be articulated. So, it is helpful to have the option to extend the payment, or use additional price mechanisms. An example is the earn-out clauses. In the application of these mechanisms, the

price may often take a double composition. This may be made up of a fixed part, that can be liquidated at the conclusion of the transaction, and on a variable part, which can assume different configurations depending on the future business trend (Salvi, 2012).

❖ The Earn-out clause

The earn-out is a system of contractual clauses whose purpose is to reduce the risk of the acquired company, that may translate to the buyer. These are defined as "payment in multiple tranches". Their historical origins date back to the nineties, when there were more difficulties in assessing the future performance of technological societies. Failure to agree on the price, uncertainty about the future of a company and its integration with the buyer, prompts the latter to propose to the seller a mixed payment: *fixed component*, and one subject to certain conditions (*variable component*). The fixed part of the payment for the acquired company is paid for the completion of the acquisition, the so-called *closing* of the transaction.

However, the variable part is paid within a predetermined period. This period, may vary based on the performance of the acquired company. Very often, the target company's management remains constrained for a certain period, to favor the integration of the two companies. During this time, the variable part constitutes a kind of reward for this aid to the integration of the target with the buyer company.

This clause protects the acquirer from a widespread risk in mergers and acquisitions: the risk associated with the collapse of the value of the sold company. In fact, this value often results lower than the one estimated at the time of the negotiation.

This kind of insurance on the company's future performance, and the incentive to realize certain performance have assimilated the earn-out mechanisms to the stock option. The latter, as is well-known, consists of allocating a variable number of shares of one company to its managers based on certain goals achieved in a certain time span (Borsa Italiana, 2011)

In recent years, the dynamics of the acquisition market have been altered along with the evolution of the economic players involved in the process. In addition to the cash payment, the simplest form, there are now available more articulated forms of payment. Examples are:

- exchange of shares;
- exchange of shares against bonds.

The classical literature made two important hypotheses in relation to the payment method of an acquisition. In fact, it emerged that:

Financing an operation by shares, if on the one hand can be a good means of keeping the target company's shareholders in the company resulting from the union, on the other hand launches to the markets the signal that the bidder's shares are overestimated. Target company shareholders will prefer this option if there are growth prospects. Otherwise, they will prefer cash payment.

Financing an operation by cash instead, reduces agency costs related to the future cash flows of the emerging venture, but expel the shareholders of the target company from the new entity. In this latter case, a replacement of the old management structure is generated. Buyers will often prefer this form of payment because this does not change the composition of the share capital.

If the counterparties opt for a cash payment, target shareholders receive a finite price. This means that, if the transaction lead to higher synergies than expected, on which the price had been defined, the shareholders of the transferor would not participate to the distribution of the higher value created.

From the theoretical and empirical literature, it has emerged that some factors such as equity performance, buyer availability of liquidity and uncertainty about the value of the acquired company, can significantly affect the choice of the payment method. On the other hand, it is rather limited the study on the correlation between the payment method and the characteristics of the buyer's financial structure (Ossorio, 2011).

In the next chapter, it will be presented an overview of the Industry object of the analysis. We will describe its main characteristics, along with its possible evolution over the next years. According to the author, this is of fundamental importance in order to fully understand the relevance of the phenomenon in study.

3. The Consumer Industry

The consumer industry is very hard to define because of its rather eclectic nature and its close relationship to many other industries. For our purposes it can be described as enveloping practically every item an individual can purchase, especially in the areas of toiletries and cosmetics, appliances, electronics, beverages and food, and other generic household items.

Analysts often divide it into two categories, durable and nondurable. The former includes items with staying power, like home furnishings. The latter includes more ephemeral merchandise, with a life expectancy of fewer than three years, like personal care items.

The consumer products industry is a powerful industry, as it accounts for two-thirds of the volume of trade in the world economy. Due to its close relationship to other industries, the consumer products industry plays an important role in the global economy. It is the source of a significant portion of the gross domestic product (GDP) of many countries, and also acts as a driver for other industries, especially advertising and retail. These last two industries are very important to the consumer products industry as they typically invest in consumer products companies.

The industry is now well-established in the market place, having benefited from substantial growth as a result of the industrial revolution of the mid-19th century in Western Europe and the United States. The revolution made it possible to manufacture many goods in an efficient, cheaper, and consistent manner. This enabled more people to buy more products, ultimately resulting in the creation of an urban middle class that had the means to demand more goods and the time to spend obtaining them. Since then, the consumer products industry has been a major component of every nation's economy.

Since there are many virtually identical products made by any number of companies, success truly depends on savvy marketing to create a brand name that consumers will know and trust. Product differentiation and brand name are the biggest barriers to entry for new firms and the most valuable assets existing companies in this industry have. It is a sink-or-swim industry where each new product launch is a risk, and the competition is fierce.

As a well-established and mature industry, most of the major companies operating within consumer products tend to be well diversified conglomerates, whose many subsidiaries represent multitudes of brand names. The most recognized names are part of a larger multi-

category corporation. These include Sara Lee Corporation, Unilever, Procter & Gamble, Nestle, and S.C. Johnson. Together, they represent thousands of brands on the market. There are also generic brands that produce cheaper “knock-offs” of the conglomerates above. Those companies are numerous and tend to own store and operate locally.

Following are the main product categories found in the Consumer industry. Many companies operate in only one category-especially smaller companies. Others, including many of the “big dogs” of the industry, are *diversified CPG* companies: They make and sell products in multiple categories. Nestlé’s brands, for instance, include products in the food (e.g., Toll House cookies), beverage (Nestea), and pet care (Alpo) categories. In many cases, diversified companies started out by making products in just one category, but diversified over time via mergers and acquisitions.

❖ **Beverages**

Intensely competitive and hugely reliant on advertising, this is a mature industry. Different segments of the beverage world include beer (Adolph Coors, Anheuser-Busch, Miller, Stroh's), soft drinks (Coca-Cola, PepsiCo), and juices (Tropicana is owned by PepsiCo, Minute Maid by Coca-Cola).

❖ **Foods**

There may be a little less consolidation in the food industry than in beverages, but this is also a mature and competitive industry with single-digit growth. Most of the packaged goods that fill our pantries, cupboards, and refrigerators come from a handful of big-league corporate players. Some are household names; Campbell Soup, General Mills, H.J. Heinz, and Kellogg have spent enormous sums of money to tattoo their names onto consumers’ brains. Other big players, such as Conagra (Hunt's, Healthy Choice, and Wesson) are better known for brands they own.

❖ **Toiletries, cosmetics, and cleaning products**

Baby Boomers aren't getting any younger, and vanity will outlast us all. So will household dirt. So this is a solid category for the foreseeable future. At three-and-one-half times the size of its nearest competitor, Procter & Gamble is the Godzilla of this group-and indeed

the consumer products world in general. Other players include Clorox, Colgate-Palmolive, Revlon, Kimberly-Clark (Huggies, Kotex, and Kleenex), Unilever, and S.C. Johnson (Pledge, Glade, and Windex).

❖ **Small appliances**

This is an amalgam of companies in various industries. More people are building and buying homes, and forecasters don't expect the trend to slow. So tools, kitchen gadgets, air-conditioners, chain saws, and anything else Saturday shoppers enjoy pausing over in the hardware store are selling well, and the future looks rosy for this segment of the industry. Nevertheless, this is also a relatively mature industry, and the brand system is not as strong as it is in the other categories mentioned above. Players here include Black & Decker, Sears, and Snap-On.

3.1 Trends:

Recently in the industry, there has been an increasing reliance on technologies. The interactive qualities of the internet and the cost-effective benefits of other technology are increasingly being utilized to help create a closer relationship between consumers and more efficient enterprises. These include:

- Customer relationship management (CRM) applications, programs which collect information about customer behavior, have also seen a rise in importance as companies strive to better understand their target market to increase sales and market presence.
- Radio-frequency identification (RFID), which is used to tag product shipment and gather information used to boost supply chain efficiency. The increased use of this technology is being pushed by the retailers who sell the consumer products.
- Many companies now have interactive websites where consumers can play product based games and purchase goods.

Aside from technology, the consumer products industry has also seen a rising inclination for companies to engage in mergers, acquisitions, or alliances. This is for many reasons including reducing risk when creating new products or expanding into new markets, reaching new demographics, increasing operating efficiencies, reducing capital outlays, or cutting costs.

Recently, with American and European markets becoming increasingly competitive, manufacturers of consumer products are turning towards emerging markets in boom nations like India, China, Russia, Brazil and Turkey. While there are obvious benefits to this, there are also several risks involved with producing internationally. Emerging economies often play by different rules than developed ones, and the governments can be prone to corruption, impeding in the profitability of businesses.

3.2 Future Outlook:

The future of this industry looks bright as demand is likely to increase due to the increasing appetites for commodities in emerging retailing markets, such as those in China, Russia, and India. There are also the well-established markets of Japan, Western Europe, and the United States which maintain a steady demand. Consumers have become accustomed to having these products in their life and may not be able to stop purchasing them for this reason.

The inexpensive, ready-to-assemble home furniture section is a growing segment of the industry, reaching a broader, more mainstream market with the successes of manufactures like IKEA International. Toiletries and cosmetics are also expected to maintain a constant, if not increasing, demand as an aging world population seeks to look younger. Prices for commodities that are used to produce these goods have also fallen recently, further increasing profit margins to companies.

The labor market continues to strengthen, disposable personal income is edging up, and average hourly earnings have started to accelerate. As the labor market tightens further, income growth is likely to edge up in the short- to medium-term. Income growth for consumers has come at a time of rising asset prices. House prices have crossed their pre-2008 peaks and key equity indices hit all-time highs in November. This has boosted household wealth, thereby aiding consumer spending. And consumer confidence remains elevated, even after the 2016 election cycle. For all these reasons, the economic fundamentals for consumer spending appear to be solid going into the future.

In the next chapter, we will introduce the literature around the event study methodology. This, has been widely used in the last years, in order to conduct an ample variety of economic study.

4. The literature review

The event study methodology aims to measure how an event impacts a company's financial performance, through the use of econometric techniques. The types of events that can affect the course of the actions are of various nature, for example³⁶:

- Historical and political events;
- Corporate news;
- Analyst studies;
- Economic performance and macroeconomic data.

In his study³⁷, Fama identifies three levels of market efficiency:

- weak efficiency, when the stock price incorporates the past performance information. Therefore, it is not possible to set up a trading strategy with an anticipated yield higher than the market based solely on the historical yield series;
- semi-strong efficiency, when the stock price, in addition to incorporating past performance information, takes into account all publicly available information;
- Finally, efficiency in strong form, when the stock price also reflects private information. Obviously, as seen for semi-strong efficiency, high-efficiency implies both low-efficiency and semi-strong efficiency. To define an efficient market, stock quotes need to adjust immediately to the new information available. This hypothesis makes us conclude that only an unexpected event can change the price of a share. So, looking at stock prices during the period when an unexpected event occurs, you can measure the significance of this event.

4.1 The literature on Event Study

The literature on event studies is vast. The first study of this type dates back to Dolley (1933)³⁸, which analyzes the effects of stock split on stock prices. Using a sample of 95 splits from 1921 to 1931, he finds that the price increased in 57 of the cases, and the price declined in only 26 instances. Over the decades from the early 1930s until the late 1960s the level of

³⁶ The list presented is not exhaustive.

³⁷ Cfr. E. F. Fama. "Efficient Capital Markets: A Review of Theory and Empirical Work." in *Journal of Finance* 25.2 (May 1970).

³⁸ Cfr. J. C. Dolley. "Characteristics and procedure of common stock split-ups". in: *Harvard Business Review* 11.3 (1933).

sophistication of event studies increased. John H. Myers and Archie Bakay (1948), C. Austin Barker (1956, 1957, 1958), and John Ashley (1962) are examples of studies during this time period. The improvements included removing general stock market price movements and separating out confounding events. At the end of the 1960s, seminal studies by Ray Ball and Philip Brown (1968)³⁹, and Eugene Fama et al. (1969)⁴⁰, introduced the methodology that is essentially the same as that which is still in use today. Ball and Brown considered the information content of earnings, and Fama et al. studied the effects of stock splits after removing the effects of simultaneous dividend increases.

In the years since these pioneering studies, a number of modifications have been developed. These modifications relate to complications arising from violations of the statistical assumptions used in the early work, and relate to adjustments in the design to accommodate more specific hypothesis.

Useful papers which deal with the practical importance of many of the complications and adjustments are the work by Stephen Brown and Jerold Warner published in 1980 and 1985. The 1980 paper considers implementation issues for data sampled at a monthly interval and the 1985 paper deals with issues for daily data.

In this paper, it will be conducted an event study on the reaction of the shareholders, measured via abnormal returns of the daily stock price, after the announcement of an M&A operations.

There are several works that analyze M&A transactions through event studies. From the analysis of these works, it can be deduced that for target company, shareholders average positive returns, while the result for the acquiring companies is not univocal. This is because such transactions can be triggered by various factors⁴¹, which may push the buyer to pay too high a price and thus transfer wealth to target company shareholders.

³⁹ Cfr. R. Ball and P. Brown. "An empirical evaluation of accounting income numbers". in *Journal of Accounting Research* 6.2 (1968).

⁴⁰ Cfr. E. F. Fama et al. "The adjustment of stock prices to new information". in: *International Economic Review* 10.1 (February 5, 1969).

⁴¹ Read Chapter 1.

Mulherin and Boone (2000)⁴², analyzing the operations of the 1990-1999 period on a sample of 376 transactions in the range $(-1;+1)$ ⁴³, found that the average CAR for target companies was more than 20%. Contrary indications, however, come from return studies for buyers. Goergen and Renneboog (2004)⁴⁴, distinguishing between property-based acquisitions and knowledge-based acquisitions⁴⁵, conclude that the first generates yields higher than the latter, since the latter are more difficult to understand for investors. Another interesting conclusion is that of Antoniou, Petmezas and Zhao (2007)⁴⁶, analyzing 145 operations between 1987 and 2004 in the range $(-2;+2)$. This study shows that the higher returns for buyers are those of transactions involving private targets.

⁴² Cfr. J. H. Mulherin and A.L. Boone. "Comparing acquisitions and divestitures". in *Journal of Corporate Finance* 73 (2000).

⁴³ Which goes from the day before the operation to the next day.

⁴⁴ Cfr. M. Goergen and L. Renneboog. "Shareholder Wealth Effects of European Domestic and Cross-border Takeover Bids". in: *European Financial Management* 10 (1 2004).

⁴⁵ The study is conducted on a sample of 129 operations between 1993 and 2000, in the range (-1.0) .

⁴⁶ Cfr. A. Antoniou, D. Petmezas and H. Zhao. "Bidder Gains and Losses of Firms Involved in Many Acquisitions". in: *Journal of Business Finance & Accounting* 34 (7-8 2007).

5. Research objectives and methodology

From the analysis of the previous literature, it was found a shortage of empirical surveys involving the companies operating in the Consumer Industry, as for those with the purpose of identifying the effects of value creation on the announcement of acquisition transactions, as well as for those analyzing the evolution of post-merger performance and explaining its possible determinants.

In order to partially fill this gap, this research aims to carry out an event-study on the European Consumer Industry, from which it is possible to infer how investors have accepted the aggregation transaction announcement. It is thus intended to detect what features, in terms of diversification or geographical and operational specialization, have presented the operations considered the most *value-enhancing* in the market.

Before explaining more specifically the objectives and research questions underlying this analysis, some general considerations on the research methodology used should be mentioned.

Event-study is a technique of analysis effectively used in several management studies to infer the importance of a particular event on the market value of the companies involved. The use of adjusted⁴⁷ market prices allows to overcome the main limit of the analysis of accounting data: the possibility of such data being distorted by the choices made by the companies when drawing up the financial statements, and therefore being not fully reliable indicators of company performance.

In addition, full harmonization and homogenization of the content and the criteria for drafting the budget have occurred, at least in Europe, only recently with the entry into force of the new international accounting standards. On the contrary, the value that the market attributes to the company is considered to reflect the real value of companies, being an expression of the present value of future cash flows associated with holding the stock, and evaluated by the market based on all available relevant information.

⁴⁷ An adjusted price is a stock's price on any given day of trading that has been amended to include any distributions and corporate actions that occurred at any time prior to the next day's open.

The event-study methodology is based on three basic hypotheses (McWilliams and Siegel, 1997):

1. Markets are efficient: this means that prices incorporate all relevant information available to market participants. Any new information regarding the issuer should be quickly embedded in the prices as soon as it is made public. It follows that it is possible to study the price variation that follows the disclosure of relevant information within a period within which that information will continue to exert influence on the value of the company.
2. The event was not anticipated: the market should not have had any information about the operation in advance. However, some information may leak to the market in advance; this is especially true for M&A ads that are the result of a previous strategic planning effort, in which some news or rumors can already be circulated. The possibility that the news is already leaked to the market justifies in these cases the adoption of a symmetric observation window, whose duration extends both before and after the ad date (McWilliams and Siegel, 1997)⁴⁸.
3. There were no other events occurring during the survey period: therefore, no good news would have to emerge to have effects on market prices that can not be distinguished from those caused by the original event. The likelihood of having confusing effects increases as the "abnormal" performance time window increases.

The empirical verification concerns a sample of M&A transactions conducted over the period 2009-2016 that involved, as a bidder, a listed European company in the Consumer Industry and, as target, another listed company. Different possible strategies were considered, including conglomeration strategy. The choice of the time horizon does not show inconsistency with the prevalent literature that often, mainly for sampling needs, analyzed extended strings of time⁴⁹.

⁴⁸ As we will see later, time windows that precede the announcement will also be tested, indicating the possible presence of rumors.

⁴⁹ Among Cummins and Weiss (2004), Cummins et al. (2006), Cybo-Ottone and Murgia (2000), Akhigbe and Madura (2001).

In fact, the main requirement is to obtain a sufficiently large sample of number of operations. Similar researches were conducted with samples of about 50 observations⁵⁰ (Cybo-Ottone and Murgia, 2000; Akhigbe and Madura, 2001; Cummins and Weiss, 2004). The size of the sample is a critical factor for at least two orders of motivation: first, the statistical tests to evaluate the significance of the results are implicitly based on a hypothesis of normality of the distribution of observations, which is plausible in case of numeric sample sufficiently wide; Moreover, the smaller the size of the sample, the greater the distortion effect exerted by the possible presence of outliers. In that case, it would be necessary to interpret whether and to what extent the results are influenced by them (McWilliams and Siegel, 1997).

The object of the investigation is the announcement of M&A transactions. Therefore, any purchase of shares which has allowed the acquirer to gain control of another enterprise, ensuring the "legal control" due to the owning of at least 50% of the Target's share (DeLong, 2001; Beitel and Schierek, 2001; Cummins and Weiss, 2004). A condition necessary for the inclusion of the operation in the search is therefore that a change in control has taken place and, of course, that the operation has been successfully completed.

The extension of the reference period of the analysis has to be determined in relation to the nature of the event studied (Ryngaert and Netter, 1990). In the case of unforeseen events, i.e. unpredictable or unexpected events, the event window within which abnormal performance is calculated begins on the date of the event; In case of anticipated events, including M&A ads, it is best to consider a symmetric event window, i.e. beginning one day before the ad and ending on a later day. In any case, the statistical significance of symmetric and asymmetrical time windows will be evaluated.

Establishing these definitive aspects, the event-analysis methodology can be broken down into three phases:

⁵⁰ In reality, there is evidence of lower-sample research: Akhigbe and Madura (2001) have a bid for more than 60 units and just 22 for the target. Remains and Sicilian (1999) jointly apply an event study and an analysis of performance on a sample of mergers between Italian listed banks, whose sample size will be reduced to 9 target and 5 bidder as a result of the necessary adjustments.

1. calculation of the market return of the securities involved in the M&A transaction in the days immediately before and after the ad date;
2. estimation of a "normal" return, calculated on the basis of the prices of the same shares in a period prior to the announcement;
3. assessment of the existence of an abnormal, positive or negative and statistically significant, performance of the company's holdings on the day of the announcement, as the difference between market performance and "normal" theoretical return.

In the first phase, the daily returns of bidder and target securities are determined in the event window. The extension of this detection window can be varied; however, it is preferable to have a small window that can provide greater significance of statistical tests and a lesser likelihood of confusing effects on price returns caused by other events. The period of detection of abnormal returns should be large enough to capture the relevant effects generated by the event, but at the same time being sufficiently short to exclude confusing effects (McWilliams and Siegel, 1997). In any case, the total period considered will be 41 negotiation sessions (-20; +20)⁵¹, with the possibility of focusing attention on window analysis to ensure results with greater statistical and conceptual significance.

In the second phase, however, it is calculated the normal return of the title, that is, the assumed return that the title would have generated if the event did not occur (MacKinlay, 1997). Various approaches are available for estimating the normal return of a stock, many of which share the fact that they are based on some statistical assumptions about price behavior. The approach that has received greater consensus in the literature is the Market Model⁵²: the yield of any stock is expressed in relation to the market portfolio performance⁵³, according to the expression:

$$R_{it} = \alpha_i + \beta_i \cdot R_{Mt} + \varepsilon_i$$

In which: R_{it} is the daily return observed from the i-th title at time t; R_{Mt} is the daily return of the market; the β_i coefficient is a measure of the ratio between the degree of variability of the performance of the i-th share compared with changes in the stock market as a whole; the

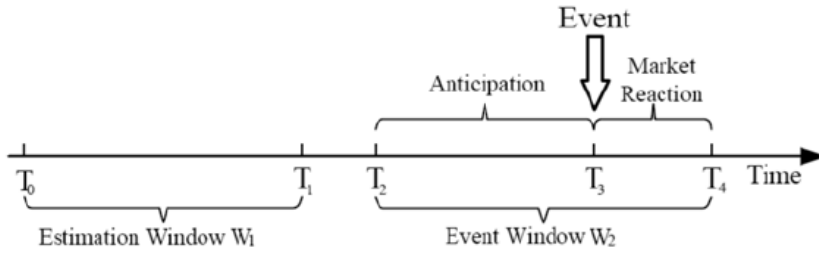
⁵¹ As eg. in Cummins and Weiss (2004).

⁵² Founded on Sharpe's Single Index Model.

⁵³ Both general market indices and sectoral indices will be used.

coefficient α_i represents the constant component of the yield of the i -th title; and finally the ε_i represents the erratic component of the period's performance, ie independent of market performance and assumed to be zero. From the Market Model, we estimate the normal return estimates, to be compared with the actual observed returns.

The extension of the estimation window, the time period for obtaining estimates of the α_i and β_i coefficients, must be large enough to guarantee the reliability of estimation⁵⁴. It is also necessary that this observation period, which generally has a length of more than 120 days, is not overlying the period aimed to detect the abnormal performance of the title. We have chosen to consider a window of estimation that lasts 150 days of trading, and ends on the thirtieth day before the announcement of the transaction.



Finally, in the last phase, abnormal daily returns are determined as the difference between the return actually recorded by the i -th share in day t , and the theoretical return of the share on the same day by applying the market model, according to the expression:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i \cdot R_{Mt})$$

in which R_{it} is the daily performance adjusted for the dividend⁵⁵ observed for the i -th title, and the expression between brackets represents the yield of the stock estimated by the Market Model.

Amongst the statistic properties of estimated abnormal returns, it is useful to remember that their distribution (conditioned to market performance) can be approximated with a normal

⁵⁴ The regression line coefficients are obtained by means of the Ordinary Least Squares (OLS) estimators. (McWilliams and Siegel, 1997; MacKinlay, 1997; Rests and Sicilian, 1999; Meteorology, Ottoman and Murgia, 2000; Cummins and Weiss, 2004).

⁵⁵ Daily returns are calculated on a logarithmic basis and through the dividend-adjusted price, the prices of securities that consider the daily dividend flow of which each action is to be received. The daily yield of title i in day t is given by:

$R = \text{Log} (P_t / P_{t-1})$

curve, having a conditional mean equal to zero and a conditional variance given by the following expression:

$$\sigma^2(\hat{AR}_{it}) = \sigma_{\varepsilon_i}^2 + \frac{1}{L_1} \left[1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\sigma_m^2} \right],$$

where $\sigma_{\varepsilon_i}^2$ is the residual variance of the market model, L_1 is the duration of the estimation window, R_{mt} is the market index return at instant t , μ_t is the average market performance observed during the estimation window and σ_m^2 is the variance of the market index.

Constant-market variance is therefore given by two components. The first is the term of disturbance $\sigma_{\varepsilon_i}^2$ representing the residual variance of the market model; the second component constitutes the additional variance resulting from sample errors. For wide estimation window (L_1 greater than 120), it is reasonable to suppose that the second component of the abnormal return variance is canceled, and that therefore the latter can be approximated by the residual variance of the Market Model.

In order to draw attention to the effect of the overall phenomenon, daily abnormal returns recorded for each title must then be aggregated according to two dimensions: according to the time, i.e. appropriate time windows for observing the extra returns, and between observed events (at least initially distinguishing between bidder and target companies).

For each selected time window it is possible to calculate the cumulative abnormal returns through the CAR formula. When selecting an event window (t_1, t_2) the cumulative abnormal return of title i is given by:

$$CAR_i[t_1; t_2] = \sum_{t=t_1}^{t_2} AR_{it}$$

Also in this case, for sufficiently large values of the normal return estimates windows, the CAR variance of the title in the observation window (t_1, t_2) can be approximated by the following expression:

$$\sigma_i^2(t_1, t_2) = (t_2 - t_1 + 1) \sigma_{\varepsilon_i}^2$$

Abnormal returns will then have to be aggregated according to the second dimension, i.e. between events (or between companies). It is then possible to calculate the cumulative average abnormal return for a given phenomenon observation window (t_1, t_2) with the formula:

$$\overline{CAR}(t_1, t_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(t_1, t_2)$$

The CAR is an indicator that calculate the average performance compared to the market of the companies involved in the transaction. However, the statistical significance of the calculated average of the CAR must be verified. To this end, assuming that there was no overlap between the event window of the calculation of the CAR of the N operations, the variance of the average CAR is given by:

$$\text{var}[\overline{CAR}(t_1, t_2)] = \frac{1}{N^2} \sum_{i=1}^N \sigma_i^2(t_1, t_2)$$

So, assuming that the average cumulative abnormal returns are distributed according to a normal distribution,

$$\overline{CAR}(t_1, t_2) \sim N[0, \text{var}(\overline{CAR}(t_1, t_2))]$$

it is possible to build a statistical test that verifies the null hypothesis H_0 that the event does not have determined abnormal returns, through the statistics:

$$\theta_1 = \frac{\overline{CAR}(t_1, t_2)}{\text{var}(\overline{CAR}(t_1, t_2))^{1/2}} \sim N(0;1) \text{ (MacKinlay, 1997).}$$

The results will then be interpreted at first separately, for target and bidder, in order to highlight the effects of the announcement of such transactions for each of the two sets of companies involved. Secondly, according to the literature⁵⁶, it will be calculated the result of value creation (cumulative abnormal return) for the so-called combined entity: this result comes from the calculation, for each time window, of the average bidder and target CARs weighted for their market capitalization⁵⁷ (Houston and Ryngaert, 1994). The creation of value for the combined entity (TCAR) in an abnormal return observation window (t_1, t_2) , will then result from the expression:

$$TCAR = \frac{MV_{Ti} \cdot CAR_{Ti} + MV_{Bi} \cdot CAR_{Bi}}{MV_{Ti} + MV_{Bi}},$$

⁵⁶ Houston and Ryngaert, 1994; Companies-Ottone and Murgia, 2000; Beitel and Schiereck 2001; Cummins and Weiss, 2004; Fields et al., 2005.

⁵⁷ To prevent market capitalization being influenced by the effects of the announcement that the market value of the capital of the companies with which the weighted averages will be calculated will be obtained, it was calculated at the end of the estimation window ($t = -20$).

in which MV_{Ti} and MV_{Bi} are the target and bidder capitalizations at the end of the estimation window, and CAR_{Ti} and CAR_{Bi} are the cumulative abnormal returns for the i -th aggregation target and bidder detected in the event window (t_1, t_2) . The significance of CARs for the combined entity will then be subjected to the same hypothesis test previously described, following the determination of the $TCAR$ ⁵⁸ variance described by Houston and Ryngaert (1994).

The research questions that we will try to answer as a result of this analysis are:

- What was the effect of the announcement of external growth strategy for the shareholders of the companies involved?
- Against which business was the external growth best accepted by the market? Has the market most enjoyed diversification or operational specialization strategies?
- What were the effects of cross-border operations?

The next stage of the analysis is to identify a relation between consistency and variability of abnormal returns and a number of factors, each of which expresses a specific feature of the operation. This exercise can be particularly useful when it is considered that more variables can help explain the market effects of the event under consideration, and thus determine which of these is related to results by statistically significant relation. The second stage of the analysis is thus achieved by a cross-section multiple regression of significant abnormal returns based on selected deal characteristics. For the purposes of this analysis, however, it will be considered whether a simple analysis of the correlations between abnormal returns and single features of the deal is sufficient to verify the existence of significant relation, and

⁵⁸ The variance of the cumulative yield of the i -th aggregation is given by the following expression:

$$\begin{aligned} \text{var}(TCAR_i) = & \left[\frac{MV_{Ti}}{MV_{Ti} + MV_{Bi}} \right]^2 \text{var}(CAR_{Ti}) + \left[\frac{MV_{Bi}}{MV_{Ti} + MV_{Bi}} \right]^2 \text{var}(CAR_{Bi}) + \\ & + 2 \left[\frac{MV_{Ti}}{MV_{Ti} + MV_{Bi}} \right] \left[\frac{MV_{Bi}}{MV_{Ti} + MV_{Bi}} \right] \cdot \rho_{BT}(n_{Bi} / n_{Ti}) \cdot [\text{var}(CAR_{Bi}) \cdot \text{var}(CAR_{Ti})]^{1/2} \end{aligned}$$

where MV_{Ti} and MV_{Bi} represent the target and bidder capitalization, ρ_{BT} is the estimated correlation between the bidder and target market model residues and n_{Bi} and n_{Ti} represent respectively the number of days of the bidder and target event window (Houston and Ryngaert, 1994).

their explanatory capacity, of the dependent variable (bidder, target or the combined entity). Only in the presence of statistically significant relations between selected CAR and some of these variables, we will attempt to outline a multivariate regression model.

The choice of the factors for which to estimate the ability to explain the abnormal returns of the operation includes, foremost, the dimensions of specialization or geographic and operational diversification. The relation between the effects of aggregations and two dummy variables will be estimated: the first expressive of the "nationality" of the deal (domestic or cross-border) and the second indicator of the pursued (horizontal or conglomerate) growth strategy.

The relation between the created (or destructed) value of the transaction and the countervalue⁵⁹ paid for the acquisition, will then be assessed in order to evaluate whether the price paid by the buyer had some indication of the effects of the transaction.

Subsequently, in accordance with the literature examined, we will try to verify the appreciation by the market of the possible achievement of economies of scale through aggregation. This dimension will be looked at through indicators of the absolute and relative target size. Among the first, are the total assets resulting from the last approved balance sheet at the time of the transaction and the market capitalization of the firm at the end of the estimation window. Indicators of the relative size of the target compared to the bidder are the ratio of the total assets between the first and the second, and the ratio between the respective capitalization. A positive relation between the effects of the operation and these variables would be indicative of possible economies of scale for the acquiring company (Fields et al., 2005).

In addition, it will be tested the further hypothesis that efficiency gains would be most achievable, and therefore appreciated by the market, in operations between profitable businesses and poorly performing ones (Houston and Ryngaert , 1994). This difference can be expressed through a variable that relates the return on assets (ROA) of the target to that of

⁵⁹ Expressed in logarithmic scale

the bidder⁶⁰. It will also be seen whether measures of profitability of the acquired company contribute to explaining the appreciation of the transaction by the marketplace⁶¹.

It will also be assessed whether the market's appreciation of an aggregation may be related to the characteristics of the acquirer. This is a less treated aspect in the literature, but it can be particularly useful in the light of the fact that the European Consumer Industry sees the presence of a few large players active on the national and international markets and, therefore, it may be useful to investigate whether the characteristics of the bidder in dimension terms and profitability can help explain the appreciation of growth operations through external lines.

Finally, the relation between the *wealth effects* of the transaction and the payment method will be evaluated, whether in cash or in different forms (shares, mixed forms of cash, debt and shares). The prevailing literature attributes to the choice of the payment method a signaling capacity of the benefit of the transaction. In fact, it is considered that the share financing is preferable by the acquiring companies who consider their shares to be overestimated, whereas the cash settlement is more appreciated by the market⁶², as an indication of the validity of the transaction. In such a case, given the heterogeneity and articulation of the forms of financing, a dummy variable will be created which distinguishes between the cases in which the settlement of the transaction took place in cash, and those cases where there has been an ensemble of different forms of payment, or a payment in shares. Other literature, moreover, affirms the superiority of *wealth effects* in cases where the payment is made by cash only, or cash and debt (Amihud et al., 1990).

The results of this second phase of the analysis should therefore compute the existence of significant relations between the M&A's appreciation by the market and:

- a) Focalization/geographical diversification realized with the operation;
- b) specialization/operational diversification strategy;
- c) the countervalue of the transaction;
- d) indicators of possible economies of scale for the acquiring company;

⁶⁰ Alternatively, it can be used the Return on Equity.

⁶¹ In terms of ROA

⁶² Brealey e Myers, 1999.

- e) indicators of the profitability of the acquired entity, and the disparity between the bidder's and the target's profitability;
- f) the size of the buyer;
- g) the acquirer profitability;
- h) the payment method.

6. The sample: construction and descriptive analysis

In light of the methodological considerations already carried out, it is possible to accurately identify the sample of observations which is the object of the analysis. This sample, obtained by verifying the number of operations that meet the conditions already mentioned, will be first analyzed by means of descriptive tools, in order to ensure its consistency and quality. It should be noted that the qualitative and temporal extension of the chosen sample, have been influenced, on the one hand, by the necessity of obtaining a sufficient number of deals to carry out the empirical verification, which explains the large time extension and, on the other, the effective ability to obtain the necessary information.

The sample includes mergers and acquisitions announced⁶³ during the period 2009-2016 where:

- a) the bidder is a European company operating in the Consumer Industry;
- b) both bidder and target companies are listed on an official stock exchange;
- c) the acquisition, concluded, has allowed to exceed the 50% stake of the target company's capital, thus securing the control.

The information that meets the above specified conditions has been extracted from the Zephyr database. The number of operations on which it was possible to deepen the analysis was, as mentioned, reduced by the fact that it was impossible to find some stock price data, that were extracted from the Bloomberg and the Datastream database. The number of operations for which it was possible to have all the elements necessary to carry out the analysis was 79 operations⁶⁴, sufficient enough for a successful completion of an event study.

The number of deals that originally met these conditions was 112 aggregations. However, such a number has subsequently been reduced by the need to omit operations for which no

⁶³ Specifically, whose announcement took place between 1 January 2009 and 31 December 2016

⁶⁴ The number of deals that originally met these conditions was 112 aggregations. However, such a number has subsequently been reduced by the need to omit operations for which no market prices of the companies involved, or those for which these prices did not allow the completion of the subsequent analysis could be found.

market prices of the companies involved, or those for which these prices did not allow the completion of the subsequent analysis could be found.

However, the initial stages of the event study saw the presence of companies in the sample whose price trends in the estimation window of the market model, were hardly linked to the performance of a market index, whether general or sectorial. This is justifiable in the light of the fact that in a significant number of transactions, at least one of the two companies involved (especially the target), showed in the estimation window a price trend characterized by prolonged phases of illiquidity and inability to quote new prices. Given the weakness of the "normal" return estimates in these cases, which resulted in the impossibility of linking, at least to a sufficient degree of approximation, the company's return dynamics to the variability of a market index, it was considered preferable to limit the analysis to only those operations for which the market model could provide sufficiently significant results. So, the number of operations has decreased to 53 cases. This is a number in line with those prevalently presented in the literature.

Before illustrating the results of the event study, it is useful to describe the final sample of the analysis. This description will focus on its composition, and in particular its temporal extension, on the aforementioned characteristics of nationality and growth strategies, and finally on dimensional indicators of companies and operations.

First, it is useful to expose the classification of the operations present in the sample per year. Table 6.1 provides an indication of the breakdown of the observations per year in which the operation was announced.

Table 6.1: Number and value of deals over the year

Year	Number of deals	Mean deal value	Min deal value	Max deal value
2009	2	27.944.946 €	1.554.794 €	54.335.099 €
2010	1	2.124.000 €	2.124.000 €	2.124.000 €
2011	13	292.405.257 €	1.675.250 €	2.083.363.000 €
2012	6	180.752.053 €	2.177.703 €	550.000.000 €
2013	8	322.889.252 €	1.551.900 €	2.464.045.044 €
2014	10	56.505.713 €	2.600.770 €	470.834.178 €
2015	9	86.665.237 €	1.544.770 €	713.585.709 €
2016	4	241.978.555 €	78.441.452 €	596.930.000 €
Total	53	185.657.869 €	1.544.770 €	2.464.045.044 €

The final number of the sample and the restrictive conditions underlying its constitution do not allow to draw general conclusions for the consistency of the phenomenon; however, it can be stated at the outset that the observations are consistent with the dynamics of the Consumer Industry which has been characterized, especially at the end of the financial crisis, by a period of stagnation of the financial operations. In fact, in the two years after the crisis, operations were lower in terms of both number and value. 2011 instead, has seen a growth in both the dimension. The distribution during the time period examined however, is not homogeneous. Peaks of deal value are present in years 2011 and 2013. In any case, given the poor sample number, these results may be influenced by the completion of mega deal. Nonetheless, the general pattern observed in the sample are in line with the European Economy.

Table 6.2 instead, illustrates the composition of the sample by the country of the company that has undertaken the external growth operation.

Table 6.2: Sample composition by Country

Country	Number of deals	Mean deal value
Bosnia	1	3.248.999 €
Bulgaria	1	2.600.770 €
France	5	239.583.692 €
Germany	10	421.401.473 €
Great Britain	7	435.601.917 €
Italy	5	194.733.527 €
Poland	9	57.204.263 €
Russia	1	2.250.180 €
Serbia	1	2.759.855 €
Switzerland	4	195.028.463 €
Turkey	9	17.971.592 €
Total	53	185.657.869 €

The observation of the nationality of bidder companies clearly reveals the importance of the phenomenon analyzed, in Germany and in the United Kingdom: almost one third of the transactions constituting the sample were undertaken by companies based in these two Countries. Plus, to them correspond the highest mean deal value. This is consistent both with the weight of the M&A activity in Germany and in the UK Consumer Industry, and with the highest degree of development of those markets, where the incidence of listed companies has always been considerably higher than in the rest of Europe (especially in Great Britain). It is also noted that countries such as France, Italy and Switzerland, where significantly represented in the sample. Moreover, it is worth noting that Poland and Turkey, which both have a high number of deals concluded in the period examined, are however characterized by a lower mean deal value. This confirms the different state of advancement of the two economies, that in any case, remain two of the most important M&A market in the emerging Europe⁶⁵.

Relevant to this research, is the classification of the operations based on the “growth strategy”, i.e. specialization or operational diversification, and "nationality", that is, specialization or geographical diversification.

⁶⁵ In the emerging Europe are included: Russia, Poland, Czech Republic, Turkey, Romania and Hungary

Table 6.3 shows the classification of sample aggregations by the type of growth strategy pursued. In order to outline a first breakdown of the deals in the sample in relation to the operation, it was chosen to consider Enterprise Standard Industrial Classification (SIC) codes, approximating the first two digits: it has been considered a focusing deal, that in which the first two digits of the SIC code of the target coincides with those of the bidder. Otherwise, it has been considered as a diversification strategy.

In light of the growth strategy classification, aggregations were predominantly horizontal (about 55% of the sample). Therefore, they were between companies belonging (at least primarily) to the same business. Plus, aggregations driven by horizontal growth strategy, were characterized, on average, by larger amounts of value. However, conglomerate aggregations are also represented by a fair number of observations.

Table 6.3: Sample composition per growth strategy

Growth strategy	Number of deals	Mean deal value
Conglomerate	24	110.150.190 €
Horizontal	29	248.146.982 €
Total	53	185.657.869 €

Regarding the nationality of the transactions examined, the sample presents an unbalanced breakdown towards the domestic scale: more than 60% of the transactions are of this type. This is a confirmation of the importance of the domestic growth, which is still characterizing the European Consumer Industry (Table 6.4). In any case, the observation of the average deal value by nationality, indicates a greater amount of resources employed to finance cross-border deals. This is evidence of the increasing importance of the international growth strategies in the Industry.

This finding is consistent with what is proposed in the next Table 6.6. With regard to the size of the companies involved in the deal: cross-border operations have targeted larger size (in market capitalization) companies compared to domestic ones.

Table 6.4: Sample composition per nationality

Nationality	Number of deals	Mean deal value
Cross-Border	20	297.401.566 €
Domestic	33	117.934.416 €
Total	53	185.657.869 €

Table 6.5 provides an overall picture of the observations that compose the sample, on the basis of the two dimensions just illustrated. This information will then be used to support the interpretation of the results of the event study.

Table 6.5: Sample composition per nationality, growth strategy and value

Nationality	Growth strategy	Number of deals	Mean deal value	Min deal value	Max deal value
Cross-Border		20	297.401.566 €	1.544.770 €	2.464.045.044 €
	Conglomerate	7	283.014.250 €	2.805.000 €	974.202.272 €
	Horizontal	13	305.148.582 €	1.544.770 €	2.464.045.044 €
Domestic		33	117.934.416 €	1.551.900 €	2.083.363.000 €
	Conglomerate	17	38.970.871 €	1.675.250 €	596.930.000 €
	Horizontal	16	201.833.182 €	1.551.900 €	2.083.363.000 €
Total		53	185.657.869 €	1.544.770 €	2.464.045.044 €

Finally, Table 6.6 contains information about the capitalization of the companies in the sample, and its classification based on the variables described above. It is noted that, in all cases, the transactions comprise companies in which the acquirer had a size, expressed by the market capitalization measured one month before the announcement of the transaction, significantly higher than that of the target.

The dimensional difference between bidder and target companies, which is even more pronounced for cross-border operations, is an issue that will be studied in the interpretation of the results of the event.

Table 6.6: Sample composition per nationality, growth strategy and market capitalization of the companies involved

Nationality	Growth strategy	Number of deals	Mean Acquirer market capitalization (pre deal)	Mean Target market capitalization (pre deal)
Cross-Border		20	34.862.855.040 €	1.733.957.713 €
	Conglomerate	7	38.972.014.053 €	1.218.320.095 €
	Horizontal	13	32.650.230.955 €	2.015.214.596 €
Domestic		33	1.929.035.522 €	1.521.198.848 €
	Conglomerate	17	197.209.662 €	124.447.953 €
	Horizontal	16	3.119.665.801 €	2.359.249.384 €
Total		53	15.943.426.806 €	1.609.415.938 €

7. Results of the analysis

This chapter will analyze the main findings of the study. First, we will see the evidence about the value creation effects that the aggregation announcement has made on the acquirer, acquired company and the combined entity of the two companies. The results will therefore be interpreted in light of the specialization characteristics or geographical and operational diversification of the operations.

Secondly, we will try to find out the relations between the value creation results and a range of characteristics, each of which is expressed by the variables considered most appropriate, of the operation or of the companies involved.

Finally, once the variables that are significantly correlated with the extraction of the operation will be identified, we will try to set up a multivariate regression model to explain the consistency and variability of the *wealth effects* of the operations based on some of their characteristics.

7.1 Value creation effects following the announcement of the operation

Cumulative abnormal returns per acquirer, target and for the so-called combined entity have been calculated in different time windows, comprehending 41 trading days. The calculated CARs were then subjected to the statistical significance test shown in Chapter 4.

Table 7.1 shows the average CARs of the buyers in the different event windows, considered with the results of the statistical significance test. The analysis will be limited to the CARs which have proved to be statistical significant. That is to say that, the hypothesis test allowed to exclude with sufficient probability the null-hypothesis that the event had no impact on the value of the stocks. Time windows whose results have proven to be reliable have a small extension (from two to three trading sessions) and are both asymmetrical and symmetrical.

CARs show how there has been a near 1% positive extra return for the bidder. This result, consistent with the most prevalent literature on event studies, suggests that there has been a slight value creation for buyer companies in the Consumer Industry, following the announcement of an M&A operation.

Table 7.1: CAR of the Bidder

CAR of the Bidder				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	0,904%(**)	21/32	1,9776	0,04797
(-2;+2)	0,704%	22/31	1,1357	0,25608
(-5;+5)	0,647%	24/29	0,7869	0,43134
(-10;+10)	-0,503%	27/26	-0,4684	0,63979
(-15;+15)	-1,127%	26/27	-0,9461	0,34415
(-20;+20)	-0,894%	29/24	-0,6789	0,50286
(-1;0)	0,531%	24/29	1,2093	0,22655
(-2;0)	0,250%	30/23	0,4721	0,82081
(-5;0)	0,659%	27/26	1,0005	0,41176
(-10;0)	0,629%	25/28	0,7950	0,68056
(-15;0)	0,134%	25/28	0,1485	0,49619
(-20;0)	0,137%	31/22	0,1400	0,88866
(0;+1)	0,947%(***)	21/32	3,3078	0,00094
(0;+2)	1,0278%(**)	22/31	2,0962	0,03606
(0;+5)	0,561%	22/31	0,8812	0,37821
(0;+10)	-0,559%	29/24	-0,6738	0,50095
(0;+15)	-0,688%	33/20	-0,7781	0,43657
(0;+20)	-0,457%	31/22	-0,4709	0,63836
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.				

Furthermore, in agreement with the prevailing literature, CARs show significant value creation for target company shareholders (Table 7.2). These results are also more reliable from a statistical point of view. In fact, for most of the event windows considered, it is certainly discarded the non-incidence of the event on the acquired companies returns.

The cumulative extra return increases as the observation window widens, indicating the presence of rumors prior to the announcement of the transaction that determined a rise in prices of the companies involved in the take over. Data confirms a significant superior abnormal return in asymmetric time windows preceding the announcement of the operation, compared to those succeeding it.

Limiting the observation to the only event windows for which also bidder's CARs had statistically significant values, so that a comparison can be made, it emerges that Target companies have registered a value creation:

- 2,2% for the symmetrical window (-1; + 1)
- reduced to just above 2% for the asymmetric windows (0; + 1) and (0; + 2).

From the observation of the results it emerges that, unlike buyer companies, for which the results show a substantial uniformity of the CAR between symmetrical and asymmetric event windows, in the case of the target companies the *rumors* about the future acquisition have had significant effects on the market price of the securities.

Table 7.2: CAR of the Target

CAR of the Target				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	2,182% (***)	22/31	2,6068	0,00916
(-2;+2)	2,483% (***)	22/31	2,7156	0,00662
(-5;+5)	2,952% (**)	28/25	2,5115	0,01202
(-10;+10)	1,852%	26/27	1,2917	0,19646
(-15;+15)	1,050%	30/23	0,6747	0,49987
(-20;+20)	2,715%	30/23	1,5878	0,11233
(-1;0)	1,813% (**)	25/28	2,1884	0,02864
(-2;0)	2,091% (**)	30/23	2,4984	0,01248
(-5;0)	2,637% (***)	28/25	2,6782	0,00740
(-10;0)	2,843% (**)	28/25	2,5241	0,01160
(-15;0)	2,243% (*)	25/28	1,8028	0,07142
(-20;0)	3,6612% (***)	31/22	2,7488	0,00598
(0;+1)	2,0780% (***)	25/28	2,9917	0,00277
(0;+2)	2,103% (***)	22/31	2,6100	0,00905
(0;+5)	2,025% (**)	22/31	2,0076	0,04469
(0;+10)	0,720%	29/24	0,6084	0,54292
(0;+15)	0,517%	33/20	0,4218	0,67317
(0;+20)	0,763%	31/22	0,5769	0,56401
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.				

Finally, with the already-mentioned method of aggregation of the CARs, it has been determined the extra return generated in the different event windows for the combined entity. This, has been calculated as the average of the CARs of the companies involved in the transaction, weighted for their respective market capitalizations (Houston and Ryngaert, 1994). The results obtained were then subjected to the same statistical significance test that verifies the influence of the transaction on the securities returns of bidders and targets.

As in the case of the bidders, most of the results show average CAR values not significantly different from zero (Table 7.3). Limiting the analysis only to the significant event windows, which includes the interval (-1; +1), (0; +1) and (0; +2), it is possible to note that the 53 transactions analyzed, on average, have a positive overall effect (value creation near below 1%).

This result is a confirmation of the already observed dimensional difference between acquiring and acquired companies. In fact, in calculating the weighted average size of the result, the extra returns on the market value of the latter are decreased in percentage value by the lower extra return of the former.

Table 7.3: CAR of the Combined Entity

CAR of the Combined Entity				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	0,888%**	26/27	1,9922	0,04635
(-2;+2)	0,628%	26/27	1,0560	0,29097
(-5;+5)	0,886%	30/23	1,1141	0,26524
(-10;+10)	0,036%	33/20	0,0357	0,97152
(-15;+15)	-1,010%	33/20	-0,9073	0,36441
(-20;+20)	-0,335%	32/21	-0,2694	0,79486
(-1;0)	0,486%	32/21	1,0735	0,28305
(-2;0)	0,265%	34/19	0,5009	0,61644
(-5;0)	0,742%	30/23	1,1528	0,24899
(-10;0)	0,952%	30/23	1,2538	0,20992
(-15;0)	0,235%	31/22	0,2690	0,78793
(-20;0)	0,521%	33/20	0,5525	0,58061
(0;+1)	0,868%***	25/28	3,6146	0,00030
(0;+2)	0,829%*	26/27	1,8495	0,06439
(0;+5)	0,611%	28/25	0,9936	0,32042
(0;+10)	-0,450%	32/21	-0,5849	0,55922
(0;+15)	-0,779%	32/21	-0,9718	0,33155
(0;+20)	-0,389%	32/21	-0,4319	0,66647

Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.

7.2 Analysis of the relation between abnormal returns and other factors

The next step in the analysis is to find the relations between CARs of the bidder, target and combined entity in the time window (0;+1), and a series of variables representative of the characteristics of the operation or of the companies involved in it, hypothesized to be relevant and illustrated in Chapter 4.

The variables chosen as their proxy include:

- the already mentioned nationality characteristic of the transaction, expressed through a dummy variable that assumes value 1 in case of domestic transactions and 0 in the case of a cross-border deal;

- b) the external growth strategy of the Bidders, also in this case expressed by a dummy variable assuming value 1 if the aggregation was horizontal, and value 0 if the growth was directed to companies operating in different Industries;
- c) the size of the transaction, measured by the counter value paid by the bidder for the acquisition (the variable is expressed in logarithmic scale);
- d) the size of the target, both in absolute terms and in relation to the size of the acquirer. This variable was first evaluated using the total assets of the target, both in relation to the total assets of the bidder and in absolute terms (in logarithmic scale). Secondly, the target size was evaluated through the ratio between the target and bidder market value, or through the sole capitalization (in logarithmic scale) of the acquired company;
- e) the profitability characteristics of the acquired company, and the disparities between bidder and target profitability, enhanced through the use of indicative financial indices. In particular, it has been used the ROA of the target company, and the ratio between the ROA of the target and that of the bidder. Moreover, it has been used the net profit after tax (expressed in logarithmic scale) of the target company at the latest available date prior the transaction;
- f) the size of the acquirer, expressed by its total assets and its market capitalization (both in logarithmic scale);
- g) the profitability of the acquirer, described through the overall profitability of the assets (ROA) and the shareholder's profitability index (ROE);
- h) the payment method, reported through a dummy variable that distinguishes the cases where the payment was made only by cash (value 1) from the cases where the payment was made in shares or a contest of multiple forms of payment (value 0).

The correlation analysis of the CARs (0; +1) and the variables above is given in Table 7.4.

Table 7.4: Analysis of the correlation between CAR (0;+1) and identified variables

	CAR (0;+1) Bidder			CAR (0;+1) Target			CAR (0;+1) Combined Entity		
VARIABLE	Correlation coeff.	p-value	N.	Correlation coeff.	p-value	N.	Correlation coeff.	p-value	N.
a) Nationality									
Dummy for domestic deal	-0,12504	0,3723	53	0,25529(*)	0,0651	53	-0,09354	0,5053	53
b) Growth strategy									
Dummy for Horizontal	0,15031	0,2827	53	0,06660	0,6356	53	0,17117	0,2204	53
c) Deal value									
ln Deal Value	-0,14165	0,3117	53	0,16190	0,2468	53	-0,13255	0,3441	53
d) Target dimension									
Total Asset Target/ Total Asset Bidder	0,13042	0,3988	44	-0,19105	0,2141	44	-0,07334	0,6361	44
ln Total Asset Target	-0,10289	0,5063	44	-0,13878	0,3690	44	-0,06880	0,6572	44
Market value Target/ market value Bidder	-0,04543	0,7516	53	-0,14067	0,3248	53	-0,14351	0,315	53
ln market value Target	-0,37650(***)	0,0055	53	-0,13667	0,3292	53	-0,39485(***)	0,0034	53
e) Target profitability									
ROA Target/ ROA Bidder	-0,08345	0,5993	42	0,24939	0,1112	42	0,20511	0,3206	42
ROA Target	-0,06368	0,6924	33	0,26521(*)	0,0938	33	0,17018	0,2874	33
ln profit after taxes Target	-0,37599(*)	0,0640	25	-0,15629	0,4557	25	-0,10062	0,6322	25
f) Bidder dimension									
ln Total Asset Bidder	-0,21332	0,1369	49	0,35383(**)	0,0117	49	-0,04413	0,7609	49
ln market value Bidder	-0,37981(***)	0,0055	52	0,09478	0,5039	52	-0,37966(***)	0,0055	52
g) Bidder profitability									
ROA Bidder	-0,06916	0,6368	47	0,40963(***)	0,0035	47	0,10547	0,4708	47
ROE Bidder	-0,06619	0,6732	39	0,39562(***)	0,0086	39	-0,06311	0,6876	39
h) Payment method									
Dummy for cash	0,50078(***)	0,0078	27	0,16369	0,4146	27	0,50682(***)	0,007	27
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the relative p-value and the number of observations for which the correlation was measured.									

First, the results confirm the existence of a positive correlation between the wealth effects of aggregation for the target companies, and the fact that the aggregation took place on a domestic scale. This result provides further evidence as to how domestic operations have enjoyed far more market appreciation from the sell side. A possible explanation for this, is that problems that may rise in combining the two entities come less due to the absence (or the reduction) of cultural differences. Opposite results are obtained for what regards the bidder and the combined entity. Though, those results are not statistically significant.

Referring to the growth strategy for external lines, the evidence suggests that it is not possible to state significant relation since the observed correlations, which indicate a slight preference for the market towards horizontal operations, are not statistically significant.

Also regarding the size of the transaction, expressed by the countervalue paid by the buyer, it is not possible to state a significant relation since the observed correlations, indicating that the value effects on the CAR bidder derived from the aggregation were greater where the counter value of the transaction was lower, are not statistically significant.

Among the variables related to the size (in relative or absolute terms) of the acquired company, it is possible to identify one that has significant correlations with the extra returns generated by the operation. In fact, there is evidence of significant (at 99% level) and negative correlations between the value created by the operation on the bidder and on the combined entity, and the market value of the target (expressed in logarithmic scale). This means that the effects of the transaction were the more positive, the smaller the acquired businesses.

This result contrasts with some of the literature that saw in the acquisition of high-dimension target companies a rationale for achieving significant economies of scale. However, from the opposite point of view, it can be argued that the integration of a small reality could have been more appreciated by the market as it is generally considered more feasible.

The analysis of the relation between the market effects of the transaction and the ability to generate income of the acquired company, even in this case both in absolute terms and in relation to the buyer's profitability, state the existence of negative and significant (at 90% level) correlation between the CARs of the bidders and the net profit after-tax of the target. This is a conflicting result with the idea that the effects of the operation should be the more positive, the higher the quality of the acquired business. Anyway, a rationale may be found in that it may be easier to reconstruct (e.g. with a turnaround strategy) a poorly performing business⁶⁶.

Besides, there is evidence of a positive and statistical significant (at 90% level) correlation between the target ROA and the benefits of the operation on the target. This indicates the appreciation of the shareholders of the selling company, for the M&A operation during the

⁶⁶ Houston e Ryngaert (1994).

state of high profitability of their company. Finally, it is not verified any statistical significant correlation between the CARs and the relationship of the ROAs of the companies involved.

In addition, we have tried to identify the existence of relations between the effects of aggregations and some characteristics of the acquirer. This choice was motivated by the finding that the sample being analyzed sees in almost all cases the external growth of an important European player. This evidence, therefore, led to the reflection and investigation of the existence of a possible relation between the market effects of the aggregation and the characteristics of the acquirer, and hence if the market was affected by its quality and standing.

The results of this analysis are significant for target companies and indicate that the value creation of the transaction for the latter was the more positive the larger (in terms of total assets) and profitable (in terms of both ROA and ROE) were the company that undertook the take-over. This demonstrates the existence of a sort of "*reputational benefit*" for the target due to the quality of the buyer. Opposite results are obtained for the buyers and the combined entity. In these cases, there is evidence of a significant (at 99% level) and negative correlation between extra returns and bidder market value (expressed in logarithmic scale). This indicates that it is only the target to gain from the reputation of the bidder.

Finally, in the evidence of the analysis, we have been looking for a confirmation of the thesis, present in literature, that acknowledges the payment in cash as a sign of quality and success of the transaction. The results do confirm this argument, as the correlation between the *value effects* and the *dummy* indicative of cash payment is both significant (at 99% level) and positive for the bidder and the combined entity.

7.3 Analysis of the determinants of the cumulative abnormal return

The final phase of the analysis involves the construction of a multivariate regression model that explains the consistency and variability of the CARs detected for the combined entity in the usual window (0;+1) through variables emerged from the previous evidence as statistically and conceptually more relevant.

For the determination of the final regression model, it has been followed an *iterative approach*. This, starting from the identification of some of the features of the transaction that are certainly relevant (e.g. method of payment, market size of the target), envisaged the progressive inclusion of suitable variables to better express such features, representative of other relevant aspects that contribute to increasing the model's explanatory capacity.

It should be noted that the already low sample size decreases as the independent variables inserted into the regression model may lack some observations data. For this reason, interpretation of the results of the latter part of the analysis should be carried out with additional caution.

The analysis of the determinants of the combined entity's CAR is divided into three multivariate regression models. These differ for the inclusion, in the different stages, of further explanatory variables. This exercise, as we will see, will increase the explanatory capacity of the model, but at the same time, considerably reduce the quality of the estimates of the regression coefficients (Table 7.5).

Table 7.5: Multivariate regression of CAR (0;+1) of the Combined Entity

	MODEL 1			MODEL 2			MODEL 3		
INDEPENDEN T VARIABLE	Correlation coeff.	t-stat	p-value	Correlation coeff.	t-stat	p-value	Correlation coeff.	t-stat	p-value
Payment Method									
Dummy for cash	0,06151(**)	2,280	0,0318	-0,00612	-0,457	0,6516667	0,05601(*)	2,014	0,0563
Target dimension									
In market value Target	-0,01695(**)	-2,200	0,0376	-0,05258(*)	1,848	0,0775323	0,00509	0,339	0,7376
Bidder dimension									
In market value Bidder				-0,01295	-0,991	0,3317956	-0,02869(*)	-1,741	0,0957
Nationality									
Dummy for domestic deal							0,03792	1,502	0,1473
Constant term	-0,01537	-0,373	0,7127557	0,00860	0,180	0,8587754	-0,02619	-0,504	0,6196
R squared	0,382			0,407			0,462		
Adjusted R squared	0,330			0,330			0,364		
F-test	7,405			5,261			4,725		
N observations	27			27			27		
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the value of the t-test with the relative p-value. Finally, for each of the three models, are reported the values of R squared, the adjusted R square, the Fisher variance significance test and the number of observations for which the correlation was measured.									

Model 1 comprise only two independent variables, namely the payment method (dummy for transaction paid in cash) and the dimension of the target (measured with the logarithm of the market value one month before the announcement of the acquisition). Estimates of the coefficients of the two variables are both statistically significant. In particular, in accordance with the previous correlation analysis, payment in cash is characterize by a positive coefficient, while the target dimension a negative one. Model 1 also demonstrates a discrete explanatory capacity of the combined entity's CAR, as R squared is about 38% (33% adjusted R square) for a total of 27 observations.

Model 2 includes, among the explanatory variables, the additional bidder dimension feature (also in this case measured with the logarithm of the market value one month before the announcement of the acquisition) that was significantly correlated with the combined entity's CAR in the previous analysis. The coefficient of the newly added variable is negative, though, it is not statistically significant. In addition, the inclusion of the last variable results also in

the lack of statistical significance of the coefficients indicating the payment method, that was significant in the previous model. In any case, the explanatory capacity of Model 2 is increased with respect to Model 1, with the R squared being about 40% (33% adjusted R squared).

Finally, Model 3 includes the involvement of an independent variable that, although not significantly related to the Cumulative Abnormal Return of the combined entity, has been able to contribute positively to the explanatory capacity of the regression model, whose R square exceeds 46% (36% adjusted R square). It must be reminded that also in this case, the low sample size causes the results to be interpreted with the necessary caveats. As in Model 1, the value creation followed by the announcement of the transaction is directly related to the method of payment of the transaction. Also, there is evidence of a negative correlation between value creation for the combined entity, and the size of the bidder. This last evidence, although we must note the extremely small value of the estimated regression coefficient, confirms the already stated consideration that the market appreciates more positively the operations undertaken by small companies.

However, the reduced number and quality of the estimates, induce to neglect the explanatory capacity of the multivariate regression models, though in some cases it has proved to be appreciable, in favor of a simpler identification of few, conceptually solid, significant relations.

Conclusion

The consumer industry envelope practically every item an individual can purchase, especially in the areas of toiletries and cosmetics, appliances, electronics, beverages and food, and other generic household items. It is a powerful industry, as it accounts for two-thirds of the volume of trade in the world economy. Due to its close relationship to other industries, the consumer industry plays an important role in the global economy. It is the source of a significant portion of the Gross Domestic Product of many countries, and also, acts as a driver for other industries, especially advertising and retail.

As a well-established and mature industry, most of the major companies operating within consumer products tend to be well diversified conglomerates, whose many subsidiaries represent multitudes of brand names. However, their growth rate is stably single-digit. Also for this reason, during the last decade, consumer goods companies are increasingly using M&A as a strategy to expand global reach, enter new markets and consolidate the focus on their core brands. Acquisitions are likewise used to vertically integrate and optimize supply chain operations, or for securing critical resources or proprietary technologies in certain product categories. Such activities are especially focused in the developing nations. Further, the availability of private equity capital and corporate cash along with the loosening of lending standards are emerging as catalysts for M&A activity. Evidence is given by the fact that, Consumer Markets was, also in 2016, the top sector for European M&A activity, with values of USD350 billion.

The objective of this thesis was to study the stock price reaction, of bidder, target and combined entity operating in the European consumer industry, following the announcement of an M&A operation in the period 2009-2016.

The number of operations for which it was possible to have all the elements necessary to carry out the analysis was 53, sufficient enough for the completion of an event study. This number, originally bigger, is the result of the need to omit operations for which no market prices of the companies involved were found, or those for which the price trends in the estimation window of the market model were hardly linked to the performance of a market index. The numerical and representative limits of the selected sample must, therefore, be taken into

account in the interpretation of the results. Moreover, we must consider the additional *caveat* related to the chosen analysis technique, whose statistical strength and conceptual validity depends heavily on the degree of liquidity of the companies and the markets analyzed, and is inappropriate, as emerged, in the case of poorly traded small companies.

The event study shows results comparable to those from the prevailing literature on aggregations. The cumulative abnormal return for the buyer were slightly positive, with value close to 1%. While those of the target had a nearly 2% positive extra return. Moreover, in the case of the acquired company, there is evidence of *rumors* or information leakages during the days preceding the announcement. For what concerns the combined entity instead, values obtained were, on average, just below 1%.

The presence of few time windows where CAR estimates are significant for both bidder and combined entities, suggests to focus on the period including the day of the announcement and the next trading session (0;+1). The low value of the CARs of the combined entity is a confirmation of the evidence, emerging from the observation of the sample, of a significant dimensional disparity between buyers, large players active internationally, and acquired companies.

Results evidence a significant preference, by target shareholders, towards national operations. This result confirms the prevailing literature⁶⁷ which affirms the market's preference for domestic scale aggregations, justifying this result with the lesser realization difficulties that investors would attribute to integration between two companies operating on the same territory.

Additional papers⁶⁸ have shown higher value creation effects for cross-border acquisitions compared to domestic ones, albeit for the sole buyer's business. The results of this research, on the other hand, do not document a significant inclination for cross-border acquisitions, with respect to national ones, not only for buyers but also for combined entities. In fact the results obtained, even though in line with that literature, are not statistically significant.

⁶⁷ Berger e Humphrey (1992); Cybo-Ottone e Murgia (2000).

⁶⁸ Focarelli e Pozzolo (2007).

The observation of the average CAR by type of external, horizontal or conglomerate, growth strategy does not allow to draw conclusion in favor of the *focusing* or *diversifying hypothesis*. Results, which identify mild value creation effects for operations moved by a horizontal expansion logic, are not supported by sufficient statistical significance. Similar results are obtained testing the significance of the variable representing the deal value. Also in this case indeed, the p-value is higher than the typical threshold set to indicate the significant level (alpha).

A further characteristic of the operations under investigation was the relation between the CARs and the size of the acquired company. The identification of a positive relation between the two variables, as stated in other literature⁶⁹, is considered expressive of the appreciation by the market of possible economies of scale pursued through the acquisition. The analysis carried out, however, identifies an opposite relation: the market has evaluated in the acquisition of bigger targets, greater integration difficulties and inefficiencies to reduce. These results are valid for both bidder and combined entity.

Another result to be interpreted in light of the previous literature⁷⁰, is the relation between market reaction and measures expressive of the ability of the target to generate income. Indeed, a general justification of the aggregation phenomena is explained by the shift of assets from poorly managed companies (poor efficiency and profitability) to better managed companies. For this reason, the gains from the operation should be higher when the acquirer is characterized by better performance compared to that of the target. Among the variables tested to represent the target's income generation ability, there is evidence of a negative and significant correlation between the effects of the transaction and the profit after tax of the target. This means that, for what concerns the bidder's shareholder, the operation was the more appreciated by the market, the smaller the target net profit was in the month before the announcement of the acquisition. While providing an indirect confirmation of the previous literature, this result highlights some conceptual ambiguities that lead to consider it only partially. In fact, the lack of evidence of a significant relations between the CARs and a

⁶⁹ Fields et al. (2005).

⁷⁰ Houston e Ryngaert (1994).

measure of performance disparity between the two companies involved in the transaction, does not guarantee with sufficient solidity the results of this analysis.

Further evidence emerged from the analysis, is related to the characteristics of the sample being studied. In fact, there is evidence of a positive correlation between the effect of the announcement of the transaction on the market value of the target, and some characteristics of the bidder. In particular, it is emerged that the cumulative abnormal returns generated by the target, were the more positive the larger (in terms of total assets) and profitable (in terms of both ROA and ROE) were the company that undertook the take-over. This allows to hypothesize the existence of a "*reputational benefit*" for the target's shareholders, linked to the quality and *standing* of the acquirer. Opposite results are obtained for bidder and combined entity. In these cases, returns to shareholders are negatively correlated with the market capitalization of the acquirer. This indicates that it is, usually, only the target to gain from the reputation of the bidder.

The last variable tested was the method of payment of the transaction. Also in this case, the evidence of the analysis confirmed the thesis, present in literature, that acknowledges the payment in cash as a sign of quality and success of the transaction. The results confirmed this argument, as the correlation between the *value effects* and the *dummy* indicative of cash payment was both significant and positive for the bidder and the combined entity.

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Summary

For several years, consumer goods companies have relied upon the dynamicity of developing markets to compensate for sluggish economic growth in more mature economies. However, recent economic headwinds in major developing countries are forcing companies throughout the consumer products industry to work harder just to maintain profitable growth. In this situation, the industry is likely to witness more M&A activity as a strategy to expand global reach, enter new markets and consolidate the focus on their core brands. Farther, the availability of private equity capital and corporate cash, along with the loosening of lending standards, are emerging as catalysts for M&A activity. Evidence is given by the fact that Consumer Markets was the top sector for European M&A activity, also in 2016, with values of USD350 billion. This paper investigates the effects of the announcement of mergers and acquisitions on the stock price of companies operating in the European Consumer Industry.

1. Definition of M&A

Acquisition is the process through which a company (bidder) acquires, wholly or in part, the capital of another company (target), while maintaining its legal independence as a result of the transaction. As for the merger, it is meant the formation of a single economic unit deriving from the combination of two or more companies.

M&A operations can be distinguished based on the type of deal that is being implemented:

- *Vertical operations*: between companies that occupy different positions in the supply chain, and are therefore linked by a customer/supplier relationship. The benefits of this solution lie in the scope economies and in the integration economies obtained.
- *Horizontal Operations*: agreements that take place between companies belonging to the same industry. In this way, it is possible to increase the market share.
- *Conglomerate operations*: referred to companies belonging to different businesses. The main benefit of this kind of operation is diversification which is in line with the lesser risk perceived by the Market with regard to the new entity.

M&A operations can be undertaken for multiple purposes:

- *Strategic motive*: in case the objective is to improve the competitive positioning or the refocusing of the core business.

- *Economical motive*: If the objective is to reduce costs, improve earnings, increase the free cash flow and/or get a more satisfactory rating.
- *Financial motive*: if the scope is to exploit international transactions to reduce taxation or allow the new company to have a higher debt ratio (total debt/ total assets), and thus benefit more from the deductibility of the interest income.

The acquisition process can be described through three macro phases, each of which is articulated into further sub-phases, highlighting the main problems that need to be overcome in order to make the decision. The three stages in question are pre-combination, combination and solidification, and advancement. Pre-combination refers to processes that take place before the M&A is completely legal. A justification is presented, as well as a plan on looking for partners in the venture, searching for possible alternatives, and finalizing how the M&A will take place. This stage sets the foundations for all activities carried out in stages 2 and 3. Stage 2 is focused on combining and integrating the companies. Stage 3 involves the assessment of the new entity. This stage includes fine-tuning as the M&A takes shape.

2. The sample

As said, the focus of the elaborate is on the European Consumer Industry. This envelopes barely all items an individual can purchase, especially in the areas of toiletries and cosmetics, appliances, electronics, beverages and food, and other generic household items.

The sample includes M&A announced⁷¹ during the period 2009-2016 where:

- d) the bidder is a European company operating in the Consumer Industry;
- e) both bidder and target companies are listed on an official stock exchange;
- f) the acquisition, concluded, has allowed to exceed the 50% stake of the target company's capital, thus securing the control.

The number of deals that originally met these conditions was 112 aggregations. However, such a number has subsequently been reduced by the need to omit operations for which no market prices of the companies involved, or those for which these prices did not allow the completion of the subsequent analysis, could be found. Therefore, the number of operations has decreased to 53 cases, sufficiently enough for a successful completion of an event study.

⁷¹ Specifically, whose announcement took place between 1 January 2009 and 31 December 2016

The observation of the nationality of bidder companies clearly reveals the importance of the phenomenon analyzed in Germany and in the United Kingdom, which represent almost one third of the transactions constituting the sample. In light of the growth strategy classification, aggregations were predominantly horizontal (about 55% of the sample). Plus, this type of operation was characterized, on average, by larger amounts of value.

Regarding the nationality of the transactions examined, the sample presents an unbalanced breakdown towards the domestic scale. In fact, more than 60% of the transactions are of this type. In any case, the observation of the average deal value by nationality, indicates a greater amount of resources employed to finance cross-border deals. This is evidence of the increasing importance of the international growth strategies in the Industry.

Finally, it is noted that, in all cases, the transactions comprise companies in which the acquirer had a size, expressed by the market capitalization measured one month before the announcement of the transaction, significantly higher compared to that of the target.

3. Objectives and methodology

This research aims to carry out an event-study, from which it is possible to infer how the market responded to the announcement of an M&A operation. Thus, it is intended to detect what features, characterizing the deal or the companies involved, have presented the operations considered the most value-enhancing. An underlying assumption is that the market processes information in an efficient manner. Given that, the effects of the event will be reflected immediately in the stock prices of the company, allowing us to observe the economic effect of the event over a defined time window.

Event-study technique is used effectively in several management studies to infer the importance of a particular event on the market value of the companies involved. The use of market prices allows to overcome the main limit of the analysis of accounting data: the possibility of such data being distorted by the choices made by the companies when drawing up the financial statements, and therefore being not fully reliable performance indicators.

The event-analysis methodology can be broken down into three phases:

4. calculation of the market return of the securities involved in the M&A transaction in the days immediately before and after the ad date;

5. estimation of a "normal" return, calculated on the basis of the prices of the same shares in a period prior to the announcement;
6. assessment of the existence of an abnormal, positive or negative and statistically significant, performance of the company's holdings on the day of the announcement as the difference between market performance and "normal" theoretical return.

In the first phase, the daily returns of bidder and target securities are determined in the event window. The period of detection of abnormal returns should be large enough to capture the relevant effects generated by the event, but at the same time being sufficiently short to exclude confusing effects. In our case, the total period considered is 41 negotiation sessions (-20; +20)⁷², with the possibility of focusing attention on window analysis to ensure results with greater statistical and conceptual significance.

In the second phase, however, it is calculated the normal return of the title, that is, the assumed return that the title would have generated if the event did not occur. Various approaches are available for estimating the normal return of a stock. The approach that has received greater consensus in the literature is the Market Model⁷³: the return of any stock is expressed in relation to the market portfolio performance⁷⁴, according to the expression:

$$R_{it} = \alpha_i + \beta_i \cdot R_{Mt} + \varepsilon_i \quad 75$$

The extension of the estimation window, the time period for obtaining estimates of the α_i and β_i coefficients, must be large enough to guarantee the reliability of estimation⁷⁶. We have chosen to consider a window of estimation that lasts 150 days of trading, and ends on the thirtieth day before the announcement of the transaction.

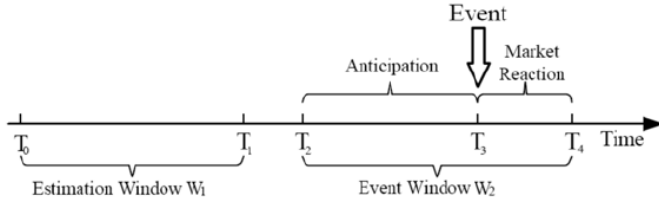
⁷² As eg. in Cummins and Weiss (2004).

⁷³ Founded on Sharpe's Single Index Model.

⁷⁴ Both general market indices and sectoral indices will be used.

⁷⁵ R_{it} is the daily return observed from the i-th title at time t; R_{Mt} is the daily return of the market; the β_i coefficient is a measure of the ratio between the degree of variability of the performance of the i-th share compared with changes in the stock market as a whole; the coefficient α_i represents the constant component of the yield of the i-th title; ε_i represents the erratic component of the period's performance, ie independent of market performance and assumed to be zero.

⁷⁶ The regression line coefficients are obtained by means of the Ordinary Least Squares (OLS) estimators. (McWilliams and Siegel, 1997; MacKinlay, 1997; Rests and Sicilian, 1999; Meteorology, Ottoman and Murgia, 2000; Cummins and Weiss, 2004).



Finally, in the last phase, abnormal daily returns are determined as the difference between the yield actually recorded by the i -th share in day t and the theoretical return of the share on the same day by applying the market model, according to the expression:

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i \cdot R_{Mt}) \quad 77$$

Amongst the statistic properties of estimated abnormal returns, it is useful to remember that their distribution can be approximated with a normal curve, having a conditional mean equal to zero and a conditional variance given by the following expression:

$$\sigma^2(\hat{AR}_{it}) = \sigma_{\varepsilon_i}^2 + \frac{1}{L_1} \left[1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\sigma_m^2} \right] \quad 78$$

Constant-market variance is therefore given by two components. Nevertheless, for wide estimation window (greater than 120 days of trading), it is reasonable to suppose that the second component of the abnormal return variance is canceled, and that therefore the latter can be approximated by the residual variance of the Market Model.

In order to draw attention to the effect of the overall phenomenon, daily abnormal returns recorded for each title must then be aggregated according to two dimensions: according to the time, i.e. appropriate time window, and between observed events. For each selected time window, it is possible to calculate the cumulative abnormal returns through the CAR formula. When selecting an event window (t_1, t_2) the cumulative abnormal return of title i is given by:

$$CAR_i[t_1; t_2] = \sum_{t=t_1}^{t_2} AR_{it}$$

Also in this case, for sufficiently large values of the normal return estimates windows, the CAR variance of the title in the observation window (t_1, t_2) can be approximated by:

$$\sigma_i^2(t_1, t_2) = (t_2 - t_1 + 1) \sigma_{\varepsilon_i}^2$$

⁷⁷ R_{it} is the daily performance adjusted for the dividend⁷⁷ observed for the i -th title, and the expression between brackets represents the yield of the stock estimated by the Market Model.

⁷⁸ $\sigma_{\varepsilon_i}^2$ is the residual variance of the market model, L_1 is the duration of the estimation window, R_{mt} is the market index return at instant t , μ_t is the average market performance observed during the estimation window and σ_m^2 is the variance of the market index.

Abnormal returns will then have to be aggregated according to the second dimension, i.e. between events (or between businesses). It is then possible to calculate the cumulative average abnormal return for a given phenomenon observation window (t_1, t_2) with the formula:

$$\overline{CAR}(t_1, t_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(t_1, t_2)$$

The average CAR is an indicator that calculate the mean performance compared to the market of the companies involved in the transaction. However, the statistical significance of the calculated average of the CAR must be verified. To this end, assuming that there was no overlap between the event window of the calculation of the CAR of the N operations, the variance of the average CAR is given by:

$$\text{var}[\overline{CAR}(t_1, t_2)] = \frac{1}{N^2} \sum_{i=1}^N \sigma_i^2(t_1, t_2)$$

So, assuming that the average CAR are distributed according to a normal distribution,

$$\overline{CAR}(t_1, t_2) \sim N[0, \text{var}(\overline{CAR}(t_1, t_2))]$$

it is possible to build a statistical test that verifies the null hypothesis H_0 that the event does not have determined abnormal returns, through the statistics:

$$\theta_1 = \frac{\overline{CAR}(t_1, t_2)}{\text{var}(\overline{CAR}(t_1, t_2))^{1/2}} \sim N(0;1)$$

The results will then be interpreted at first separately, for target and bidder, in order to highlight the effects of the announcement of such transactions for each of the two sets of companies involved. Secondly, according to the literature⁷⁹, it will be calculated the result of value creation for the so-called combined entity: this result comes from the calculation, for each time window, of the average bidder and target CARs weighted for their market capitalization⁸⁰ (Houston and Ryngaert, 1994). The creation of value for the combined entity in an abnormal return observation window (t_1, t_2), will then result from the expression:

$$TCAR = \frac{MV_{Ti} \cdot CAR_{Ti} + MV_{Bi} \cdot CAR_{Bi}}{MV_{Ti} + MV_{Bi}}$$

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⁷⁹ Houston and Ryngaert, 1994; Companies-Ottone and Murgia, 2000; Beitel and Schiereck 2001; Cummins and Weiss, 2004; Fields et al., 2005.

⁸⁰ To prevent market capitalization being influenced by the effects of the announcement that the market value of the capital of the companies with which the weighted averages will be calculated will be obtained, it was calculated at the end of the estimation window ($t = -20$).

⁸¹ MV_{Ti} and MV_{Bi} are the target and bidder capitalizations at the end of the estimation window, and CAR_{Ti} and CAR_{Bi} are the cumulative abnormal returns for the i-th aggregation target and bidder in (t_1, t_2).

The significance of CARs for the combined entity will then be subjected to the same hypothesis test previously described, following the determination of the TCAR⁸² variance described by Houston and Ryngaert (1994).

7. Results

After the description of the methodology, we are now going to present the main finding of the study. At first, we will see the evidence of the value creation effects that the aggregation announcement has made on the acquirer, acquired company and the combined entity. Secondly, we will try to find out the relationships between the value creation results and a range of characteristics, each of which is expressed by the variables considered most appropriate, of the operation or of the companies involved. Finally, once the variables that are significantly correlated with the extraction of the operation will be identified, we will try to set up a multivariate regression model to explain the consistency and variability of the *wealth effects* of the operations based on some of their characteristics.

Table 1 shows the average CARs of the buyers in the different event windows. The analysis will be limited to the CARs which have proved to be statistically significant. That is to say that, the hypothesis test allowed to exclude with sufficient probability the null-hypothesis that the event had no impact on the value of the stocks. Time windows whose results have proven to be reliable have a small extension (from two to three trading sessions) and are both asymmetrical and symmetrical. CARs show how there has been a near 1% positive extra return for the bidder. This result, consistent with the most prevalent literature on event studies, suggests that there has been a slight value creation for buyer companies in the Consumer Industry, following the announcement of an M&A operation.

⁸² The variance of the cumulative yield of the i-th aggregation is given by the following expression:

$$\begin{aligned} \text{var}(TCAR_i) = & \left[\frac{MV_{Ti}}{MV_{Ti} + MV_{Bi}} \right]^2 \text{var}(CAR_{Ti}) + \left[\frac{MV_{Bi}}{MV_{Ti} + MV_{Bi}} \right]^2 \text{var}(CAR_{Bi}) + \\ & + 2 \left[\frac{MV_{Ti}}{MV_{Ti} + MV_{Bi}} \right] \left[\frac{MV_{Bi}}{MV_{Ti} + MV_{Bi}} \right] \cdot \rho_{BT}(n_{Bi} / n_{Ti}) \cdot [\text{var}(CAR_{Bi}) \cdot \text{var}(CAR_{Ti})]^{1/2} \end{aligned}$$

where MV_{Ti} and MV_{Bi} represent the target and bidder capitalization, ρ_{BT} is the estimated correlation between the bidder and target market model residues and n_{Bi} and n_{Ti} represent respectively the number of days of the bidder and target event window (Houston and Ryngaert, 1994).

Table 1: CAR of the Bidder

CAR of the Bidder				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	0,904%(**)	21/32	1,9776	0,04797
(-2;+2)	0,704%	22/31	1,1357	0,25608
(-5;+5)	0,647%	24/29	0,7869	0,43134
(-10;+10)	-0,503%	27/26	-0,4684	0,63979
(-15;+15)	-1,127%	26/27	-0,9461	0,34415
(-20;+20)	-0,894%	29/24	-0,6789	0,50286
(-1;0)	0,531%	24/29	1,2093	0,22655
(-2;0)	0,250%	30/23	0,4721	0,82081
(-5;0)	0,659%	27/26	1,0005	0,41176
(-10;0)	0,629%	25/28	0,7950	0,68056
(-15;0)	0,134%	25/28	0,1485	0,49619
(-20;0)	0,137%	31/22	0,1400	0,88866
(0;+1)	0,947%(***)	21/32	3,3078	0,00094
(0;+2)	1,0278%(**)	22/31	2,0962	0,03606
(0;+5)	0,561%	22/31	0,8812	0,37821
(0;+10)	-0,559%	29/24	-0,6738	0,50095
(0;+15)	-0,688%	33/20	-0,7781	0,43657
(0;+20)	-0,457%	31/22	-0,4709	0,63836

Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.

Furthermore, in agreement with the prevailing literature, CARs show significant value creation for target company shareholders (Table 2). These results are also more reliable from a statistical point of view. In fact, for most of the event windows considered, it is certainly discarded the non-incidence of the event on the acquired companies returns.

The CARs increases as the observation window widens, indicating the presence of rumors prior to the announcement of the transaction that determined a rise in prices of the companies involved in the take over. Data confirms a significant superior abnormal return in asymmetric time windows preceding the announcement of the operation, compared to the succeeding.

Limiting the observation to the only event windows for which also bidder's CARs had statistically significant values, so that a comparison can be made, it emerges that Target companies have registered a value creation:

- 2,2% for the symmetrical window (-1; + 1)
- reduced to just above 2% for the asymmetric windows (0; + 1) and (0; + 2).

From the observation of the results it emerges that, unlike buyer companies, for which the results show a substantial uniformity of the CAR between symmetrical and asymmetric event

windows, in the case of the target companies the *rumors* about the future acquisition have had significant effects on the market price of the securities prior the announcement.

Table 2: CAR of the Target

CAR of the Target				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	2,182% (***)	22/31	2,6068	0,00916
(-2;+2)	2,483% (***)	22/31	2,7156	0,00662
(-5;+5)	2,952% (**)	28/25	2,5115	0,01202
(-10;+10)	1,852%	26/27	1,2917	0,19646
(-15;+15)	1,050%	30/23	0,6747	0,49987
(-20;+20)	2,715%	30/23	1,5878	0,11233
(-1;0)	1,813% (**)	25/28	2,1884	0,02864
(-2;0)	2,091% (**)	30/23	2,4984	0,01248
(-5;0)	2,637% (***)	28/25	2,6782	0,00740
(-10;0)	2,843% (**)	28/25	2,5241	0,01160
(-15;0)	2,243% (*)	25/28	1,8028	0,07142
(-20;0)	3,6612% (***)	31/22	2,7488	0,00598
(0;+1)	2,0780% (***)	25/28	2,9917	0,00277
(0;+2)	2,103% (***)	22/31	2,6100	0,00905
(0;+5)	2,025% (**)	22/31	2,0076	0,04469
(0;+10)	0,720%	29/24	0,6084	0,54292
(0;+15)	0,517%	33/20	0,4218	0,67317
(0;+20)	0,763%	31/22	0,5769	0,56401
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.				

Finally, with the already-mentioned method of aggregation of the CARs, it has been determined the extra return generated in the different event windows for the Combined Entity. The results obtained were then subjected to the same statistical significance test that verifies the influence of the transaction on the securities returns of both Bidders and Targets.

As in the case of the Bidders, most of the results show average CAR values not significantly different from zero (Table 3). Limiting the analysis only to the significant event windows, which includes the interval (-1; +1), (0; +1) and (0; +2), it is possible to note that the 53 transactions analyzed, on average, have a positive overall effect (value creation close to 1%).

This result is a confirmation of the already observed dimensional difference between acquiring and acquired companies. In fact, in calculating the weighted average size of the result, the extra returns on the market value of the latter are decreased in percentage value by the lower extra return of the former.

Table 3: CAR of the Combined Entity

CAR of the Combined Entity				
Event Window	CAR	Pos/Neg	Z score	p-value
(-1;+1)	0,888%(**)	26/27	1,9922	0,04635
(-2;+2)	0,628%	26/27	1,0560	0,29097
(-5;+5)	0,886%	30/23	1,1141	0,26524
(-10;+10)	0,036%	33/20	0,0357	0,97152
(-15;+15)	-1,010%	33/20	-0,9073	0,36441
(-20;+20)	-0,335%	32/21	-0,2694	0,79486
(-1;0)	0,486%	32/21	1,0735	0,28305
(-2;0)	0,265%	34/19	0,5009	0,61644
(-5;0)	0,742%	30/23	1,1528	0,24899
(-10;0)	0,952%	30/23	1,2538	0,20992
(-15;0)	0,235%	31/22	0,2690	0,78793
(-20;0)	0,521%	33/20	0,5525	0,58061
(0;+1)	0,868%(***)	25/28	3,6146	0,00030
(0;+2)	0,829%(*)	26/27	1,8495	0,06439
(0;+5)	0,611%	28/25	0,9936	0,32042
(0;+10)	-0,450%	32/21	-0,5849	0,55922
(0;+15)	-0,779%	32/21	-0,9718	0,33155
(0;+20)	-0,389%	32/21	-0,4319	0,66647
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the number of positive/ negative CAAR and the relative Z score and p-value.				

The next step in the analysis is to find the relationships between CARs of the Bidder, Target and Combined Entity in the time window (0;+1), and a series of variables representative of the characteristics of the operation or of the companies involved in it. Those variables include:

- i) the nationality characteristic of the transaction, expressed through a dummy variable assuming value 1 in case of domestic transactions, and 0 in case of cross-border deal;
- j) the external growth strategy of the Bidders, expressed by a dummy variable assuming value 1 if the aggregation was horizontal, and value 0 if it was conglomerate;
- k) the size of the transaction, measured by the counter value paid by the bidder for the acquisition (the variable is expressed in logarithmic scale);
- l) the size of the target, both in absolute terms and in relation to the size of the acquirer. This variable was first evaluated using the total assets of the target, both in relation to the total assets of the bidder and in absolute terms (in logarithmic scale). Secondly, the target size was evaluated through the ratio between the target and bidder market value, or through the sole capitalization (in logarithmic scale) of the acquired company;
- m) the profitability characteristics of the acquired company, and the disparities between bidder and target profitability. In particular, it has been used the ROA of the target company, and the ratio between the ROA of the target and that of the bidder. Moreover,

it has been used the net profit after tax (expressed in logarithmic scale) of the target company at the latest available date prior the transaction;

- n) the size of the acquirer, expressed by its total assets and its market capitalization (both in logarithmic scale);
- o) the profitability of the acquirer, described through the overall profitability of the assets (ROA) and the shareholder's profitability index (ROE);
- p) the payment method, reported through a dummy variable that assign value 1 to cash payment, and value 0 in any other cases.

The correlation analysis of the CARs (0; +1) and the variables above is given in Table 4.

Table 4: Analysis of the correlation between CAR (0;+1) and identified variables

	CAR (0;+1) Bidder			CAR (0;+1) Target			CAR (0;+1) Combined Entity		
VARIABLE	Correlation coeff.	p-value	N.	Correlation coeff.	p-value	N.	Correlation coeff.	p-value	N.
a) Nationality									
Dummy for domestic deal	-0,12504	0,3723	53	0,25529(*)	0,0651	53	-0,09354	0,5053	53
b) Growth strategy									
Dummy for Horizontal	0,15031	0,2827	53	0,06660	0,6356	53	0,17117	0,2204	53
c) Deal value									
ln Deal Value	-0,14165	0,3117	53	0,16190	0,2468	53	-0,13255	0,3441	53
d) Target dimension									
Total Asset Target/ Total Asset Bidder	0,13042	0,3988	44	-0,19105	0,2141	44	-0,07334	0,6361	44
ln Total Asset Target	-0,10289	0,5063	44	-0,13878	0,3690	44	-0,06880	0,6572	44
Market value Target/ market value Bidder	-0,04543	0,7516	53	-0,14067	0,3248	53	-0,14351	0,315	53
ln market value Target	-0,37650(***)	0,0055	53	-0,13667	0,3292	53	-0,39485(***)	0,0034	53
e) Target profitability									
ROA Target/ ROA Bidder	-0,08345	0,5993	42	0,24939	0,1112	42	0,20511	0,3206	42
ROA Target	-0,06368	0,6924	33	0,26521(*)	0,0938	33	0,17018	0,2874	33
ln profit after taxes Target	-0,37599(*)	0,0640	25	-0,15629	0,4557	25	-0,10062	0,6322	25
f) Bidder dimension									
ln Total Asset Bidder	-0,21332	0,1369	49	0,35383(**)	0,0117	49	-0,04413	0,7609	49
ln market value Bidder	-0,37981(***)	0,0055	52	0,09478	0,5039	52	-0,37966(***)	0,0055	52
g) Bidder profitability									
ROA Bidder	-0,06916	0,6368	47	0,40963(***)	0,0035	47	0,10547	0,4708	47
ROE Bidder	-0,06619	0,6732	39	0,39562(***)	0,0086	39	-0,06311	0,6876	39
h) Payment method									
Dummy for cash	0,50078(***)	0,0078	27	0,16369	0,4146	27	0,50682(***)	0,007	27
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the relative p-value and the number of observations for which the correlation was measured.									

Results evidence a significant preference, by target shareholders, towards national operations. This result confirms the prevailing literature⁸³ which affirms the market's preference for

⁸³ Berger e Humphrey (1992); Cybo-Ottone e Murgia (2000).

domestic scale aggregations, justifying this result with the lesser realization difficulties that investors would attribute to integration between two companies operating on the same territory. Additional papers⁸⁴ have shown higher value creation effects for cross-border acquisitions compared to domestic ones, albeit for the sole buyer's business. The results of this research, however, do not document significant inclinations for cross-border acquisitions, with respect to national ones, not only for buyers, but also for combined entities. In fact the results obtained, even though in line with previous literatures, are not statistically significant.

Referring to the growth strategy for external lines, the evidence suggests that it is not possible to state significant relation since the observed correlations, which indicate a slight preference for the market towards horizontal operations, are not statistically significant. Also regarding the size of the transaction, results do not allow the detection of any significant pattern.

Among the variables related to the size of the acquired company, it is possible to identify a significant (at 99% level) and negative correlations between the value created by the operation on the Bidder and on the Combined Entity, and the market value of the Target (expressed in logarithmic scale). This means that the effects of the transaction were the more positive, the smaller the acquired businesses. This result contrasts with some of the literature that saw in the acquisition of high-dimension target companies a rationale for achieving significant economies of scale. On the other hand, it can be argued that the integration of a small reality could have been more appreciated by the market, as it is generally considered more feasible.

The analysis of the relation between the market effects of the transaction and the ability to generate income of the acquired company, state the existence of negative and significant (at 90% level) correlation between the CARs of the Bidders and the net profit after-tax of the Target. This is a conflicting result with the idea that the effects of the operation should be the more positive, the higher the quality of the acquired business. While providing an indirect confirmation of the previous literature⁸⁵, that justified the aggregation phenomena as the shift of assets from poorly managed companies to better managed ones, this result highlights some conceptual ambiguities that lead to consider it only partially. In fact, the lack of evidence of

⁸⁴ Focarelli e Pozzolo (2007).

⁸⁵ Houston e Ryngaert (1994).

a significant relationships between the CARs and a measure of performance disparity between the two companies, does not guarantee with sufficient solidity the results of this analysis.

Besides, there is evidence of a positive and statistical significant (at 90% level) correlation between the Target ROA and the benefits of the operation on the Target. This indicates the appreciation of the shareholders of the Target company, for the M&A operation during the state of high profitability of their company. For what concerns the correlation between the CARs and the relation of involved companies' ROA, no significant results have been found.

In addition, we have tried to identify the existence of a relation between the effects of aggregations and some characteristics of the acquirer. Hence, if the market was affected by its quality and standing. The results of this analysis, significant for Target companies, indicate that the value creation of the transaction for the latter was the more positive the larger (in terms of total assets) and profitable (in terms of both ROA and ROE) were the company that undertook the take-over. This demonstrates the existence of a sort of "*reputational benefit*" for the Target due to the quality of the Buyer. Opposite results are obtained for the Buyers and the Combined Entity. In these cases, there is evidence of a significant (at 99% level) and negative correlation between CARs and Bidder market value (expressed in logarithmic scale). This indicates that it is only the Target to gain from the reputation of the Bidder.

Finally, we have been looking for a confirmation of the thesis that acknowledges the payment in cash as a sign of quality and success of the transaction. The results do confirm this argument, as the correlation between the *value effects* and the *dummy* indicative of cash payment is both significant (at 99% level) and positive for Bidder and Combined Entity.

In the last phase of the analysis, we built a multivariate regression model that explains the consistency and variability of the CARs detected for the combined entity in the window (0;+1) through variables emerged as statistically and conceptually more relevant. For the determination of the final regression model, it has been followed an *iterative approach*. This, starting from the identification of some of the features of the transaction that are certainly relevant (e.g. method of payment, market size of the target), envisaged the progressive inclusion of suitable variables to better express such features, representative of other relevant

aspects that contribute to increasing the model's explanatory capacity. According to this methodology, the analysis of the determinants of the combined entity's CAR is divided into three models, represented in Table 5.

Table 5: Multivariate regression of CAR (0;+1) of the Combined Entity

	MODEL 1			MODEL 2			MODEL 3		
INDEPENDENT VARIABLE	Correlation coeff.	t-stat	p-value	Correlation coeff.	t-stat	p-value	Correlation coeff.	t-stat	p-value
Payment Method									
Dummy for cash	0,06151(**)	2,280	0,0318	-0,00612	-0,457	0,6516667	0,05601(*)	2,014	0,0563
Target dimension									
In market value Target	-0,01695(**)	-2,200	0,0376	-0,05258(*)	1,848	0,0775323	0,00509	0,339	0,7376
Bidder dimension									
In market value Bidder				-0,01295	-0,991	0,3317956	-0,02869(*)	-1,741	0,0957
Nationality									
Dummy for domestic deal							0,03792	1,502	0,1473
Constant term	-0,01537	-0,373	0,7127557	0,00860	0,180	0,8587754	-0,02619	-0,504	0,6196
R squared	0,382			0,407			0,462		
Adjusted R squared	0,330			0,330			0,364		
F-test	7,405			5,261			4,725		
N observations	27			27			27		
Symbols (*), (**) and (***) indicate a significance of the correlation coefficient, respectively, to 90%, 95%, and 99% confidence level. It is also reported the value of the t-test with the relative p-value. Finally, for each of the three models, are reported the values of R squared, the adjusted R square, the Fisher variance significance test and the number of observations for which the correlation was measured.									

Model 1 comprise only two independent variables, namely the payment method and the dimension of the target (in terms of market value one month prior the announcement of the acquisition). Estimates of the coefficients of the two variables are both statistically significant. In particular, in accordance with the previous correlation analysis, payment in cash is characterize by a positive coefficient, while the target dimension a negative one. Model 1 demonstrates a discrete explanatory capacity, as R squared is 38% (33% adjusted R square).

Model 2 includes, among the explanatory variables, the additional bidder dimension feature (also in this case measured with the logarithm of the market value one month before the announcement of the acquisition) that was significantly correlated with the combined entity's CAR in the previous analysis. The coefficient of the newly added variable is negative, though, it is not statistically significant. In addition, the inclusion of the last variable results also in

the lack of statistical significance of the coefficients indicating the payment method, that was previously significant. In any case, the explanatory capacity of Model 2 is increased with respect to Model 1, with the R squared being about 40% (33% adjusted R squared).

Finally, Model 3 includes the involvement of an independent variable that, although not significantly related to the CAR of the Combined Entity, has been able to contribute positively to the explanatory capacity of the regression model, whose R square exceeds 46% (36% adjusted R square). As in Model 1, the value creation followed by the announcement of the transaction is directly related to the method of payment of the transaction. Also, there is evidence of a negative correlation between value creation for the Combined Entity, and the size of the bidder. This last evidence, although it must be noted the extremely small value of the estimated regression coefficient, confirms the already stated consideration that the market appreciates more positively the operations undertaken by small companies.

Conclusion

The consumer industry manufactures and, perhaps more importantly, markets everything from food and beverages to toiletries and small appliances. It is the source of a significant portion of the gross domestic product of many countries, and acts as a driver for other industries, especially advertising and retail. Though, as a well-established and mature industry, it is characterized by sluggish growth rate. Also for this reason, during the last decade, consumer goods companies are increasingly using M&A as a strategy to expand global reach, enter new markets and consolidate the focus on their core brands. The objective of this elaborate was to study the stock price reaction of the market following the announcement of an M&A operation in the European Consumer Industry. Through the methodology of Event Study, applied on a sample of 53 transactions, we have demonstrated the presence of a multitude of significant relations between some characteristics of the operations, or of the companies involved, and the *wealth effects* generated. Besides, we built a multivariate regression model that explained the consistency and variability of the CARs, through defined variables. However, the reduced number and quality of the estimates, induce to neglect the explanatory capacity of the multivariate regression models, in favor of a simpler identification of few, conceptually solid, significant relations.