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VALUE CREATION IN M&A DEALS : RELATEDNESS AND LEARNING CURVE EFFECTS. HOW CAN WE CLASSIFY ACQUIRERS REGARDING RELATEDNESS AND ACQUISITION FREQUENCY AND HOW THAT CLASSIFICATION AFFECTS THE WAY WE MUST CONSIDER VALUE CREATION DURING M&A TRANSACTIONS ?

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International Finance Master's Research Paper

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Value creation in M&A deals: relatedness and learning curve effects

How can we classify acquirers regarding relatedness and acquisition frequency and how that classification affects the way we must consider value creation during M&A transactions?

Under the supervision of:
Prof. Patrick Legland

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1. Abstract

Being able to create value for shareholders is the challenge that every management is facing. More on more companies have recourse to mergers and acquisitions to deliver value for shareholders. However, the strategic rationale behind the deal can be varied and is key for us to assess value creation. Our paper puts an emphasis on an analysis not only post-ante of value creation but also contextual. For that purpose, we have designed a matrix based on two axes: (i) relatedness of business; and (ii) frequency of acquisition. We consider synergies and TSR as the best way to measure value creation, all the more so as they are complementary. The first one is an ex-ante measure that is often used to trigger a deal, the second one is an ex-post measure which gives an indication of the market perception of the deal. Through our four case studies, we have illustrated how the context is important to analyse a deal and how to choose the most suitable measure to assess value creation.

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3. Introduction

M&A is a subject that has fed the financial literature for years. The resurgence of blockbuster deals after several quiet years, has taken that activity back on the front page of the financial press. If M&A still fascinates so much, it is mainly because the financial mechanisms behind each deal remained unclear, and in particular value creation, for most people, even professionals. We think that the way value was broadly analysed by previous research papers, corporate finance books and other finance-related publications is not exhausted and fully satisfying. Therefore, we have decided to investigate value creation through a new angle, considering both strategic and financial rationale.

Problem Statement

If the financial literature has mainly concentrated on value creation of M&A deals, it has essentially been done on a market point of view, with little strategic rationale behind. The comparison of abnormal returns has often been the key measure used to assess value creation for shareholders of the acquiring company. We thought that method on its own is insufficient to assess if there is value creation in a M&A deal. For us, the strategic dimension, the current financial situation of the company and the market environment are factors that should be considered to state if the deal has created value or not. Each deal should be analysed in its context. The analysis of abnormal returns remains a post-ante method to assess value creation, while we would like to emphasize the strategic aspect of M&A deals. When deciding to go to M&A, management of the company has a toolkit that it needs to use to forecast and assess the potential value creation for the shareholders. If the real value creation can only be measured ex-post, the go / no-go relies on an ex-ante analysis. Why that deal would generate value creation for the shareholders? How that value creation will characterize? Why did the management decide to go for M&A? What method is the most suitable to measure value creation? Is it rather short-term or long-term value creation? Those are questions, the abnormal return method cannot answer.

In its 2016 M&A Report, *Masters of the Corporate Portfolio,* the BCG established a typology of actors in the M&A landscape. Each dealmaker is classified among three categories: “portfolio masters, strategic shifters and one-timers”. That classification stands only on a frequency basis. If that analysis has been a base for our thesis, we have found those three categories incomplete to analyse value creation and we have tried to design our own matrix.

Objective of our thesis

We have tried to design a relevant matrix to classify M&A deals and analyse value creation for each category. We have chosen a two-axis matrix, based on our experience and our reading. We think that matrix is pertinent enough to include a large amount of M&A deals. On one hand, we will have a relatedness dimension and on the other one, the frequency dimension. We reckon that our classification has of course some pitfalls, especially the shadow zones that could appear between two categories and the difficulty to classify some companies. Each “galaxy” will include a theoretical part, illustrated by a concrete example. Through those case studies, we will use a retrospective approach, to understand the choice of the management, the motives behind the deal and what method we can use to measure value creation. Those examples will the occasion to test the tools we have considered the most appropriate to assess value creation in our first part. Our main purpose is to provide useful insights on value creation in M&A deals without neglecting the strategic rationale.

4. Theoretical background

4.1. M&A context and trends

After several years of low activities, the number of M&A deals has rebounded since 2014 to almost reach levels from prior to the Financial Crisis. 2015 was one the best M&A years worldwide, especially in the US, boosted by a recovering economy, solid stock market momentum and large amounts of cash on the balance sheet. In this way, more and more companies are now considering M&A as part of their strategy after having neglected such kind of external growth for years. In 2016, over 550 US CEOs, 91% of them claimed that they intended to do at least one acquisition in the next twelve months, according to the KPMG 2016 US Executive Survey.

In addition, we have seen the return of megadeals in 2016. For example, AB InBev agreed to acquire SABMiller for $112 billion while AT&T announced the takeover of Time Warner for $85 billion. In the path of those mediatized deals, the average deal size sharply increased compared to the average over 2000-2014. In 2016, this number reached $104.2 million, slightly lower than in 2015 when the average deal was worth $115.4 million but much higher than the $77.1 million average for deals made between 2000 and 2014, according to data compiled by Dealogic.

Considering those trends, it is key to understand what is the rationale behind this surge in M&A activity and to assess to what extend M&A deals create value. Therefore, it seems necessary to perform further research on where the value creation comes from in order to assess strategic implications, for the company and its shareholders alike.

4.2. Motives behind mergers and acquisitions

There are many possible motives behind M&A strategy. According to the KPMG 2016 US Executive Survey, the main reasons when considering an acquisition are expanding the customer base and entering a new business. If we compare the results of the survey with the one of 2015, we observe a shift from sale consolidation to bold expansion. This change can be explained by two main reasons: first, the strong momentum for deal making enables companies to launch more audacious deals; secondly, acquisitions appear to be the best way

to boost EPS in the coming years because of an environment in which organic growth is weakening.

In the following sub-sections, we will briefly describe what we consider being the five main motives behind M&A:

- Growth through horizontal acquisitions;
- Diversification in new businesses;
- Reshaping the business;
- Acquisition of new technologies, skills or intellectual property; and
- Supply chain, pricing power and vertical integration motives.

4.2.1. Growth / Horizontal acquisitions

That kind of motivation arises essentially in mature industries where opportunities are rare. A mature industry is defined as an industry where we observe:

- A low growth for the industry's products or services;
- An excess capacity;
- No more than three main players (monopoly or oligopoly);
- Pricing pressure; and
- The necessity to reduce costs to survive.

By acquiring another company, the acquirer will easily grow its market share. Indeed, in mature industries, there are few opportunities, organic growth is low, and therefore M&A is the most efficient way to increase top and bottom line. The acquirer will expand its customer base and have a stronger market power. That new position on its market will give the company three leverages to realize value creation: revenue enhancement, cost savings and new growth opportunities. In the KPMG 2016 US Executive Survey "Expand customer base" was the second most quoted reason at the question: "What are the primary reasons for the acquisitions your company or fund intends to initiate in 2016? The third one was: "Expand geographic reach".

Indeed, horizontal acquisition is very often used for international expansion. Acquisition is the more efficient way to rapidly increase one's geographical reach. Starting a subsidiary from scratch in a new country is very difficult and requires a lot of time. In this way, horizontal acquisition is a convenient way to acquire "growth" in new market, even thought it might be costlier.

4.2.2. Diversification / New business

"Enter into new lines of business" was the top reason quoted to US managers to justify future M&A according to the KPMG 2016 US Executive Survey. Diversification has been used to substantiate many M&A deals. A company looking for a new business does so to reduce the impact of one of its others businesses' performance on its total profitability.

In addition, diversification could lead to conglomerates. A conglomerate firm uses acquisition to expand its portfolio of companies and increase its overall market power. Market power here is defined as the opportunity to act unfairly against competitor and potential new entrants in a market. Indeed, a conglomerate could have a stronger market power through cross-subsidizing. The firm can support low price (loss-making policy) in a competing industry to acquire a solid market thanks to the profit made in its other businesses. The specialised "pure" player — which is only active in one market — is penalised and could be absorbed by the conglomerate. However, the market power described can only work if the conglomerate has already established solid positions in its other individual markets.

4.2.3. Reshaping the business

Companies which have been diversified for a while may want to refocus on their core business because they have lost market shares or margins have weakened. They want to sharpen their strategy and have a better market penetration in their main activities. Therefore, it is not surprising to observe at the same time divestures and acquisitions to reshape the company's scope of operations and to implement the new strategy. Very often divestures are done to finance the acquisitions but they also can be the consequences of anti-trust regulations to prevent anticompetitive market positions.

There are many reasons for divestitures:

- The business underperformed compared to its competitors;
- The business does not fit with the new company strategy;
- The company went too far away in diversification causing difficulties to monitor divisions' performances;
- The company is in a financial distress situation and need cash to avoid going bankrupt;

- The division is part of a larger acquired group and does not have a strategic interest for the acquirer;
- The division was bought as an underperforming company and is resold at profit as a competitive one; and
- The division is known as “the crown jewel” and is sold to prevent the parent from being victim of a hostile takeover.

4.2.4. New technology / Skills / Intellectual property

Companies could decide to acquire another firm to benefit from its intangible assets, from skills to patents. This is especially true for start-ups, where all the value of the firms relies on the skills of their founders and the technologies they have been developing. That kind of acquisition is called “acqui-hiring”: the company rather that acquiring the company as an entity, is buying its employees and their know-how.

In industries where patents are key, for example Pharmaceuticals and Tech, battles to acquirer a small player that has developed a unique molecule or technology can be fierce. Acquisition premium can skyrocket even if it is difficult to value skills and intellectual property. In that regard, it is not surprising to find that “Enhance intellectual property or acquire new technologies” was the fourth main reason to initiate M&A according to the KPMG 2016 US Executive Survey. Indeed, given the growing of fields where IP is key to success, there is every likelihood that this tendency to acquire intangible assets will continue to progress.

4.2.5. Supply chain / Pricing power / Vertical acquisition

By buying a partner downstream or upstream, the company will have more power on the value chain of its industry. That will remove a level of cost which could have a positive impact on margins. Vertical integration ensures: reduction of costs over the supply chain, better quality control over the products and improvement of the information flow between each level of the value chain. By acquiring its suppliers or its distributors, the acquirer eliminate the pricing pressure it could have experienced prior to the acquisition. Vertical merger enables flexibility and a better control over margins.

However, the counterpart of higher power on the value chain is that the company will have to operate activities outside of its core businesses. Therefore, it is costly and risky, especially

during uncertain economic periods, where the “all the eggs in one basket” strategy is rarely fruitful.

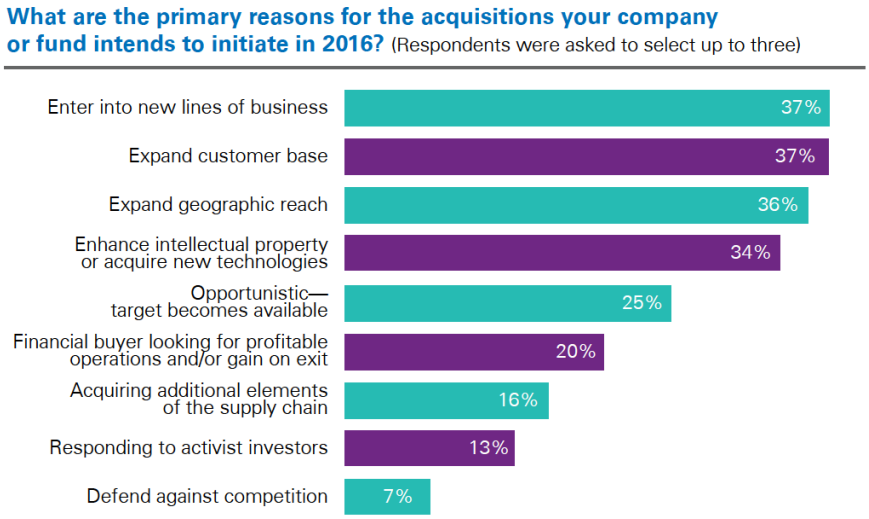


Exhibit 4.1: Motives behind M&A transactions (KPMG Executive Survey, 2016)

4.3. Developing a financial rationale for M&A transactions

In addition to having developed a strategic plan, the management of the acquiring company also need a financial rationale. That rationale will give credibility to the strategic motives announced by the management.

Financially-speaking acquisitions are often considered from two standpoints: a comparison of the market value vs the intrinsic value, and the synergies generated by the deal.

4.3.1. Market value vs intrinsic value

It is common to hear that a company has been acquired because it was undervalued. To clearly understand what is meant behind that statement, we need to come back to the basic understanding of acquisitions. Buying a company is no more than acquiring its tangible assets such as factories and equipment, as well as its intangible assets like workforce’s know-how, patents and brands. In this way, assessing the value of employees’ know-how is complicated for the market and managers of a rival company may have better information and skills to estimate the intrinsic value. Therefore, it is possible to find opportunities where the Market

Value goes below the Intrinsic Value. Strategic buyer with asymmetric information might be able to acquire assets cheap compared to their fair value (Halpern, 1982). It has been showed that by comparing actual market valuation with intrinsic values, companies could at least double shareholders' returns if they acquire assets at the bottom of a cycle and sell them at the top of it (T. Koller and M. de Heer, 2000). However, it remains difficult to find such opportunities, as in theory market valuations should be derived from the intrinsic value. Indeed, on the long-term the market is relatively effective and companies have paid high premiums over the last years, which emphasizes the fact that those opportunities remain unusual.

In that regard, when considering acquisitions, companies should focus on synergies and assess if the net present value of synergies is higher or not than the premium paid. The main objective is to increase the net present value of the future cash flow of the combined entity. This is possible by creating synergies between the two businesses, either through operating or financial synergies.

4.3.2. Value creation through synergies

Synergies happen in a context of M&A, when the value and the performance of the two standalone companies are lower than the ones of the combined company. Synergies can come from top line growth, higher margin or lower weighted average cost of capital.

4.3.2.1. Operating synergies

Operating synergies are synergies that enable the combined company to increase its operating income and achieve higher growth. This is realized essentially in four manners:

Economies of Scale: the merger may allow the combined company to become more productive, driving down the costs. The per-unit cost goes down as the result from an increase in the company's size and operating scale. This is especially expected in horizontal deals, during which two companies operating in the same sector could reduce their costs by combining their production. We will see at a later stage that the AB InBev group has benefited from economies of scale through its different acquisitions.

Higher Growth in new and/or existing market: This happens when the combined company uses the market of one the company to sell the product of the second one. This is especially

true with cross-borders mergers. Indeed, a company can acquire a firm with an established distribution network and a well-known brand name to access a new market thanks to those strengths. For example, Numericable has leveraged the commercial network of SFR to sell and provide its “Triple Play” services after their merger in 2014.

Greater Pricing Power: M&A can reduce competition as a company acquires its competitor. It implies a higher market share and a weaker competition. In this way, the pricing power of the combined company is greater. The company may charge higher prices to the customer or/and use its bargaining power to slash suppliers’ prices. That kind of synergies is likely to appear in horizontal M&A and in sectors in which only few companies operate. However, nowadays it is rare to witness in practice a huge increase in prices after horizontal mergers. Indeed, anti-trust policies have been tougher and tougher for many years. The only sector that might be concerned would be luxury even if it is still difficult to explain the increase in price linked to consolidation and the part linked to the market evolution. We can also mention the merger between Total-Fina and Elf-Aquitaine in 1999 which removed competition in France as it concerned the two largest French petroleum company.

Combination of different functional strengths: This is the case when the two companies are very complementary and can use that to increase revenue and margin. A firm with strong marketing skills and a good distribution network can create significant synergies by combining with a company that has a poor distribution channel but top-quality products. For example, Procter & Gamble spent $5bn in 2001 to acquirer the Clairol which sell hair colouring dyes. P&G estimated that it could boost Clairol’s revenue by more than $1bn within five years. Indeed, P&G used its brand expertise, its marketing capabilities and its international distribution network to globalize Clairol’s products, especially in developing countries.

Revenue enhancing synergies are much more difficult to estimate. Although the sources of revenues synergies are wide, they remain hard to precisely assess. That is why companies emphasize their communication on cost synergies in merger announcement. Indeed, it is easier to estimate costs that can be reduced than to assess how revenues can be increased through a combination of two companies.

4.3.2.2. Financial synergies

Financial synergies relate to the positive impact of M&A on the acquirer’s cost of capital. Weighted average costs of capital (WACC) mainly depends on risk of the capital employed. In

this way, if the cash flows of the two companies involved in a M&A deal are not perfectly correlated, the risk of the capital employed will be reduced. As the risk decrease, the company will be less risky and investors will require a lower return. Diversification could reduce the probability of default and therefore decrease the costs of bankruptcy given the lower volatility of the future cash flows. Higgins and Schall called this effect the co-insurance effect (Robert C. Higgins and Lawrence C. Schall, 1975). If the income streams of the pre-merger firms are not perfectly positively correlated, it is possible that one of the standalone company experiences bankruptcy but the other does not. If the firms are separated, the creditors of the bankrupt firm will have a loss. On the contrary, if the two firms are merged, the cash flows of the solvent firm that are not used to pay its debt interests will be used to settle the debt requirements of the other firm. The merged firms provide each other with a form of corporate co-insurance which reduces the bankruptcy risk (and the expected cost of bankruptcy) to the creditors of the merged firm.

Purely financial synergies will be especially key in “conglomerate” acquisition where there is no operating synergy. If we consider the first Modigliani-Miller model (1958) with no taxes, there is no leverage and financial synergies cannot exist. In this way, there are no benefits to pursue a merger with no operating synergies. However, the “pure” world described by Modigliani-Miller is much more complicated. Lewellen (1971) demonstrated that a merger will lower the default probability compared to the stand-alone company. That decrease de facto allow a higher debt capacity which leads to greater leverage and tax benefits. In this way, value creation through financial synergies come from a change in capital structure. According to Lewellen, that change is necessary positive. One could also argue that the purpose of the management is not to diversify the business by acquiring companies outside the core competency of the firm. Indeed, each investor can diversify its own portfolio through diversification, therefore, diversification at the firm’s level is useless. Hayne Leland (2006) demonstrated that there are two sources of financial synergies: “LL effect” defined as the “loss of separated limited liability” and the “Leverage effect”. “LL effect” is always negative while the “Leverage effect” can be either positive or negative. The potential gain thanks to the leverage effect can be surpassed by the negative effect of combined liabilities. Indeed, by combining activities, if one of them is in difficulties, the second one will also be affected. That argument is against the “co-insurance” concept described by Higgins and Schall. Litterature is divised on that point. Nevertheless, “LL effect” supposed that financials synergies are not necessary positive. Hayne Leland drew the picture of good fit where financial synergies are more likely to appear:

- If the cash flow volatility of each company is low, the “LL effect” will be weak
- “If correlation of activities is low”, better will be the diversification

- If companies have the same default costs and volatility, “leverage effect” will be boosted

Another way to see financial synergies is through a redeployment of excess cash held by the pre-merger firms. This refers to cash slack. One of the firms has a consequent excess of cash but no opportunity to invest, while on the other side, the second firm has the possibility to invest in extensive cash projects with potentially high return. The combined entity could enjoy the profits of those projects by investing the excess cash of the other company. The increase in value comes from the cash flows of the projects that would not have been taken without the merger. That kind of synergies is likely when a public company buys a private one or a large firm acquire a smaller business. However, Halpern argued that excess of cash in balance sheet could be the signal of a future takeover (as acquirer or as target). Then the share price should reflect the high probability of takeover and the redeployment of cash. In this way, the value creation from this source remain difficult to assess (Paul Halpern, 1983). Financial synergies can be expected in many M&A deals. However, the key issue is how to value such kind of synergies.

4.4. Value creation assessment

Banking, market and corporate practitioners commonly use a few set of metrics to assess the value creation potential of M&A deals. Each metric either focuses on value creation at the corporate level or at the shareholders’ level. The most widely used metrics and frameworks are the following:

- ROE (return on equity) versus the cost of equity: ROE is a commonly used metric to assess value creation at the shareholder’s level. If the spread between ROE and the cost of equity is positive, then value is created. A similar metric, comparing ROCE (return on capital employed) to a company’s WACC determines value creation at the company level. Despite not being widely used for M&A transactions, they are important value metrics which must be addressed;
- EPS (earnings per share) accretion: EPS is the most widespread proxy for value. Although accretive deals are not always considered as value-enhancing, most equity analysts and investors will discard a deal which displays a dilutive pro forma EPS;
- Synergies vs premium paid: synergies are the main driver to assess how much value the acquirer can expect to generate after having paid the premium. Thinking

about synergies will cap how much premium the buyer is willing to grant target's shareholders to acquire their company; and

- TSR (total shareholders return): TSR underlines the market perception of value creation. Although TSR cannot be used ex-ante to assess value creation, it is a powerful measure to understand value creation ex-post.

In the following chapter, we will investigate whether those metrics can be considered relevant value creation measures. For each metric presented above we will present the main concept of the framework and its usefulness regarding value creation, then we will try to underline the main pitfalls of each method and finally we will conclude on the relevancy of each one of the metrics.

We will start by analysing ROE, although it is not directly used for M&A transaction purposes. We will not go into details for the ROCE metric since its workings about value creation are similar to return on equity, but at the firm's level (and not at the shareholders' level only). Then we will look into EPS and synergies versus premium, which are all widespread measures used during M&A processes to assess value creation and trigger M&A transactions. Finally, we will explore briefly how TSR can prove to be a relevant metric in terms of market perception of M&A deals value creation.

4.4.1. The ROE fade

4.4.1.1. The return on equity metric

Should you look at ROE as a value-creative metric? Sustaining a constant ROE can become a very costly policy for companies. Assuming constant pay-out rates, as companies mature, their ROE should fade away while their growth is realized. Sustaining the ROE would imply impressively high pay-out rates [1].

According to the DuPont formula, ROE can be expressed as a combination of net profit margins, asset turnover and "implied" leverage [2]:

[1] Up to a theoretical 100% pay-out rate to sustain ROE without having to produce any growth in earnings.
[2] We refer to the leverage part of the DuPont formula as "implied" leverage since its computation relies on the balance sheet book value of assets.

$$ROE = \frac{Earnings}{Sales} \times \frac{Sales}{Assets} \times \frac{Assets}{Equity}$$

Return on equity can also be expressed as a function of ROCE, gearing and after-tax cost of debt, as the following formula underlines it:

$$ROE = ROCE + \frac{Debt}{Equity} \times \left(ROCE - Cost\ of\ debt \times (1 - Tax\ rate)\right)$$

In line with DuPont formula, we have two major components driving return on equity: (i) balance sheet performance (ROCE); and (ii) leverage and the subsequent financing cost (net of tax shield).

ROE is therefore an operating performance (e.g. ROCE) boosted by financial leverage. Whenever the after cost of leverage is lower than the operating performance (balance-sheet-like), then leverage increases dramatically returns on equity.

More pervasively we can define ROE as a function of the drivers presented in Exhibit 4.1 below.

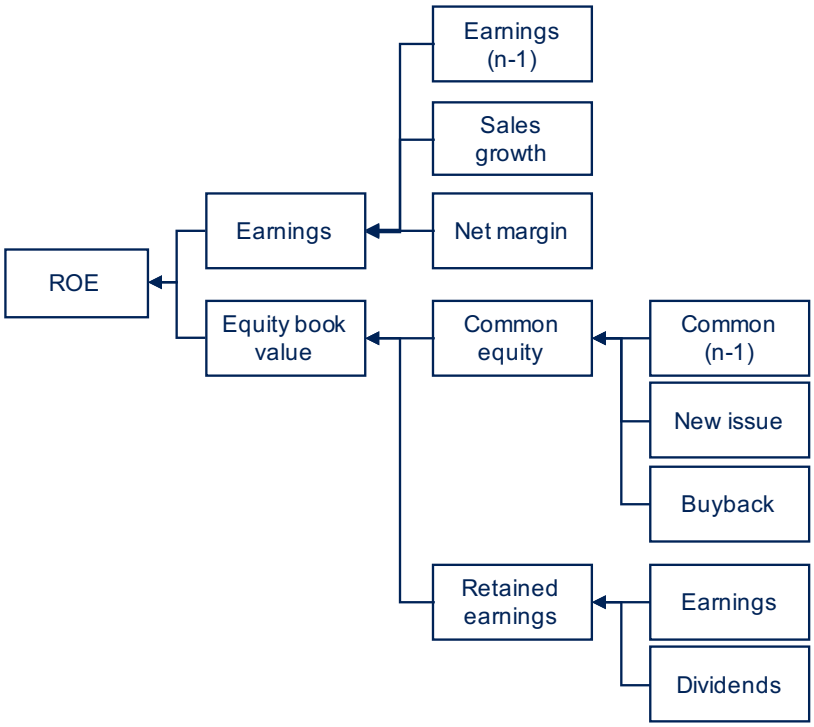


Exhibit 4.1: Return on equity drivers

ROE can easily be boosted through leverage, making it difficult to assess whether proper value creation has been generated over the period. Leveraging without using those resources to boost top-line growth or implement bottom-line improvements can lead to value destructive actions on the long-run, whereas the simple leverage effect would have boosted return on equity on the short-run. That simple statement makes ROE a very uncertain metric for shareholders to assess their value creation.

Some studies have for instance found that cost of equity and more generally WACC is relatively slow to adjust to new gearing conditions. Therefore, “leveraging the ROE” can enable to efficiently boost the returns while the cost of equity is not adjusting as fast, thus making the spread higher without any actual value being created. A 2015 study from Pettengill and Lander supports that the cost of equity increases slowly with additional leverage until a certain point at which shareholders fear bankruptcy (causing the cost of equity to skyrocket).

Beside leverage, ROE can easily be manipulated through earning management and through discretionary buyback programs (which reduce equity at constant earnings).

ROE should not be considered as a value-creation measure, as explained above. It rather gives an indication on the company development stage (either growth or mature). It enables investors to assess the level of returns (either from capital gains or from dividends) they should be expecting for their investment to be in line with the risk-reward rule of finance.

However, ROE should not be considered as a static measure but rather rolled forward to estimate the return “fading-away effect” over time, as growth pattern slows.

Using expected growth CAGR on revenue, we can imply the breakeven pattern in terms of pay-out rate with the following formula:

$$\%PB = 1 - \left(\frac{1}{1+g} \times \frac{g}{ROE}\right)$$

Where %PB is the breakeven pay-out percentage, g the earning growth CAGR and where ROE is the current year ROE based on the last reported book value of equity. The analysis could have been refined in terms of operating drivers by expressing earnings growth as a function of sales growth and operating margin improvements (at constant tax rates). But we believe this additional level of granularity would have brought little to no value to our point. Therefore, the breakeven pay-out rate is therefore a function of a growth discount and of the retention rate of earnings ($\mathrm{g/ROE}$).

We define in Exhibit 4.2 the breakeven line which enables us to estimate the pay-out adjustment impact based on current and expected ROE levels.

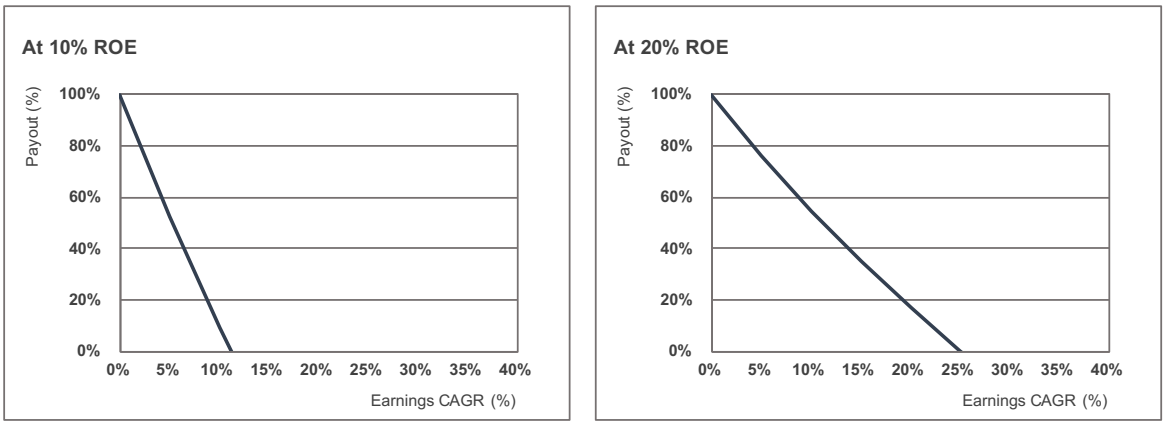
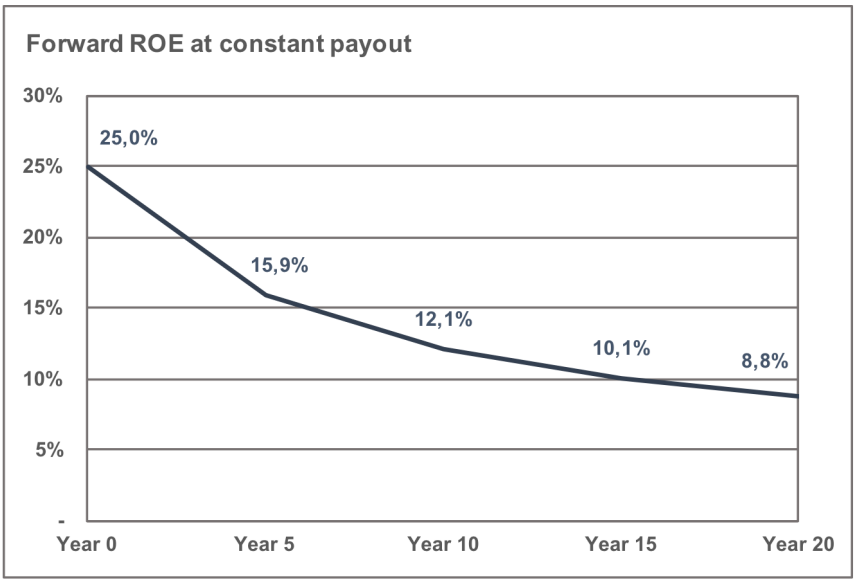


Exhibit 4.2: Sustaining ROE levels through increased pay-out rates

Using two different current ROE levels of respectively 10% and 20%, we found out that sustaining the ROE without paying any dividend would require a c.11% and a c.25% sales CAGR, respectively. Therefore, high cost comes with increasing ROE without only going through increased levels of leverage.

This breakeven study underlines that ROE is a measure which is meant to fade with time (Exhibit 4.3), as growth gets realized. It is therefore irrational to ask for companies to sustain ROE levels which are not in line with their maturity stage. We believe this analysis, alongside with ROE common pitfalls described above, make it a poor measure to assess value creation in general.

ROE should be used as a benchmark tool to spot mismanagement of companies based on their peers' average return on equity (when adjusted for leverage effect).



Assumptions

Initial return on equity: 25%

Earning growth (CAGR): 3%

Constant pay-out: 40%

Note

We see that ROE is fading with time at constant pay-out rate (alike most mature companies' policies).

On the long run, return on equity stabilizes around 5% in our example, therefore reducing the spread (all else being equal)

Exhibit 4.3: Return on equity long-run fade (at constant pay-out rate)

4.4.1.2. ROE applied to M&A

The same fading characteristic happens whenever a buying company decides to acquire another company with a higher return on equity. The "blended" pro forma ROE will be higher than on a standalone basis, but it will still fade away as growth is realized.

Value will be created whenever the spread before acquisition is lower than the pro forma spread. We define spread as the difference between ROE and cost of equity. Acquiring a company with a higher ROE will increase the pro forma spread by the different between the pro forma ROE and the ROE before acquisition (all else being equal: i.e. the deal being financed with cash on hand). Leverage will affect ROE upward thanks to an increased gearing (debt over equity). Therefore, the spread is on the one hand increased by the new ROE trend and on the other hand boosted through leverage. A potential increase in the cost of equity (depending on financing) could lower the impact.

Nonetheless, although M&A transactions enable companies to set on new ROE paths, if the merged entity cannot sustain the breakeven pattern of pay-out given its new growth in earnings then ROE will decrease progressively, as mentioned above.

We believe that return on equity is not the most relevant metric to assess value creation, for the many reasons we explained above. Looking at the spread does make economic sense for shareholders; however, this is a highly theoretical approach on which the emphasis should

not be put. The risk would be to discard other measures of value creation that we deem more relevant to analyse M&A transactions.

4.4.2. Why EPS is not a relevant value-creation metric

Earnings per share (EPS) are commonly referred to by companies engaging in M&A transactions to communicate about the deal value creation potential. On that matter, companies often tout a deal for being “accretive” on an EPS-basis.

Despite having no real link to value creation and being based on accounting numbers (which can easily be distorted at management’s will), Koller (2005) underlines that EPS is widespread because it is a simple metric, easy-to-handle and straightforward. Through an abusive use in boardrooms, M&A deals have been commonly described according the EPS impact of the transaction:

- An accretive EPS creates value for the firm and its shareholders; and
- Conversely, a dilutive EPS destroys value.

We will show in the following few paragraphs why EPS cannot be used as a proper proxy for value (and value creation), through a paradox which Brealey and Myers called the “bootstrap game”.

In the case of a share deal, a M&A deal is accretive as long as the P/E of the buyer is higher than the one of the target. However, this difference in P/E ratios is mostly explained by the growth rate in earnings of the buyer being superior to the one the target. Therefore, the combined growth rate of the merged company will be lower than the one of the buyer on a standalone basis. Consequently, the P/E ratio of the combined entity will adjust downward, making the combined value lower. All else being equal, Haas and Hodgson (2013) believe than the two effects (EPS accretion and P/E ratio reduction) should counterbalance perfectly. Otherwise value creation would be mechanical (which is the “bootstrap game”, since if companies could buy lower P/E companies and enjoy EPS accretion at constant P/E, then every company would engage in a buying-spree that would be well-perceived by the market itself).

Synergies are the only component left to create value during an acquisition. Haas and Hodgson underlines that in some situation a transaction can display dilutive EPS which will create more value through synergies than a deal with an accretive EPS but lower expected synergies.

On the other hand, a company can destroy value while forecasting accretion on an EPS-basis. As underlined by Koller (2005) (Exhibit 4.4): a buyer acquiring a target valued at €400 million for an offer price of €500 million will destroy value if no synergies are generated. However, if we consider a 6% cost of debt on new debt for the cash case, then next year EPS will be accretive because the after-tax earnings from the target are higher than the after-tax cost of the new debt. Concerning the stock offer case, buyer's P/E is at 20x versus 13x for the target, making the deal accretive in terms of EPS, despite the buyer having paid €100m in excess of fair value (without any synergy potential).

Transaction assumptions	Buyer	Target
Net income	80	30
NoSH	40	10
EPS	**2,0**	**3,0**
Pre-rumour share price	40	40
P/E	**20,0x**	**13,3x**
Market value	1 600	400
Offer price		500
Premium paid		**100**
Premium (%)		*25%*
Notes		
Pre-tax cost of new debt		6%
Tax rate		35%

EPS impact	Cash offer	Stock offer
Buyer's net income	80	80
Target's net income	30	30
Interest on new debt	(20)	-
PF net income	**91**	**110**
Original	40	40
Newly issued	-	13
Total NoSH	**40**	**53**
EPS bf. acquisition	2,0	2,0
Accretion / (Dilution)	0,3	0,1
PF EPS	**2,3**	**2,1**

Exhibit 4.4: EPS accretion generating value destruction for the buyer's shareholders

Looking at Exhibit 4.4 we clearly see that despite the buyer paid €100 million in excess of the fair value, in the case of the cash offer, EPS is increased by +0.3 and in the case of the stock offer, EPS grows from 2.0 to 2.1.

Although we have shown that EPS should not be considered as a relevant value-creation measure, since most analysts and investors believe EPS accretion to be a good proxy for value creation, it is often necessary for companies to communicate on accretive deals in a bid for the deal to be well-perceived by the market, which has an impact on total shareholders' return since this misconception is priced in the share price (Haas and Hogdson, 2013).

Despite the EPS being an easy-to-use metric, we believe that it has too many pitfalls to be used as a proper and relevant measure to assess value creation of M&A transactions. As mentioned above, whether the EPS is accretive or dilutive, companies and investors should investigate synergy potential to assess how much value the deal can create (and in what time

frame). We present in the next section how fundamental it is to estimate synergies during M&A processes.

4.4.3. Synergies vs premium: the major M&A rationale

As shown in the previous sections, both ROE and EPS measures suffer from disadvantages that makes it difficult to analyse value creation in a relevant manner. Synergies are on the other hand what most dealmakers look at when developing an acquisition rationale.

Bhide (1993) determined through the analysis of 77 acquisitions that operating synergies are the main motive behind transactions, in two-third of the cases. The bottom line behind M&A, as underlined by Damodaran, is to enhance value through synergies since the value of the combined firm should be higher than the sum of the two on a standalone basis.

We define value creation during an acquisition as the difference between the value of the synergies and the value of the premium paid to Target's shareholders (provided that the offer price before premium is equal to the fair value of the company). We therefore have the following equation:

$$Value\ to\ acquirer = Synergy - Premium\ paid$$

If synergies are the most common and relevant way to analyse value creation during an acquisition process, they can become hard to forecast correctly and they appear to be pointless in some cases in which the relatedness of the business is low. We will look further into business's relatedness importance in Section 5.

Typical synergies are either operating or financial (Section 4.3). Operating synergies are traditionally referred to and categorized in two ways: revenue synergies, which are meant to enhance sales' growth, and cost synergies, which are designed to enhanced value by optimizing the cost base of the Target. We will focus on operating synergies in this section.

Sirower and Sahni (2006) present the main pitfalls of M&A transactions that explain why such deals often fail to create value for the buyer's shareholders:

- Despite acquisitions' ability to boost buyer's growth trend, they require to be paid upfront whereas organic growth is cashed out through time (e.g. research, development, production, marketing, etc.). Therefore, value creation during

acquisitions become highly sensitive to time: any delay in the realization of the expected synergies can result in a stark decrease in their net present value;

- Secondly, even without any premium being paid, price is meant to already factor in operating improvements in companies' share price. Thus, synergies are compelled by the market to exceed a "base case" level of operating improvement which already justifies today's share price;
- Third, synergies are costly to implement: they consume a lot of additional cash and are time-consuming. Lots of resources are allocated to implement those synergies, which in turn could reduce capital allocation in other business units or divisions: Kengelbach, Keienburg, Gjestad, Nielsen, D. Walker and S. Walker (BCG, 2015) have shown that the median acquisition reduces the acquirer's EBITDA margin by 1.3 percentage point on a two-year time frame.
- Finally, acquirers must factor in post-merger integration issues like corporate culture, alignment of interest with Target's management, etc.

Because of those non-exhaustive reasons, properly forecasting the level of synergies and the appropriate premium to be paid above fair value become of paramount importance for the bidding company.

Sirower and Sahni (2006) developed a simple framework which focuses on analysing synergies as a breakeven point to assess the maximum premium to be paid in order for the deal to generate actual value for the acquirer's shareholders.

Considering that the market value of equity (MV) is a function of earnings (E) and of the price-earning ratio (P/E), we have the following formula:

$$MV_t = E_t \times P/E_t$$

By expressing earnings as a function of revenue (R) and pre-tax profit margin (π), and by increasing market value by the premium percentage (%P), they derive the required level of cost synergies (%SynC) to break even, expressed as a percentage of Target's cost base (on a standalone basis):

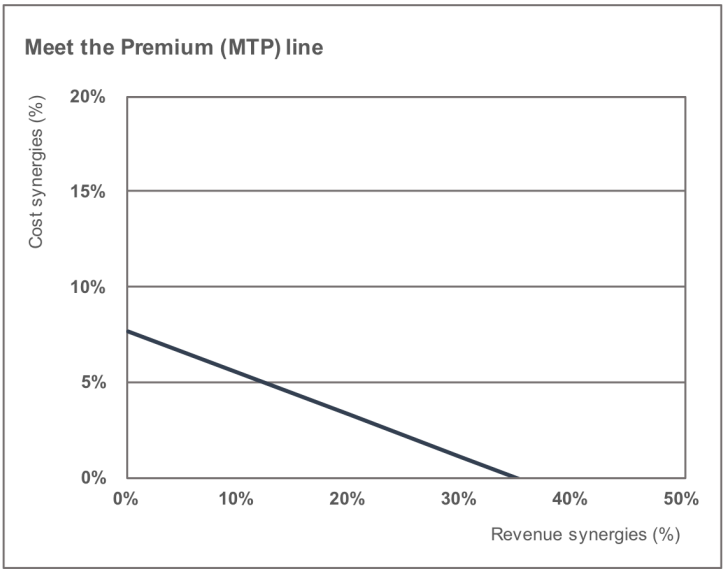
$$\%SynC = \frac{\%P \times (R \times \pi)}{R \times (1 - \pi)} = \%P \times \frac{\pi}{1 - \pi}$$

%SynC is therefore increasingly high for high-margin businesses, which makes sense since those highly profitable business will have a lower cost base, which requires a higher breakeven point in terms of percentage (%SynC) to meet the premium.

Coupled with the fact that cost synergies breakeven point can be reduce by the impact of revenue synergies (%SynR), they derive the following result:

$$\%SynC = \frac{\pi}{1-\pi} \times (\%P - \%SynR)$$

Sirower and Sahni model helps defining a line, called "Meet the premium line", which enable dealmakers to assess whether the level of synergies expected to be created with the acquisition is sufficient to justify a certain level of premium (Exhibit 4.5).



Assumptions

EBIT margin: 18%

Premium: 35%

Key takeaways

At a 35% margin, the acquiring company will need to reduce cost by 7.7% of the existing cost base before being able to create value. Thanks to revenue synergies, this baseline figure reduces along the line. Thus, every mix located right of the MTP line generates value.

Exhibit 4.5: "Meet the Premium" line (Sirower and Sahni)

Kengelbach, Utzerath, Kaserer and Schatt (BCG, 2013) estimated that the announced synergy median represents 1.5% of combined sales and 4.8% of Target's sales on a standalone basis, with consolidated industries having the upside to generate more synergies (based on announced figures).

Haas and Hodgson (ATKearney, 2013) provided figures based on what they deem is a typical synergy value pattern, which they split in three categories:

- Revenue synergies: 2-3% of combined sales
- Cost synergies: 10%-15% of combined cost base

- Capital rationalization (capital expenditures, working capital improvement, etc.): 10-15% excluding asset sales

Although Haas and Hodgson appear to provide figures well above what Kengelbach, Utzerath, Kaserer and Schatt have observed on an empirical basis, they still give rough maximum numbers for each synergy type. Following that logic Sirower and Sahni estimate that cost synergies are never above 10% of Target's addressable cost base: synergies are mostly generated through overhead costs, which on average represent 33% of the total cost base. They estimated 10% in revenue synergies to also be a maximum value as for the level of synergy that remains probable. All those numbers, despite displaying some stellar disparities, are useful to broadly estimate what synergy mix could be expected from a transaction and how it would fit the MTP line (Table 4.5).

Synergies are the strongest advocate to M&A transactions. Each dealmaker should however make sure to properly estimate the sources of potential synergies to ensure that proper financial resources are allocated and that a correct timeline has been schedule. Managers should also put the emphasis on communicating on synergies with the highest granularity possible to ensure that markets properly see the value creation that can be tapped from the deal. InBev's ability to provide investors with accurate figures on how, when and for how much the synergies would be delivered during their acquisition of Anheuser-Busch (2008) has been considered as a major factor of success for the deal. Failing to communicate the way the market expects could on the other hand results in negative swings in the share price post-announcement. Our next sub-section on TSR focuses on how that value creation is perceived by the market.

4.4.4. TSR: tracking market's perception of an acquisition

Although TSR cannot be used as an ex-ante measure to assess the value potential of a M&A transaction, it becomes quite useful to understand the evolution of share price post-acquisition. Has the value creation been well perceived by the market? Has the merger already created value at the share price level? If not, what is the value gap that must be bridged?

We believe analysing market reaction — and anticipating it whenever closing a deal — is of paramount importance to assess whether the deal will create value at the shareholders' level. Sirower and Sahni (2006) believe that the operating performance of a company (without any forecasted improvements) represent less than 40% of the share price. Therefore, most of the price comes from expected operating improvements: synergies. If the market does not

perceive the deal to be highly value-creative, then the price change will be low if not negative because of the premium paid. Understanding market's expectations and communicating clearly on the level of synergies to be achieve, as well as the specific areas and the expected delivery timeline, is essential for the deal to create a strong positive TSR-impact on the short- to medium-term.

TSR is commonly computed as the sum of the change in market price (capital gain) and of the dividends received; according to the following formula:

$$TSR = \frac{(P_1 + D_1)}{P_0} - 1$$

Where P_t and D_t respectively stands for the market price and the dividend at time t.

Capital gains can be expressed as a function of valuation change and dividends as the free-cash-flow yield, which depends on dividend yields and share buyback programs. Although the free-cash-flow yield depends on discretionary corporate policies (share buyback) the issue is less prevalent as for ROE since TSR is most often used as an ex-post measurement for a specific period of time.

Therefore, we can rewrite our TSR formula to factor in the different components of the return, as stated by R. Grinold and K. Kroner (2002):

$$TSR = \frac{D}{P} - \Delta S + i + g + \Delta PE$$

Where (D/P) is the dividend yield, -ΔS the percentage change in shares outstanding, also known as the repurchase yield. Grinold and Kroner consider the term (D/P -ΔS) to be the "income return", because it computes how much the company is returning to its shareholders. Therefore, the following terms (i + g + ΔPE) measures the capital gains recorded over the period, using the inflation rate i, the real earnings growth rate g and the change in valuation through the percentage change in the price-earnings multiple. Consequently, capital gains are the sum of earnings growth (i + g) and of "repricing" (ΔPE).

The Grinold and Kroner model is a more precise decomposition of Bogle's initial work. J. Bogle (1991) only expressed the "income return" based on the dividend yield and looked at

earnings growth as a whole — without breaking them down into inflation and real earnings growth as Grinold and Kroner did a decade later.

By combining both of Bogle and Grinold and Kroner return models, we can derive the formula E. D. Benson, B. D. Bortner, and S. Kong (2011) used:

$$TSR = \frac{D}{P} - \Delta S + \Delta E + \Delta PE$$

Where ΔE is the earnings change (expressed in percentage) according to Bogle's formula.

Most of the literature dealing with value creation in M&A transactions focuses on assessing TSR post-announcement and at a more medium-term horizon (one to two years). Sirower and Sahni (2006) developed such an analysis for the period 1995-2001, during the Merger Boom, and concluded that on average announcement and 1-year returns where stabilizing around (4.2%) on average at a 35.7% premium paid.

Kengelbach, Keienburg, Gjestad, Nielsen, D. Walker and S. Walker (BCG, 2015) further analysed market environment impact on the acquirer's TSR: it appears that best-in-class TSR performance (on a 1-year time frame) come from low-growth companies in a low-uncertainty environment. Following that empirical result, they have shown that acquirers should produce a higher revenue growth than organic players to get to similar TSR levels. Therefore, in a pressured environment in which investors and analysts have views and expectations on how a deal should be struck, communicating properly on synergies and on the strategic rationale become of paramount importance to produce actual shareholders' returns. Otherwise, most companies will fail to witness the impact of the acquisition reflect in their post-acquisition share price. Frequency thus comes as a major help in building up market's trust, which in turn provides higher TSR levels to acquiring companies (Bain, 2013).

We note that analysing the TSR ex-post underlines that returns also suffer from a fade effect because of market expectations. Although top-performing companies generates high returns to shareholders, they are often unable to sustain them on the long-run. The BCG Value Creators report of 2016 studied that only 21% of top performing companies made the Top-10 list three years or more. Apple is one of such companies that are able to sustain best-in-class TSR levels. One explanation results from markets' expectation: to provide sustained returns, companies must thrive on beating market's expectation (the "base case") and create new growth prospects for the year to come: alike Apple's ability to frequently adapt its business

model (from niche-to-mass markets). M&A is therefore one of the most helpful corporate tool to unlock such prospects. However, companies' ability to transform themselves through acquisitions and the variety of situations they are involved in underlines the need to stray away from traditional value creation tools in a bid to understand how value can be created on the long-run.

5. A revised matrix of acquirers

5.1. A typology based on frequency and business' relatedness

To answer the question of value creation in M&A deals, we have tried to design a new typology of deals. Literature has mainly focused on comparing related-business M&A vs. conglomerate acquisitions (Mueller, Flanagan, Singh, Palepu). Relatedness has been showed to be a key factor of successful M&A deals. However, empirically, it has been difficult to illustrate that related mergers gave better performance than unrelated mergers. Consequently, we think that even if that feature is key to analyse M&A value creation, it is impossible to study it on its own. Therefore, we decide to add a second dimension to our matrix. Adding a strategic purpose of the acquisition is essential to seize how value creation is measured and understood; however, it is also key to see how often the firm is engaged in M&A deals and how that will affect its capacity to create consistent value. Indeed, Vermeulen and Barkema showed in *Learning through acquisitions* how a company's current acquisitions will help it to extract much more value from its next deals. Therefore, serial acquirers should benefit from their experience to better target company. Indeed, a wise management will acquire companies that will deliver strong synergies for the combined entity. In this way, by experience they are able to precisely measure potential synergies and more importantly to fully realize them. Consequently, what is often called by "M&A experience" relies on two parameters: estimating precisely potential synergies and achieving them concretely and thoroughly. On the contrary, one-timer might overpay their acquisition by lacking experience in assessing potential synergies and achieving them.

The Boston Consulting Group designed a typology of M&A actors in its 2016 M&A Report. They analyse M&A deals through three angles, portfolio builders, one-timers and strategic shifts. They showed that one-timers benefit from the best stock market performance on the short-term right after their acquisition. They argue that investors believe in this unique opportunity, which will not happen again in the future. That argument goes against the "learning curve" exposed by Hitt in his book *A guide to create value for stakeholders*. However, we identified two kinds of one-time opportunity: unique opportunity to consolidate one's market and one-time opportunity to implement a shift in strategy. The first kind appears when a market is matured and the only way to gain market share is to buy competitors. A market with few players is prone to witness megadeals, the latter which occurred a lot in the early 2000's thanks to a booming market. Companies who make such move are most of the time conservative and carefully study the opportunity as it is very risky and they are not accustomed to make such

big acquisitions. The second kind is often considered as a last-chance opportunity. The company is stick in low-growth market that might become obsolete soon. They are looking at opportunities outside their market to make a strategic move and implement a new strategy. There are also “one-time” opportunity as, if the deal fails, the company might not survive. Consequently, we will have a closer look on one-timer doing a strategic shift (Nokia) compared to a one-timer sizing a unique opportunity to consolidate its industry (AirLiquide acquiring AirGas).

The BCG’s study also demonstrated that on the midterm, “portfolio masters” displayed better performance than one-timers. For us, it is important to divide “portfolio masters in two sub-categories. On the one-hand, companies that use acquisitions as their main driver of growth, focusing on enlarging their market share and consolidating their leadership in a specific market. On the other hand, companies which have built a portfolio of companies, more or less diversified. The first kind will be illustrated through “serial acquirers” and the second kind through “conglomerate”. Relatedness and synergies will be key to understand the key differences in value creation for those actors. In this way, we will study in depth two active acquirers, one focusing on consolidation in its sector (AB InBev), while the other one building a diversified portfolio (Kering acquiring Puma).

Through those four cases studies, we will illustrate theory by in depth analysis of different M&A strategies. Our 4-galaxy matrix will drive our thinking-process on value creation through two dimensions: (i) the strategic rational, and (ii) the frequency of acquisitions.

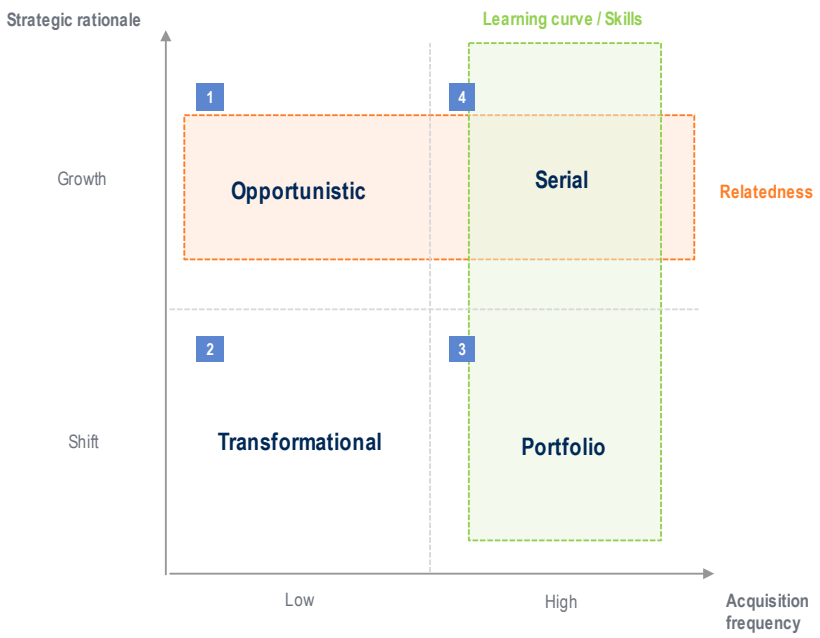


Exhibit 5.1: M&A matrix by relatedness and frequency effects

5.2. Serial acquirers

5.2.1. Literature and overview

Before studying in more details the creation of the group AB InBev through several acquisitions, we will try to define what are serial acquirers and what the literature says about them. As described in our matrix, a serial acquirer makes acquisitions very often and most of them in its sector. To justify growth through M&A, managers needs to deliver higher value than they would have done with organic growth. Serial acquirers appear especially in mature sector, where growth opportunities are rare (Telecom, Breweries, Consumer Good). Those acquisitions could be blockbuster or smaller deals. However, they have features in common: the serial acquirer looks for target in the same sector and that would favour its strategy. In this way, we will try to see both dimensions, on one hand the relatedness and on the other the post-merger integration effort to successfully achieve the given strategy and deliver value to shareholders.

5.2.1.1. The relatedness effect

The first characteristic of a serial acquirer is that it essentially focuses on related acquisitions. The literature has tried to demonstrate that related mergers should generate more value for shareholders than unrelated mergers. Flanagan (1996) explained that “if managers can agree upon a mutually beneficial price, shareholders of acquiring and acquired companies that are involved in related mergers should receive higher returns than shareholders of companies that are involved in unrelated mergers.” However, many empirical researches failed to support that statement. Most of them concluded that relatedness does not influence shareholder returns at announcement (Chatterjee, 1986; Lubatkin, 1987; Lubatkin & O’Neill, 1988; Matsusaka, 1993). In this way, we need to clearly specify the nature of the relatedness, and what the serial acquire is looking for by acquiring another company.

A serial acquirer is not always trying to acquire similar products but rather a business complementarity that would have been too expensive to develop internally. Indeed, the world is changing at a fast pace and only looking at “products” is not sufficient to ensure value on the long run. Indeed, investors require the acquisition to bring something new to the company. By focusing on special assets, skills and capabilities, the acquirer obtains resources that are very difficult to copy on the short term by competitors and can create significant value for its

shareholders. Hitt (2001) emphasizes “the need to look for resources complementary rather than relatedness among product offerings of the acquiring and target firm.” In this way, companies that only care about product similarities and under estimate resources relatedness, might have trouble to implement their strategy and generate value from the acquisition. A serial acquirer targets related companies by resources rather than products. Resources complementary will enable to generate revenues synergies while product complementarity will only create opportunities to complete costs synergies due to the strong overlap.

But why is it so difficult to buy successfully? Because acquiring a company is far more complex than typical operating activities. Barkema & Schijven (2008) described the complexity of a merger process, “The acquisition process consists of many interdependent sub-activities, such as due diligence, negotiation, financing, and integration, each of which is complex in itself”. In fact, post-merger integration requires many different skills from many different employees. Every level of the company needs to be involved to make sure the integration of the newly acquired company goes well. That is a long and collective effort.

5.2.1.2. The frequency upside

The second characteristic of a serial acquirer is that it makes acquisitions often. From that high frequency activity, it should benefit from a “learning curve” that will be beneficial for the next acquisitions. In this way, we need to study post-merger integration and if the “learning curve” claimed by Hiit (2001) really exists. Datta (1991) described two components in the post-integration effort that need to be tackled at the same time to deliver the maximum value for shareholders: “organizational fit” and “strategic fit”. Both have been described by him in 1991 and are two key concepts that serial acquirers have in mind when targeting companies. The “organizational fit” can be defined as the capacity to assimilate two different organizations in one single entity. That will include management style, corporate culture, remuneration system and day-to-day organization. On the other side, “strategic fit” is defined as how the newly acquired company will favour the successful strategy of the acquiring company; that includes a set of resources and capabilities from access to clients to product outlet through supply chain. Therefore, a serial acquirer will target company that will be easily integrated thanks to a great post-integration plan but whose resources and capabilities will be efficiently used to favour the implementation of the acquirer’s strategy by strengthening the market share or expending on a new geographical market. Given those two imperatives, it is normal to observe that serial acquirers most of the time buy company within their sector.

We will see later, how AB InBev has been built by considering those two dimensions: organizational fit and strategic fit. Having said that, it is not so easy in real life to find the perfect target and to integrate it successfully. Hitt (2001) shows that the “The ability to determine the set of resources that, when combined through a merger or acquisition, can be expected to create synergies and competitive advantages is a critical skill for organizational members (especially those in top-level managerial positions) to possess”. Managers need to clearly have in mind the future organization of the combined companies before the acquisition takes place. Therefore, “organizational learning” defines by Barkema & Schijven (2008) as “the transfer of an organization’s experience from one event to a subsequent one” is key in successful M&A transactions. A serial acquirer uses its experience in doing deals to prepare and ease the next one. Consequently, acquiring companies without complementary resources will make the integration much more complicated as the top-management may have to slash redundancies. As a serial acquirer mainly relies on external growth, it gains a lot of experience as a bidder and its top executives manage employees efficiently through the acquisition process. Communication is crucial to avoid confusion among the different team during an M&A process; the management team of a serial acquirer must help employees to develop their skills in quickly adapting their work behaviours and taking advantages of the newly acquired resources as the work environment might change constantly due to the fast pace of acquisitions. Larsson (1999) emphasized “The strongly positive and significant relationship between combination potential and synergy realization” in his research. Indeed, he showed that for successfully benefits from the high potential synergies, the management of the two companies needs to heavily interact. In particular, the higher the expected synergies, the higher the interaction between the two organizations in order to realize those synergies. Therefore, management should anticipate upriver post-merger integration to be able to fully realize potential synergies.

A serial acquirer by being accustomed to acquiring is able to put in place required action to ease the integration process early in the negotiation. Most of the time, it is necessary to keep the management of the acquired company involved in the process to exploit all the potential of the merger. Structural and organizational changes should be undertaken in advance to unlock value for shareholders. A high degree of coordination and interaction is required at both level: between the management teams and between the different levels of the buyer. Pablo (1994) demonstrates that “it may not be enough for a merger or acquisition to have potential synergies to exploit”. Indeed, a company needs the right organization to implement those synergies. As already discussed, top-level managers need to motivate their team to well welcome the merger. Larsson (1999) in his study found a negative correlation between employee resistance and synergy realization. As acquisitions require a strong collective effort, employees must be on board to deliver value. Without the support of the

employees, the merger is clearly at risk. That is why in a serial acquiring company, everyone is concerned by acquisitions, not only the M&A team. In this way, most of serial acquirers have simply decided to delete such kind of M&A team. Communication is key because many employees argue that M&A often has severe effects including additional stress, layoff and cultural changes. Serial acquirers try as much as possible to keep employees involved to make sure successful acquisition is a shared concern. For us, this is key to fully and quickly benefit from the potential synergies. In this way, related acquisitions relying on resources complementarity lead to "economies of scale, economies of scope and the sharing of skills in patterns that are difficult for competitors to understand and certainly to imitate" (Hitt, 2001).

Our discussion comes to the logical conclusion that companies having a high experience in M&A should deliver higher value. However, past analyses have showed that it is much complicated to turn M&A experience into higher value creation. (K. L. Fowler and D. R. Schmidt, 1989; J. B. Kusewitt, 1985; M. H. Lubatkin, 1982; J. M. Pennings, H. Barkema, and S. Douma, 1994). However, most of the studies focused on acquisition rate which could be defined as a measure of acquisition speed rather than as a credible measure of acquisition experience. We can think that many acquisitions in a short period of time could lead to "corporate indigestion" as defined by Barkema & Schijven (2008), resulting in inefficient consolidation. By doing so, an over acquiring company puts its own culture at risk as it does not have the time to incorporate newly acquired companies in its organization. Therefore, the buyer is no more than a sum of companies without a common base. Multiple acquisitions are useless if there is no post-integration right after. The buyer needs to complete and learn lessons from previous acquisitions before thinking to the next one. Consequently, a serial acquirer, thanks to its massive experience can significantly reduce that delay between two acquisitions.

5.2.1.3. Complementary skills which make serial acquirers top-buying companies

Hitt (2001) successfully demonstrates that companies acquiring targets in its same industry deliver higher value than other acquirers. The acquisitions of new resources lead most of the time to a reshape of the organization and regular buyers master the process to smooth integration of the target company. Past experiences help setting the dos and don'ts, preventing the buyer to repeat past mistakes. As a serial acquirer focuses mainly on its own sector, it can shape a pattern to easily integrate the targets. M&A integration is part of its current business, everyone is concerned, from the top management to the front-line employee.

By experience, a serial acquirer could also fully appreciate the potential synergies and therefore the premium it is willing to pay to acquire the target. That point is crucial for Shareholders as the lower the premium, the easier it will be to create value from the acquisition through synergies.

We need to understand who benefits from the value creating in a related merger? It is the shareholders of the acquired firm or those of the acquiring firm? Singh (1987) studied acquisitions from a relatedness point of view to see whether related acquisitions realize superior economic returns than unrelated one. The rationale for higher performance for related mergers is based on higher potential synergies through a combination of complementary capabilities. Singh's research clearly states that acquired firms in related acquisition fully benefit from the relatedness, implying that the share of resources with a related buyer has higher value than the simple combination of resources from two unrelated firms. On the other hand, Singh (1987) failed to demonstrate significant higher abnormal returns for acquiring firms in related mergers. "There are reasons to believe that the announcement effects of the transaction on the returns to acquirers are less easily detected than for target firms." Indeed, the acquisition for a serial acquirer only affects part of its business while for the target it affects all of its assets. Therefore, the impact on the buyer is much less important than on the acquired company. Second argument in favour of such findings, is that as a serial acquirer is accustomed to performing acquisitions, the market reacts much less that for a one-timer. Acquisitions are integrated in the company short-term and long-term strategies.

5.2.2. Case study 1: AB InBev

5.2.2.1. AB InBev, symbol of the brewery sector consolidation

AB InBev is before anything else the successful integration of two major brewers. Indeed, before studying in-depth the case AB InBev, we need to understand how the group was constituted. In a mature market with few levers to boost organic growth, external growth has become increasingly important for main brewers. In this way, AB InBev is the result of the sector's consolidation, brewers merging to reduce costs and extend their geographical footprint.

The group was constituted through four main mergers in the last two decades:

- In 2004, Interbrew, the Belgium-based brewer and the Brazilian group Ambev combined to create InBev. The deal amounted to more than 11 billion dollars. The new entity became the worldwide leader, ahead of the historical industry leader Anheuser-Busch. Prior to the merger, Interbrew was the third biggest brewer worldwide, just behind SABMiller, while Ambev occupied the fifth position.
- Four years after, in 2008, InBev and Anheuser-Busch (Anheuser-Busch which possessed Budweiser) merged, the 52 billion dollars deal resulted in the creation of AB InBev. The geographical complementary enabled the group to confirm its unquestioned leadership in the brewery industry.
- In 2013, AB InBev acquired Grupo Modelo (Grupo Modelo which possessed Corona) for 20 billion dollars. AB InBev reinforced once again its leading position by owing five out of the six most sold beer brands.
- Finally, in 2016, the giant merger between AB InBev and the British brewer SABMiller was announced, creating a mastodon in the brewery industry. The 112 billion dollars deal received the green light of the anti-trust authorities after several concessions.

In less than twelve years, the fifth major brewers merged into one single entity.

AB inBev embodies what we defined as being a serial acquirer. The group has done four megadeals in less than twelve years, acquiring direct competitors with geographical complementarities. The three characteristics of a serial acquirer are fulfilled: related and frequent acquisition with resources complementarity. Over fifteen years, AB InBev's stock has experienced an impressive performance compared to its closest peers (Exhibit 5.2). Its strategy based on external growth has something to do with that strong momentum. If the share performance is not a direct measure of value creation, it remains a good indicator of the positive trend the company is following. Having the market confidence is key to be able to deliver value for shareholders on the long-term. It is also a sign, that previous post-merger integrations went well.

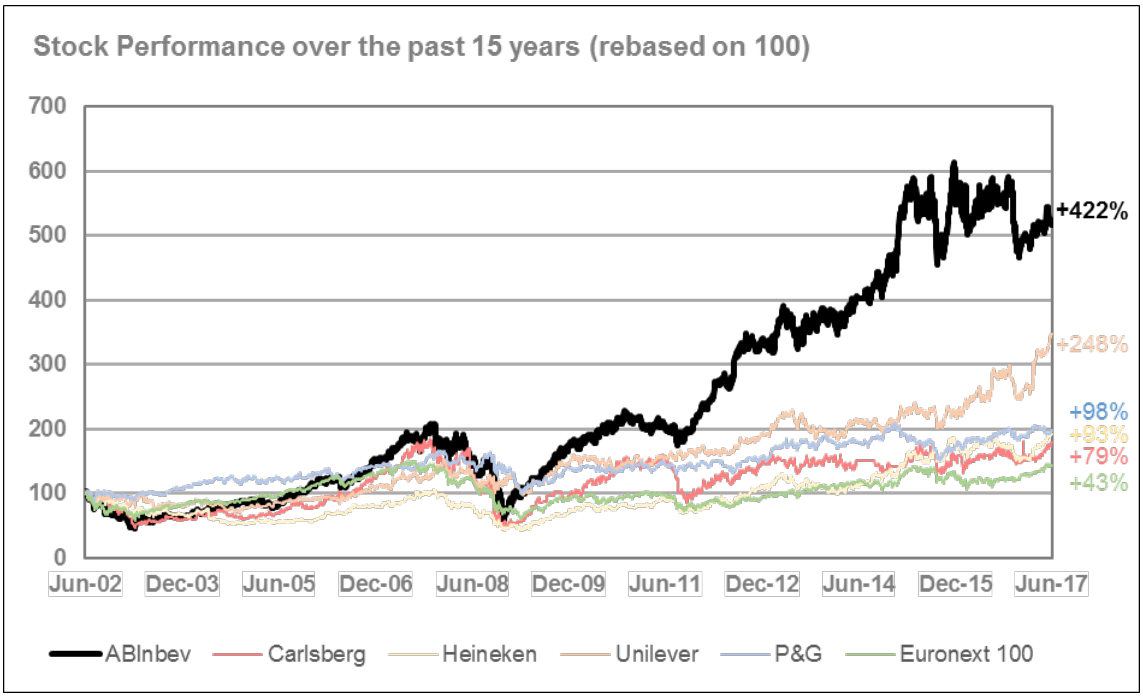


Exhibit 5.2: AB InBev's share price evolution compared to its closest peers (based on 100, June 2002 to June 2017)

5.2.2.2. AB InBev / SABMiller merger's rationale

The main motives behind the acquisition of SABMiller is the complementarity between the two companies that reinforces the leading position of AB InBev in the brewery industry while becoming one of the top world leading consumer products companies. SABMiller has a geographical footprint complementary with AB InBev's one. AB InBev will in this way gain access to geographical areas with high-growth prospects, for example Africa, Asia and South America. Its revenues' geographical breakdown will be rebalanced accordingly (Exhibit 5.3). SABMiller is historically located in South-Africa and has a strong commitment towards the African continent; the new group could leverage that strong link to favour future growth in that region. Growth opportunities are seldom in the brewery market, which has led to several consolidations as we have seen in the short retrospective of AB InBev. That is typical for serial acquirers, they are playing in a mature market where most of the growth comes from M&A. Therefore, any growth opportunity is very valuable for AB InBev to be able to create further value for its shareholders. By acquiring SABMiller, AB InBev will benefits from the complementary resources to deliver new products and innovations worldwide. The group plans to reshape its portfolio into three categories to generate new growth possibilities: leading global brands, national brands and local brands. Therefore, SABMiller's know-how will be crucial to fully realise the new potential. AB InBev will use the successful strategy it has implemented in

Brazil and Mexico into SABMiller's main markets. In addition to cost synergies, that commitment should drive revenues synergies, although they remain difficult to measure beforehand. Following the merger, in addition to becoming an uncontested leader in the brewery sector, the weight of the new group will be considerable in the consumer products industry (Exhibits 5.4 and 5.5).

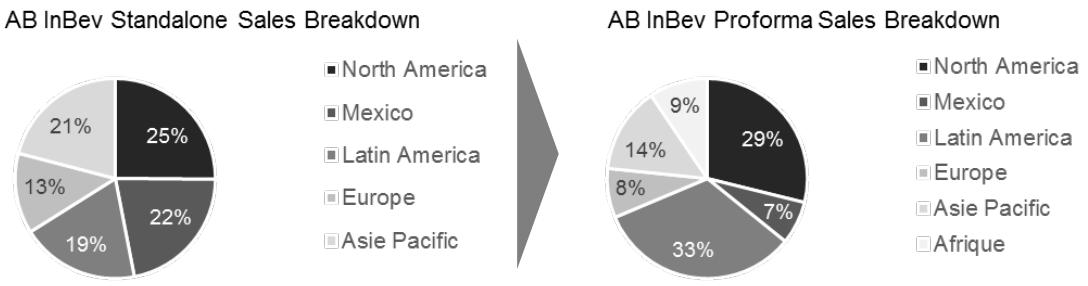


Exhibit 5.3: AB InBev's 2015 sales geographical breakdown before and after the merger with SABMiller

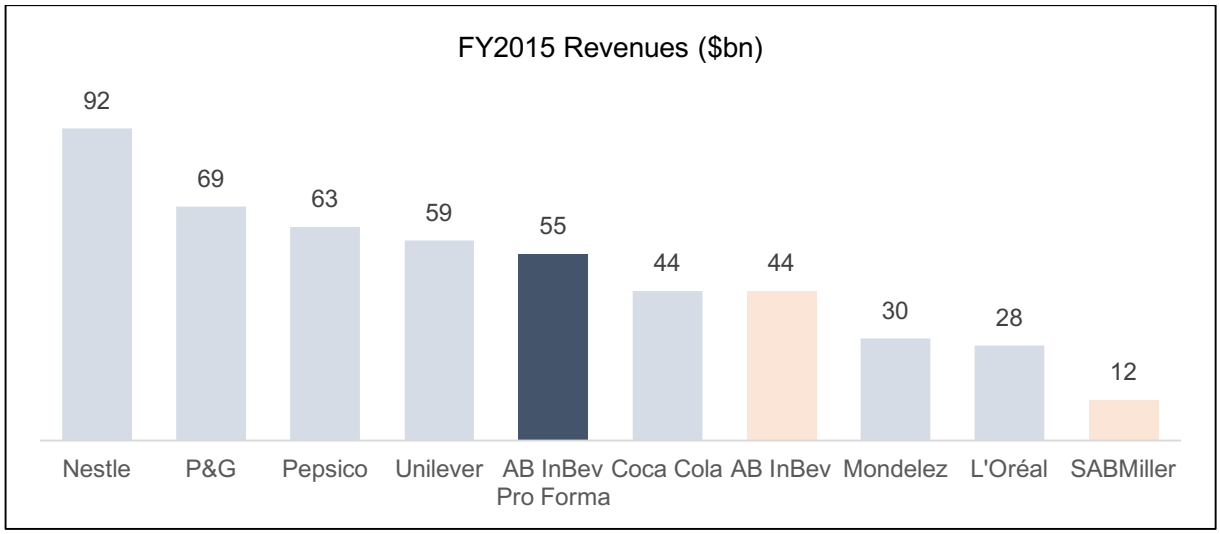


Exhibit 5.4: AB InBev's FY2015 pro forma revenues compared to its closest peers

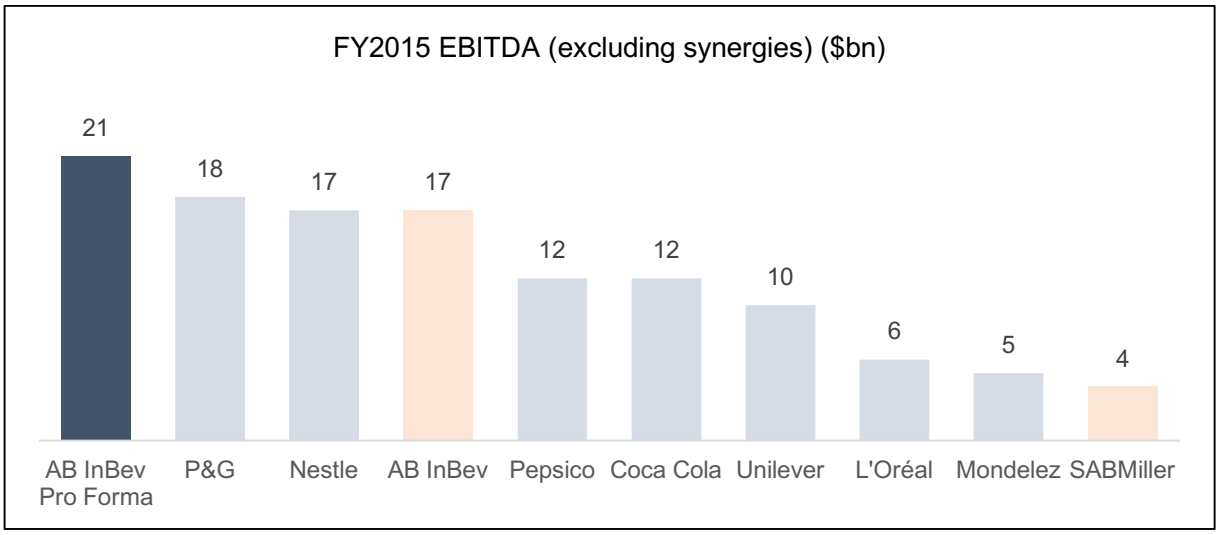


Exhibit 5.5: AB InBev's FY2015 pro forma EBITDA compared to its closest peers (excluding synergies)

5.2.2.3. Expected Costs Synergies

As we have explained in the section 4.4.3, the best way to assess value creation at the deal announcement is to compare the premium paid by AB InBev to the expected synergies. In our case, AB InBev gave granularity regarding the cost synergies but did not communicated on revenue synergies. The market will have a close look at the announced synergies to see if they are reliable, overestimated or underestimated. If we consider the two previous deals done by AB InBev's management, we note that they revised their first estimation upward. In addition, the management learnt from the post-merger integration of Anheuser-Busch how to speed up the realization of the targeted cost synergies for the Grupo Modelo acquisition (Exhibit 5.6). That capacity to quickly achieve the targeted level of cost synergies can be considered as the proof of a "learning curve" described in the section 5.2.1.2. That argument is also mentioned by the management itself to win market's trust. *"During the last two decades, AB InBev's management (or the management of its predecessor companies) has executed a number of merger and acquisition transactions of varying sizes, with acquired businesses being successfully integrated into AB InBev's operations, realizing significant synergies"* (AB InBev's UK Scheme Document, 26 August 2016). However, excluding cost savings identified at SABMiller level, AB InBev's expected cost synergies seemed low compared to what has been done during the last deals in the brewery sector. In its 2016 annual document, AB InBev revised the targeted level upward to $1,750m, thus representing 10.5% of SABMiller's 2015 revenues. That percentage is in line with the level of cost synergies achieved by AB InBev during its previous deals, but above the average level observed in the brewery sector which

demonstrated the management ability to clearly identify potential synergies prior to the deal (Exhibit 5.7).

Management Track Record to achieve cost synergies	**Initial Synergies Target ($ m)**	**Updated Synergies Target**	**Year1**	**Year2**	**Year3**	**Year4**
Anheuser-Busch (2008 - 2011)	1500	2250	250	1360	1980	2250
% of updated target			*11%*	*60%*	*88%*	*100%*
Grupo Modelo (2012 - 2015)	600	1000	460	730	940	1000
% of updated target			*46%*	*73%*	*94%*	*100%*

Exhibit 5.6: AB InBev's management track record to achieve cost synergies

Year	Deal Size ($ bn)	Acquirer	Target	Target Revenue	Initial cost synergies announced	Achieved cost synergies	Synergies announced as % of target Revenue
2004	**11**	**Interbrewer**	**Ambev**	**3,000**	**350**	**NC**	**11.7%**
2005	8	SABMiller	Bavaria	1,900	120	NC	6.3%
2008	**52**	**InBev**	**Anheuser Busch**	**18,988**	**1,500**	**2,250**	**7.9%**
2009	6	Heineken	FEMSA	3,451	210	277	6.1%
2011	11	SABMiller	Fosters	2,369	150	162	6.3%
2013	**20**	**AB InBev**	**Grupo Modelo**	**4,669**	**600**	**1,000**	**12.9%**
2015	112	AB InBev	SABMiller	16,534	1,400	1,750	8.5%
2015	112	AB InBev	SABMiller	13,359	1,400	1,750	10.5%
Average excl. AB InBev SAB Miller merger				*5,730*	*488*	*922*	*8.5%*

Exhibit 5.7: Level of synergies announced and updated in the last deals in the beer industry

AB InBev's management has mastered communication to the market to explain how they will achieve such level of cost synergies. They precisely communicate where they will slash costs and how much it will represent (Exhibit 5.8). Their clear, precise and concise communication is much appreciated by the market and their own shareholders. The company is well-known for its ability to cut costs and to efficiently integrate new businesses. However, the two companies are already quite efficient compared to their close peers (Exhibit 5.9). In that regard, cost synergies will be limited and as we will see later, they will not be sufficient to explain the huge premium paid to SABMiller's shareholders.

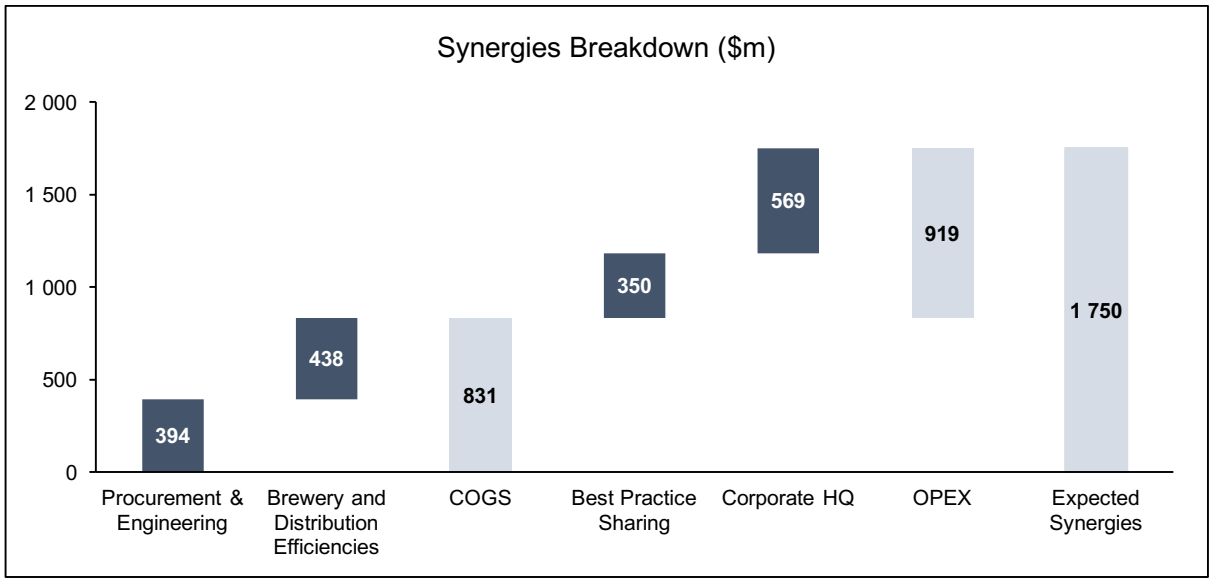


Exhibit 5.8: Cost synergies breakdown identified by AB InBev's management, excluding cost savings at SAB Miller level prior to the merger

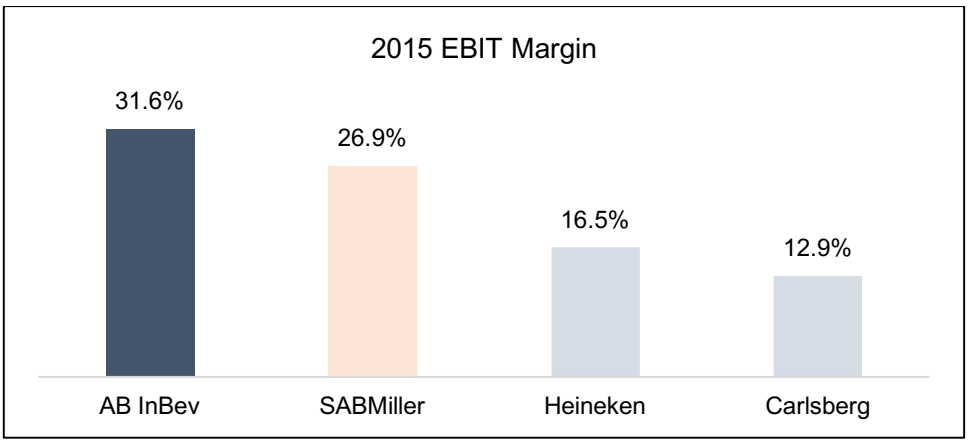


Exhibit 5.9: 2015 EBIT Margin of AB InBev vs. its closest brewers' peers

5.2.2.4. Synergies vs Premium: value creation for whom?

AB InBev's management only communicated on cost synergies. As we explained in section 4.3.2, it is easier to quantify cost synergies than revenue synergies. Therefore, it comes as no surprise that the management only gave granularities on cost synergies. They only indicated broad areas where the combined entity could tap into revenue synergies without putting the emphasis on it, in order not to be held accountable for such estimates.

To compute the Net Present Value (NPV) of the cost synergies, we assume that the cost savings will last forever. To discount the cash-flows, we use a WACC of 8%, in line with the

consensus. We chose a tax rate of 30.5%, consistent with AB InBev's 2015 tax rate. We decided to factor in implementation costs over a three-year timeframe. The percentage of synergies accomplished is the average of the percentage accomplished for the fourth first years for the acquisition of Grupo Modelo in 2013 and Anheuser-Busch in 2008 (Exhibit 5.10).

Synergies ($m)	Year 0	Year 1	Year 2	Year 3	Year 4	TV
Ramp-up %		29%	67%	91%	100%	
Adjusted Synergies		500	1,168	1,593	1,750	
Implementation cost		(300)	(300)	(300)	0	
EBIT Impact		200	868	1,293	1,750	
Tax Impact		(61)	(265)	(394)	(534)	
Net Impact		**139**	**603**	**898**	**1,216**	**15,203**
Discount Factor		93%	86%	79%	74%	74%
PV CF		**129**	**517**	**713**	**894**	**11,175**
NPV of Synergies	**13,427**					

Assumptions:

Synergies expected $1,750m

Implementation costs $300m

Amortization 3 years

WACC 8%

Tax Rate 30.5%

Exhibit 5.10: Net Present Value of costs synergies

We need to compare that number with the premium paid by AB InBev to acquire SABMiller. We consider the unaffected stock price of the companies as their stock prices on September 14th, 2015, prior to any rumour about the deal. SABMiller shareholders were entitled to receive for each of their stocks either:

- £45.00 cash; or
- To participate in the Partial Share Alternative, a mix offer of 0.483969 shares of the newco and £4.6588 cash.

The Partial Share Alternative (PSA) was capped at 655,000,000 SABMiller shares and was fully exercised. Therefore, cash consideration represented around $64bn. We consider the Market Value of the combined entity as:

$$Post\ Merger\ Value$$
$$= Combined\ pre\ merger\ values + Synergies - Cash\ paid\ including\ premium$$

Using the unaffected share prices[3] of SABMiller (£29.34) and AB InBev (€94.19), we get a Market Value of the combined entity of $195bn, for a new share price of $101.01. We immediately notice a decrease in share price for AB InBev, synonym of value destruction for AB InBev shareholders. We define the premium paid to SABMiller's shareholders as:

[3] Unaffected share prices as of 15th September 2015, converted in dollar with a conversion rate of 1.13 $/€ for AB InBev and 1.52 $/£ for SABMiller.

$$Premium\ paid = AB\ InBev\ new\ shares\ to\ SABMiller + Cash\ paid - Pre\ merger\ value\ of\ SABMiller$$

We found that the value of the new shares given to SABMiller's shareholders amounted to $32bn. In that regard, the premium paid reached around $22bn, well above the $13bn of cost synergies. Once again, we need to underline that we only considered cost synergies. Theoretically, the deal generated $22bn of value for SABMiller's shareholders while destroying $9bn for AB InBev's shareholders.

However, if we consider the share price right after the official announcement of the merger on August 26th, 2016, it reached $125.74 (Exhibit 5.11) against $101.01 on a theoretical basis — if we only consider costs synergies. By reversing the formula, we derive:

$$Expected\ synergies\ by\ the\ market = AB\ InBev\ Market\ Cap + Cash\ paid - Combined\ pre\ merger\ values$$

We found that the market expected more than $61bn of synergies. Using that figure, the deal would create value for both companies. AB InBev would get $31bn and SABMiller $30bn. The market is either anticipating strong revenue synergies or considering that management has been bearish regarding cost synergies. We can assume that both are right and that the market is confident in the ability of the management to achieve an amount of synergies above the large premium paid to SABMiller's shareholders. The impressive track record of the management is one of the main reason why the deal was still welcomed by the market. The precise and clear plan projected by the management to achieve synergies alongside their capacity to efficiently integrate the new business will be key in the success of the deal. Those two qualities are crucial for serial acquirers.

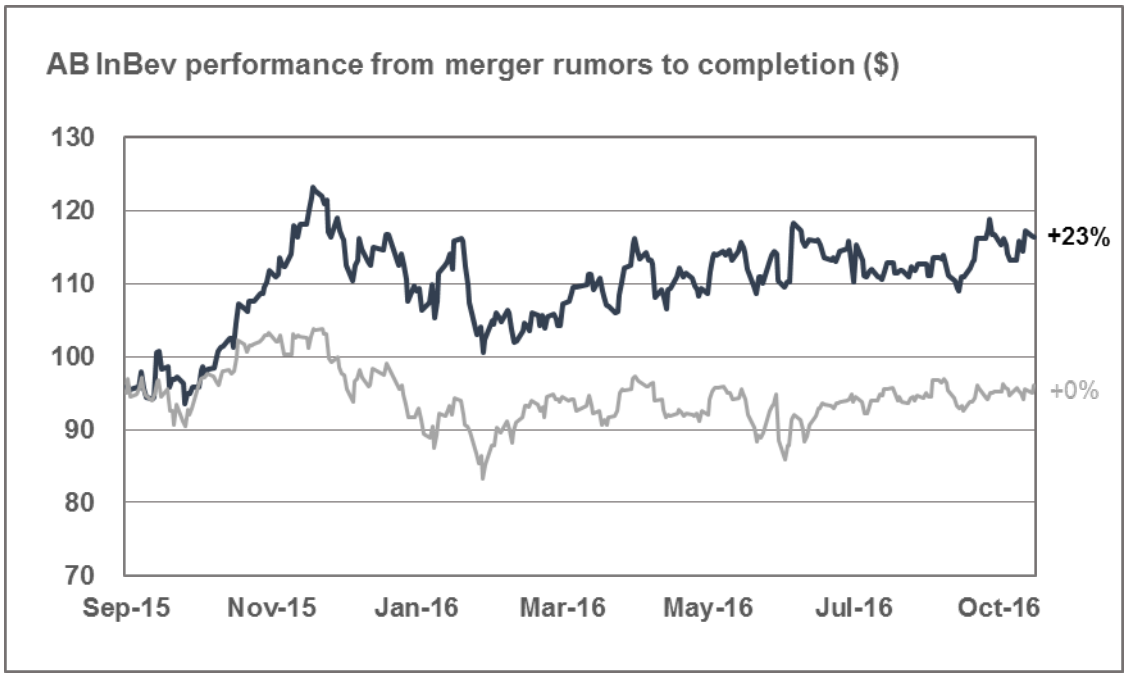


Exhibit 5.11: AB InBev's stock price from the first rumors on September 2015 regarding a potential merger with SABMiller, to the completion of the deal on 10th October 2016

5.2.2.5. ROCE breakdown: what perspectives for AB InBev?

For three years both companies have encountered flat sales. That merger should boost top line by combining complementary resources. If we have a closer look at the ROCE breakdown following the merger, it seems that AB InBev essentially acquired revenue without much growth prospects. Indeed, on the long-term, at constant perimeter, ROCE will not progress much. The gain realized through the acquisition is immediately absorbed in the ROCE 2016. The 5 years ROCE will not benefit from the acquisition as much as we would have expected.

Exhibits 5.12 and 5.13 demonstrate that ROCE goes up essentially thanks to the acquired revenues rather than the growth prospect. "Acquired growth" refers to the potential revenues growth AB InBev would have benefitted to boost its ROCE if SABMiller growth dynamic had been better than its growth rate prior to the merger. As we assumed that revenue growth for both companies are close to 2%, the impact of "acquired growth" on the ROCE is null. Moreover, as SABMiller margins are lower than AB InBev's ones, it produces a negative impact on the pro forma ROCE. The gain generated thanks to synergies is counterbalanced by the negative impact of taxes. However, that ROCE breakdown is a static overview of the company's capacity to create value. That ROCE remains well above the cost of capital of AB InBev. What we wanted to emphasize here is that the company will have to genuinely integrate

SABMiller's businesses to be able to boost its top-line in order to continue to create value. Once again, post-merger integration will be key, but given the proven track record of the management, we are convinced that the global scale advantage alongside the diversified portfolio of brands will enable the management to generate a solid organic growth.

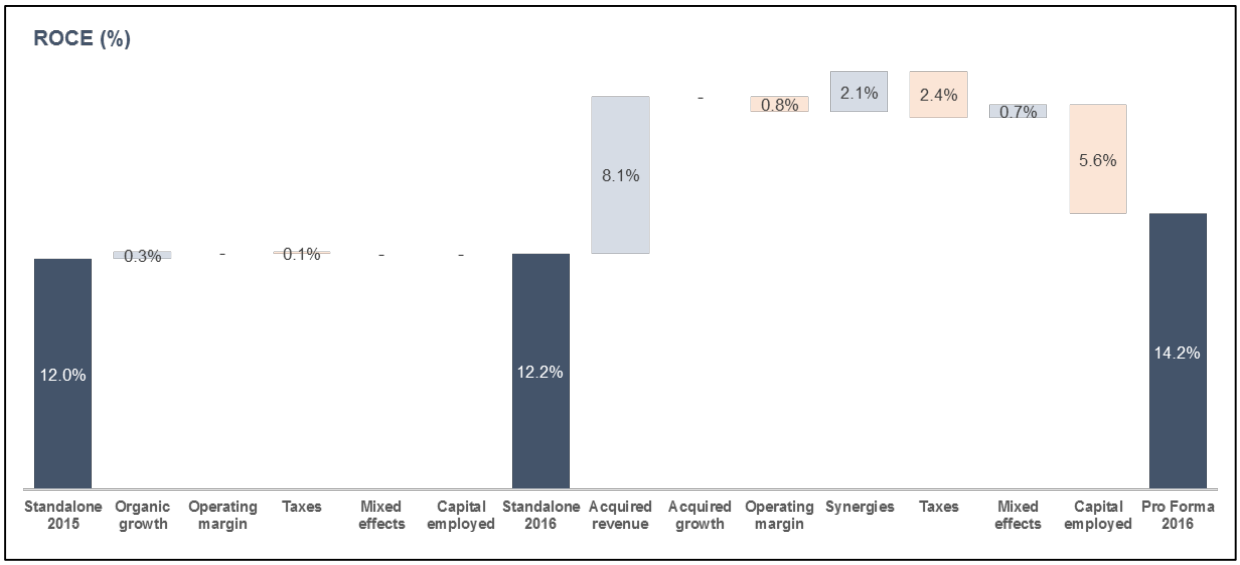


Exhibit 5.12: AB InBev's ROCE breakdown standalone vs proforma

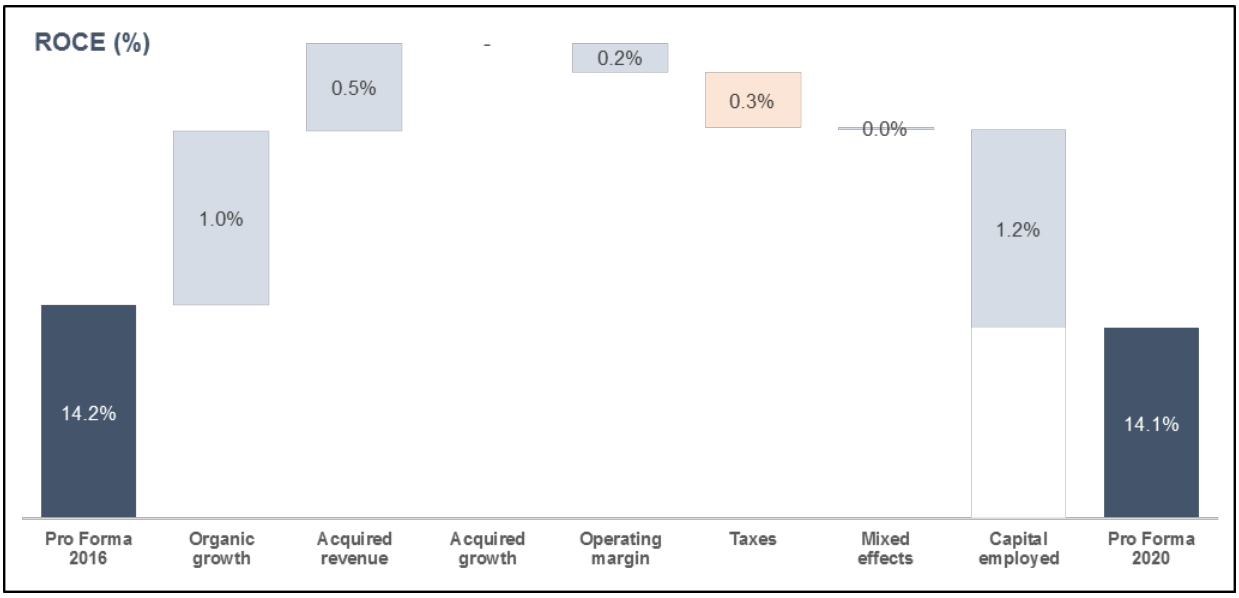


Exhibit 5.13: AB InBev's ROCE projection in five years

5.2.2.6. Conclusion and key takeways

AB InBev will benefit from a long-term competitive advantage thanks to its strong geographical footprint. The company will be the leader in global beer, four times as big as its nearest competitor Heineken. That unique scale will favour operating leverage and ease investment in commercial and marketing opportunities (for example the next World Cup) compared to smaller brewers. Indeed, the cost of marketing campaign could be spread over a large products base. However, the acquisition of SABMiller could be considered as the last major deal done by AB InBev as an effort of consolidation, as opportunities in the market will become rare. Management will probably focus on organic growth thanks to new growth levers. In case of failure to achieve a significant organic growth rate, the company will have to find opportunities outside its core business.

To achieve value creation for AB InBev's shareholders, the management cannot only count on costs synergies. Generating revenues synergies, much difficult to quantify, will be key to justify the large premium paid to acquire SABMiller. Nevertheless, the market seems confidence in the management's ability to create value given the share price trajectory through the negotiation phase.

5.3. Portfolio builders

5.3.1. Literature and overview

5.3.1.1. Characterization of Portfolio builders

The Portfolio builder is meant to carry out M&A as part of its business model. The holding company buys portfolio companies that are meant to be held for many years. Companies can either be in the same sector to foster synergies or in different sectors. We want to underline at this point that creating synergies is not the first motive for portfolio builders to carry out M&A. In that regard, the portfolio builder can — partly — be considered as fostering a conglomerate-like strategy. However, unlike most conglomerates, which tend to be very protective of their business units, at least until recent years, "true" portfolio builders are keen on divesting portfolio companies whenever they feel it can enhance value at the holding company level. Consequently, portfolio builders are indeed developing holding activities like conglomerates. However, at the same time that they do not especially look for additional growth, they also tend

to discard pure diversification motives: they consider the portfolio company as an independent investment, for which they create a long-term strategy (at least 10 years).

Although Portfolio builders could also be compared to Private Equity funds, the two business models have fundamental differences since Private Equity funds have a shorter-term exit timeline already factored in, whereas Portfolio builders are not compelled to sell any business until they feel they can reallocate their capital more efficiently.

The divesting component of their business model only occurs whenever they feel they cannot create further value by holding the company; or whenever they believe they can generate better returns by holding other companies — in that case, selling a portfolio company will free capital to finance the new acquisition. This poses an issue regarding the timing of divestment:

- When should the portfolio builder consider selling a company?
- What should be the trigger?
- Should they look forward to creating capital gains?

Analysing exit strategies and timing poses a fundamental issue: should Portfolio builders think based on buy-to-keep (conglomerate-like) or buy-to-sell (Private Equity-like) strategies? The answer might lie in between, in a buy-to-hold strategy that mixes the best of the two worlds.

These are few of the questions that we will try to answer in the following pages. We will first look at the theoretical analysis of value creation when applied to such portfolio-builder players, and then we will look at Kering in-depth, mostly through the Puma deal.

5.3.1.2. Portfolio builders breeding value

We believe that by essence Portfolio builders are value creators. Every capital allocation made should be made in a bid to maximize value according to defined strategic plans: either by industry, by geographies, etc.

In theory, such Portfolio builders should generate better returns and create more value thanks to few mechanisms that most corporations fail to identify whenever performing M&A transactions:

- They focus on the long-term: short-termism is often referred as a poor value-enhancing strategy and strikes lots of public companies who tend to manage earnings to meet

market's expectations. Rappaport (2006) underlined that companies should always focus on maximizing expected value on the long-run despite potential near-term drops in earnings: by following this long-term view companies can enhance shareholders' value. A McKinsey 2017 report also underlined that since 2001 long-term-focused public companies have significantly outperformed their peers, as for revenue growth (+47% gap), earnings growth (+37%), economic profit (+81%) and market capitalization (+58%);

- They often streamline their portfolio: companies should only carry assets which can still bring in value to the whole company (Rappaport, 2006). Decreasing the number of business units helps to shrink the conglomerate discount (Kengelbach, Farag, Schwetzler and Rudolph, 2014): the structure of Portfolio companies as a holding of other companies enable to build on a specific strategy for each business unit. The strategy is clearer as compared to traditional conglomerates which tend to deeply integrate businesses without developing a clear long-term view for each business. Breaking down portfolio complexity enables to foster capital allocation and is often well-perceived by the market (reduction in the discount);
- They can reallocate cash from mature to growth businesses. This can be performed in two ways: either by reallocating cash at the holding company level or by leveraging on the divesting component of their business model. Kengelbach, Farag, Schwetzler and Rudolph (2014) recommend using a matrix-approach to assess the strategy of each portfolio company and reallocating according to specific needs (Exhibit 5.14).

However, most equity markets still do not feel the need to draw a distinction between traditional conglomerate, which we believed are less keen on divestment, and today's Portfolio builders, which consider companies as a way to maximize the value from capital allocation (and for a defined time-span). Therefore, such Portfolio builders might still suffer from a conglomerate discount. Markets justify this discount because of diversification — which can be fine-tuned at the investor's level — and by a misbelief in an efficient capital allocation between business units.

5.3.1.3. A desperate need for margin improvements

The biggest pitfall of Portfolio builders acting as holding companies is that they cannot foster synergies to create value from their acquisition. Therefore, these Portfolio builders must keep on focusing on how to improve growth and performance to deploy the strategy and create value.

Private Equity players witness the same kind of flaw in their business model. We analyse few of their strategies to implement value despite the lack of potential synergies:

- Building up size: Private Equity players will tend to expand the business to new geographical areas or to adjacent business areas in order to optimize the growth profile of the company. These strategies often require additional funding (equity). The strategy is only relevant for Portfolio builders if they are funding a better growth pattern for the company (given a specific operating performance). They must thrive to rationalize the capital expenditure carried out to expand a specific business. Although Private Equity players usually acquire several smaller companies to expand, this strategy might not fit Portfolio builder's business model since they have longer time horizons;
- Improving operating margins: Portfolio builders must focus on some industry knowledge to guide target's management through an increased improvement of operations. The holding company must therefore develop some sector knowledge in a bid to generate substantial returns from operating improvement, which for listed portfolio companies must exceed the "base case" that the market has already factored in, as well as the premium paid. Portfolio builders' returns will be highly sensitive to their ability to carry such changes quickly.

A BCG study showed that non-acquisitive companies grow EBITDA at the same pace as revenue, whereas acquisitive companies grow EBITDA faster, but lower than their sales. It shows that they are not able to carry out synergies and operating strategies properly, or at least as efficiently as low-acquisitive companies, because they focus on top-line performance (Kengelbach, Keienburg, Gjerstad, Nielsen, D. Walker and S. Walker, 2015). Acquisitive companies therefore buy to acquire long-term growth and enhance their average growth profile without putting much effort into integrating the acquired company and creating actual EBITDA improvements (announced synergies put aside).

Portfolio builders are meant to discard growth since they acquire companies but don't think of the holding company growth as the average growth of all its portfolio businesses. We mean that the reasoning is done at the business unit level (each portfolio company) and not at the holding level. That way, portfolio builders are able to focus on delivering the PMI plan and on creating strategic value (EBITDA improvement). Moreover, Portfolio builders tend to streamline their portfolio of companies to focus on delivering the expected plan to a limited number of companies rather than holding hundreds of companies and focusing only on growth prospects. Arzac (1986) underlines the need for analysing value at the business unit level — in our case at the portfolio company level — to harvest value and compare strategic scenarios for each asset. The specific structure of the Portfolio builder, as well as his specific skills as a

quite frequent buyer, can enable them to streamline the portfolio toward value-enhancing strategies.

5.3.1.4. Divesting: the capital-allocation challenge

Portfolio builders must develop a strict rationale on when to invest, when to divest and how much capital to allocate for each portfolio company. Most conglomerate fail to create an efficient capital-allocation scheme because they allocate their resources based on a contribution to revenue or to operating margin. However, by using only simple operating metrics they cannot properly assess the value potential of each business unit and allocate capital accordingly. The BCG Matrix, which ranks business units depending on their growth profile and relative market share, is a starting point to analyse each portfolio company and define a specific investment rationale.

Kengelbach, Farag, Schwetzler and Rudolph (2014) created such a matrix (Exhibit 5.14) which combines market attractiveness and financial performance drivers. Each sector of the matrix has a predefined investment strategy. For instance, the Portfolio builder should consider allocating more capital for a business located in the “Grow” segment, displaying strong market growth and strong financial performances: their expansion requires capital expenditures and the expected value of the strategic bet is high given comparable holding companies or target firms. Divesting is therefore part of this strategy: it is meant to generate cash and to redirect it to other segments, like the Grow and Perform ones. Portfolio builders should thrive to keep companies in different segments in a bid to create a sustainable business.

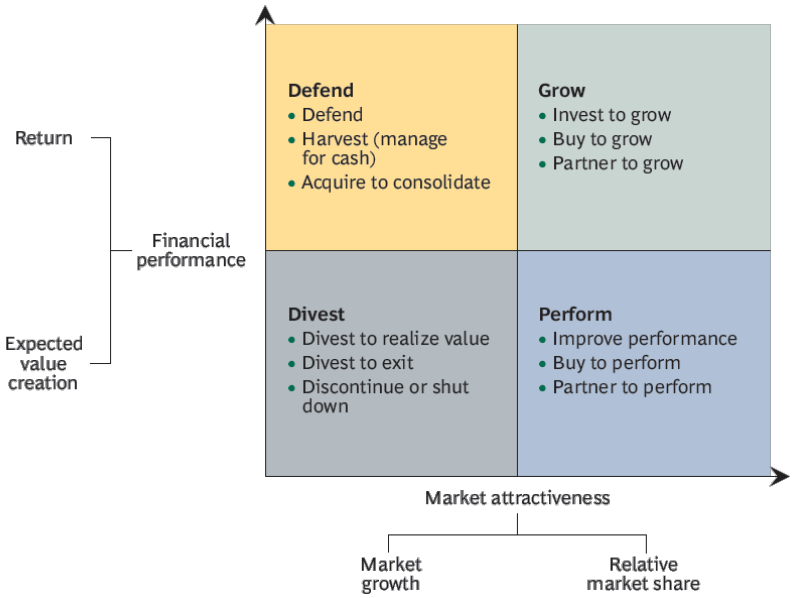


Exhibit 5.14: A matrix to assess investment strategies (BCG, 2014)

We believe that the model developed by the BCG should however be updated to put the emphasis on cash generation and in a bid to underline the amount of cash that can flow upstream to the holding company. Failing to define such a need for cash — and capital — could endanger the Portfolio builder's strategy. Managing for cash is essential in a bid to be able to reallocate capital according to each company's needs.

Based on that framework, Portfolio builders should define specific target metric for each business in a specific segment: a Growth business should be judged on a target level of sales; a Defend / Perform business should be considered based on the spread between their respective ROCE and WACC; and a Perform / Divest business which can still be turned around or harvested for cash should have KPIs based on an operating margin target (BCG, Value Creators report, 2016).

5.3.1.5. The value creation analysis applied to specific portfolio strategies

TSR is a good metric to follow for a Portfolio builders because it enables the management of such companies to estimate whether their conglomerate discount (if any) is either growing or shrinking over timing as they carry out they plan for specific companies. Arzac's (1986) model of business unit analysis derives a contribution measure of each one of them to the total share price of the holding company. Although it can prove to be hard to apply in practice, Portfolio builders should certainly develop and track such metrics in a bid to increase returns.

This TSR analysis can however prove to be difficult to carry out whenever they are significant overhauling in the portfolio of companies, because of a lack of comparability in the shareholders' returns between the periods and cycle of investments.

On the contrary to serial acquirers who buy to keep, Portfolio builders can implement an exit strategy as soon as they acquire. They can forecast their return more effectively by tracking the internal rate of return of the investment considering a long-term investment time-frame, between ten to twenty years. This specific long-term horizon enables the Portfolio company to manage for returns more efficiently by enable frequent refinancing of the portfolio companies. We performed such an analysis for Puma in the following case study on Kering (ex-PPR).

5.3.2. Case study 2: Kering

5.3.2.1. Kering snapshot

Kering (ex-PPR) takes roots in the building-material company created by François Pinault in 1963, which initially specialized in the timber trading, processing and distribution.

Over the years, François Pinault overhauled its initial company through the means of acquisitions. From a building-material pure player, François Pinault developed new adjacencies. In the nineties, Kering entered the retail sector with groups like CFAO (1990), Conforama (1991), La Redoute (1994), and Fnac (1994). By that time Kering had nothing in common with the initial timber-trading group, although the Pinault Bois & Materiaux activities were only sold in 2003, to the Wolesley group in the UK.

In addition to retail, Kering entered the luxury segment by acquiring Gucci in 1999.

By 2007, following the stake acquired in Puma (2007), Kering entered in another overhauling of its business units by selling historical general retailers and focusing on luxury and sportswear. Therefore, Kering sold companies like Conforama, Surcouf, Redcats, floated CFAO, etc.

Nowadays, Kering focuses on two business segments, both focused on fashion. On the one side, there are all the luxury brands, like Gucci, Bottega Veneta and Saint-Laurent; and on the other side, there are Puma and Volcom, the two main brands of Kering's sportswear

division. Consequently, in a ten-year span, Kering massively overhauled its portfolio of companies: in 2016 Gucci represents 35% of Kering's total revenues (€12.3bn), whereas it was only 21% back in 2006 (€17.0bn). Brands like Puma (29%) and Volcom (2%) were even not in the portfolio back in 2006. Exhibit 5.15 underlines the importance of this shift.

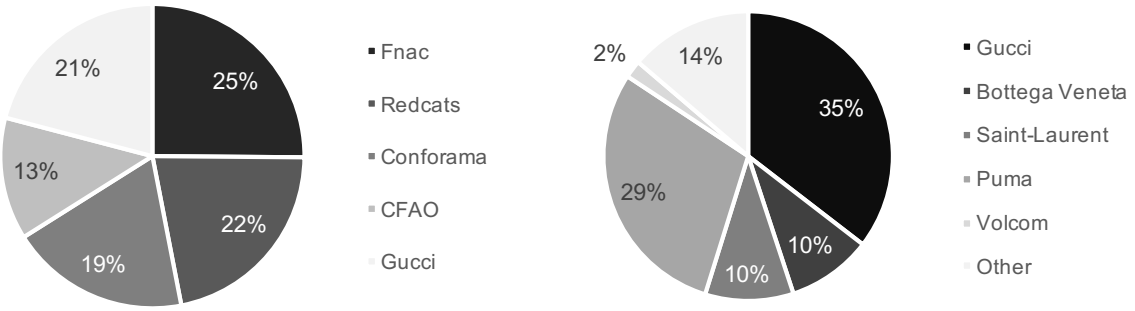


Exhibit 5.15: Kering revenue breakdown in 2006 (left) and in 2016 (right)

Therefore, we decided to focus on the Puma acquisition by Kering to understand how value has been created through portfolio management.

5.3.2.2. Puma snapshot

Puma is a German sportswear manufacturer founded in 1924 by the Dassler brothers, under the name Gebrüder Dassler Schuhfabrik. After the war the two split their business and in 1948 Rudolf Dassler founded Puma, whereas his brother, Adolf Dassler, founded Adidas.

Nowadays, Puma is the third largest sportswear manufacturer alongside competitors like Nike and Adidas. Back in 2006, Puma displayed €2.4bn of revenues divided in three main business segments: Footwear (60%), Apparel (34%) and Accessories (6%).

Puma's geographic footprint included sales from the EMEA region (48.9%), the Americas (30.6%) and the Asia-Pacific region (20.5%).

During the nineties, Puma had gone through a major restructuring of its business and in 2006 it was posting a sound 27% revenue CAGR over the 5 previous years of operations (Exhibit 5.16). Moreover, its EBIT margin was 15.5%, slightly above Nike (14.1%), Adidas (11.9%) and Reebok (3.5%), according to data compiled by HSBC.

Therefore, over the 5-year period from 2002 to 2006, Puma managed to sustain sound cash conversion [4] ratios at 43% on average, factoring into account that year 2006 capital expenditures were abnormally high when compared to the previous year because of several substantial acquisitions which made the figure derive from more normative levels (c.46% cash conversion). This strong cash conversion is explained by lean operations and relatively low capital expenditure requirements (excluding acquisitions, as for year 2006).

	Fiscal year ending 31/12					
Puma key financials (€M)	**2002**	**2003**	**2004**	**2005**	**2006**	**CAGR 02-06**
Revenue	**910**	**1 274**	**1 530**	**1 778**	**2 369**	**27%**
EBITDA	**138**	**283**	**378**	**422**	**405**	**31%**
EBIT	125	263	359	398	366	31%
Net income	**85**	**179**	**260**	**286**	**263**	**33%**
Cash flows from operations	119	165	286	202	153	7%
Investing cash flows	(19)	(58)	(29)	(67)	(143)	66%
Operating free cash flows	**100**	**107**	**257**	**134**	**10**	**(43%)**
Key metrics						
Revenue growth (%)	-	40%	20%	16%	33%	
EBITDA margin (%)	**15%**	**22%**	**25%**	**24%**	**17%**	
EBIT margin (%)	14%	21%	23%	22%	15%	
Cash conversion (%)	**73%**	**38%**	**68%**	**32%**	**3%**	
Diluted EPS	5,3	10,9	15,9	17,7	16,3	

Exhibit 5.16: Puma summary operating financials (2002-2006)

5.3.2.3. Context and deal overview

Implementing a renewed investment strategy for Kering

As presented above, Kering entered in a selling and buying spree to renew its company holding at the beginning of the year 2000. By following that route Kering transformed itself from a diversified conglomerate company, which at one point hold stakes in diversified retailers and luxury companies as well, to a related-diversified firm.

Using Richard P. Rumelt [5] arbitrary classification of companies with regards to their diversification strategy, we have the following scheme:

- Single business companies: 95%(or more) of sales in the main business;
- Vertically integrated companies: 70% (or more) of sales in vertically related businesses;
- Dominant business companies: 70-95% of sales in the main business;

[4] Cash conversion is defined as the percentage of operating free cash flows over EBITDA. Operating free cash flows are computed based on operating cash flows and investing cash flows (before any financial operation like increase or decrease in debt).

[5] According to Sudi Sudarsanam, in *Creating value from mergers and acquisitions*, 2003 (see Bibliography)

- Related business companies: more than 70% of sales in the related businesses;
- Unrelated business companies: less than 70% of sales in related businesses.

Back in 2006, before Puma's acquisition, Kering had only 44% of its sales in brick-and-mortar retail businesses (Fnac and Conforama), which represented its main business unit, whereas 10 years later, in 2016, it now has 100% in related fashion businesses (of which 69% from Luxury fashion brands). Exhibit 5.15 above describes perfectly the nature of the change, as well as its reach in terms of business divisions' sales contributions.

Puma: a cash-cow with the potential to provide sustainable returns?

As presented above, Puma is a highly cash-generative company; therefore, at the time of the offer, Puma had €459m in cash for only €178m in gross debt and a net debt of -€281m. This can be explained partly thanks to the strong cash conversion of c.46% at normative levels.

When Kering approached Puma, the sportswear manufacturer was therefore providing a stellar performance to its shareholders. This can be reflected by Puma's share price evolution since the early 2000's (Exhibit 5.17), as well as in the TSR pattern from January 2000 to January 2007, for which Puma largely outperformed is direct competitors: Puma witnessed a 1,703% TSR — mostly through capital gains — versus 108% and 168% for Nike and Adidas, respectively.

Exhibit 5.17: Puma's share price evolution (in euros, January 2000 to December 2006)

As underlined by Exhibit 5.17, stock price in the year prior to Kering's acquisition, Puma's share price rose from €17 to €250, implying a 57% CAGR over the 6-year period. When Kering

announced its intention to acquire Puma, the "unaffected" stock price was €278, for a one-month VWAP of €269 (on April 4th, 2007).

We believe that Puma's incredible performance during the years before Kering's offer requires to rigorously analyse what the strategic and investment rational was for Kering. The main risk we see is that Kering would be paying Puma too much regarding the additional upside that can be generated. The following remarks underline why we believe that Kering might have lacked a strong investment strategy when buying Puma:

- Puma represents an expansion in a new business for Kering, although sportswear is distantly related to fashion — alike Kering's Luxury division. Identified synergies were extremely low if not inexistent. Therefore, all the value had to be created by Puma itself, based on future operating upsides. We believe that the absence of synergies is not particularly an issue since Kering is meant to hold Puma on the long-run, but it still puts pressure on the deal ability to create value throughout the strategic plan. At the time of the acquisition Kering had little knowledge of the sportswear equipment industry, which increases the level of risk taken by the firm;
- Puma was allegedly entering in more low-growth perspectives despite its recent high-growth profile which did not match the industry average trend of approximately 5% to 10% annual growth depending on years. Puma had benefited from a strong growth following a restructuring plan and an investment plan until 2000-2002. By getting more mature we believe that Puma's growth could not be maintained well above the industry average — at least on an organic basis; and
- Kering could not consolidate the cash balance since it was not seeking a 95% ownership and, would have it been the case, since Puma is a listed company, there would still have been issues with minority shareholders to move cash around Kering's structure. Therefore, it becomes hard for Kering to really implement a "Portfolio builder" strategy by moving around cash whenever and wherever needed. All additional financial capacity must be taken at the holding level.

The three issues above put the realization of the returns at risk because of the limited leeway Kering is granted through this acquisition, despite having acquired a majority stake.

5.3.2.4. Analysing internal rate of returns (IRR)

On a financial basis and by carrying out the strong financial performance of Puma, the acquisition was a sound investment yielding c.10.7% of IRR over a 10-year initial holding period (2007-2016) based on an exit valuation using multiple.

Despite the difficulty of forecasting a business plan over a 10-year period for a business like Puma, we think that the IRR output of our model can provide clear guidance about a range of potential returns and about the effect of refinancing the acquisition debt to pay exceptional dividends to shareholders (therefore boosting the IRR for Kering). Modelling the investment over the 10-year period enables to enjoy how value can be harvested during the holding period; results that could not have been contemplated with a simpler and more traditional metric like TSR (total shareholders' return).

We factored in refinancing in our model to enable Kering to releverage Puma at year 3. The delta between the new amount raised (at 2.7x initial leverage) and the remaining acquisition debt is used to serve a dividend to Kering and to the minority shareholders. This refinancing is very sensitive to time because of the low leverage of 2.7x (Senior A and Senior B) that we used to model our investment. Therefore, year 3 yields the best result in terms of IRR with a baseline IRR without any refinancing of 10.3% versus a refinancing IRR reaching 10.7%. We believe that the actual refinancing potential would have been more around 10.4% with a refinancing occurring in year 5 after most of the initial debt burden had been paid down.

We also used current trading data for Puma stock price to estimate Kering's IRR as for year 2017. Since Puma's share price has been rising recently after having traded for almost 10-year under the €330 offer price paid by Kering, we used two dates to compute returns in 2017 (11th year of ownership in our model):

- January 2nd, 2017: using beginning of January as the trading exit price, and factoring in a 18.7% premium over this stock price, we derived an exit price of €250 for an IRR of 6.9% (including refinancing in year 3) versus 6.1% without any refinancing;
- June 2nd, 2017: as for June, Puma's share price rose to €356 and drives the trading exit valuation method in line with the multiple one: IRR reached 10.7% with refinancing and 10.1% without it [6].

Thinking in terms of IRR is also useful for a Portfolio builder like Kering because it should acquire to hold, which means that an exit strategy, although not the first motive, should always be contemplated in order to secure potential returns. Failing to do so could endanger returns because the Portfolio builder could be stuck with its asset, without any way to sell it at the exit

[6] According to a quick computation of Kering's returns, the real IRR for Kering at date June 2nd, 2017 should lay within an 10%-15% range, mostly thanks to recent capital gains through Puma's price appreciation. Beginning of the year 2017, IRR was still below 5%, making the investment return highly uncertain for the time being.

horizon. Therefore, the 10-11% IRR range that we derived should act as a funnel for Kering to decide upon strategic decisions in a bid to keep its investment into that range of returns.

Among the few drawbacks of our analysis, we can mention that Kering did not initially planned to acquire the 95% ownership that would enable it to consolidate the tax. Moreover, the presence of minority shareholders and the fact that Puma remains a listed company limit the leeway Kering has in leveraging Puma and in tapping into its strong cash balance.

Despite these drawbacks, we believe that our model output provides an insightful range of returns and underlines that back in 2007 Puma was an interesting investment opportunity, with some synergies — which have not been implemented in our model for the sake of simplicity — that could have been harvested according to some equity analysts [7].

5.3.2.5. Balancing the portfolio (BCG matrix)

Although the financial rationale as measured by IRR advocates in favour of the deal, we believe that Kering lacked strategic vision in terms of portfolio management. We use the BCG matrix presented in the theoretical part of this section to explain our point of view.

As demonstrated above, the rationale behind Puma's acquisition suffers from few drawbacks. We believe that with regards to a portfolio management approach, Kering should have classified Puma either as a "Defend" or "Perform" asset.

In the case of a "defensive" asset, Kering should have had the opportunity to consolidate Puma with any of the holdings it already had. It was not however the case since Kering was entering the sportswear industry with the acquisition of Puma. Although Puma could have been used as a consolidation platform for future acquisitions, the rationale appears to be weak. Synergies are therefore limited to the bear minimum, through procurements or headquarter costs.

As a "Perform" business unit, Puma should have seen its operating performance improve drastically to harvest cash. However, we saw that Puma's growth was meant to slow down to more industry levels and its already excellent operating performance forced Kering to buy it near an all-time high, with consequently little to no opportunity to efficiently realize returns on

[7] Unicredit (April 10th, 2007): 3.5%-4% from joint sales and 1%-2% from joint cost base; Kepler (April 26th, 2007): 1% revenue synergy starting 2018

the investment, even with a 10-year investment horizon. Cost improvement to boost an EBITDA which was already outperforming its peers was highly unlikely for Kering.

In both cases Kering's inability to harvest Puma's cash balance limits Puma's initial "cash-cow" profile. It becomes costly for Kering in terms of minorities and public relations to pay dividends when it wants to move cash upstream, which in turn could endanger its financial stability regarding the acquisition debt and its ability to finance further acquisition projects.

Although every deal and specific case cannot fall into a simple matrix as described by the BCG in its Value creation report of 2016, it underlines the need for a clear strategic vision, which does not appear to have been rigorously contemplated by Kering when acquiring Puma.

5.3.2.6. Shareholders' returns

The poor performance of Puma after the financial crisis also contrasted in terms of TSR with the performance of Nike and Adidas, which both managed to sustain both their operational performance and returns to shareholders. Exhibit 5.18 below summarizes for recent years this gap of performance through revenue growth, EBITDA margins and cash conversion (as defined previously).

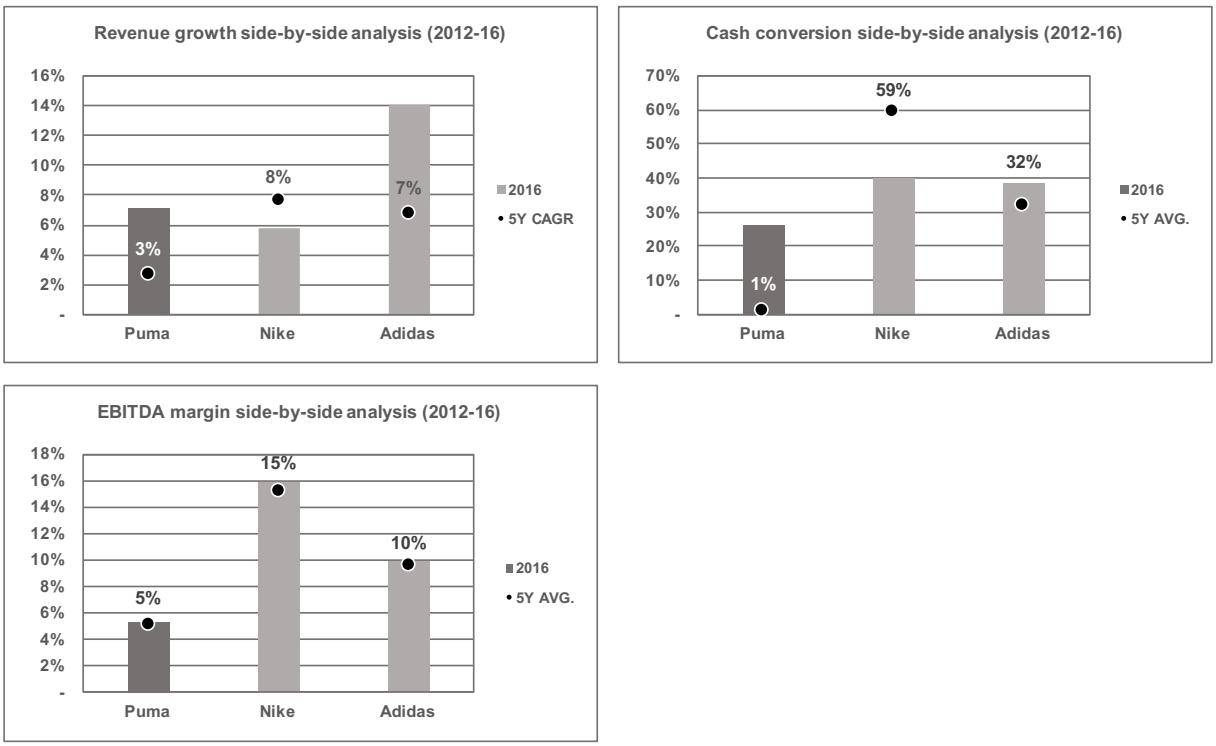


Exhibit 5.18: Puma, Nike and Adidas side-by-side analysis (2012-2016)

Puma is clearly lagging behind its competitors as for the period 2012-2016, with a growth CAGR of 3% (in line with its growth CAGR from 2007 onward), the lowest margin (5%) and an almost-null cash conversion (1% on average over the period). Puma turned from cash-cow to a troubled company failing to generate cash effectively and without unlocking the full potential of growth its competitors were witnessing.

The 2007 crisis did not helped Puma to achieve the strategic plan it had in mind back in 2006 when Kering approached the company. The 2009 restructuring plan was meant to lay the foundation and give leeway for a growth plan that has been implemented in 2011, after the new CEO Franz Koch stepped in. Despite all the efforts, Puma's objective to reach €4bn of revenue by 2015 fell short of almost €1bn. However, we believe that the crisis cannot explain all the weak performance of Puma since 2007 because main competitors like Nike and Adidas managed to develop themselves despite the dire economic situation. Exhibit 5.19 below underlines the gap in share price evolution and shows how each competitor managed to deal with the economic crisis: both Nike and Adidas's share prices have risen since 2007 whereas Puma's stock price describes a kind of U-shaped curve with current price levels only reaching back to the ones of 2007.

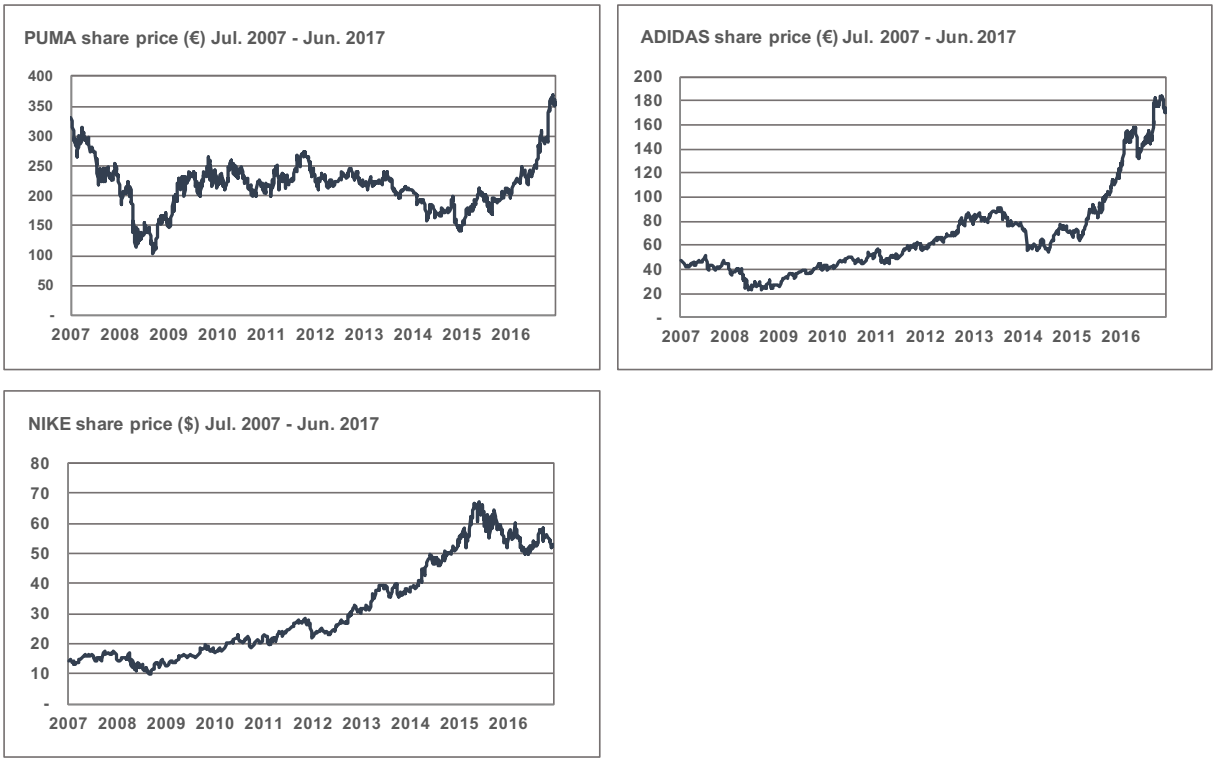


Exhibit 5.19: Stock prices for Puma (€), Nike ($) and Adidas (€), (2007-2017)

This poor performance has been reflected in the evolution of respective TSRs. Exhibit 5.20 and 5.21 underlines the change is TSRs for Puma, Nike and Adidas for two periods: 2000-2006, during which Puma was outperforming its peers, and 2007-2017, after its acquisition by Kering, during which Puma has constantly been underperforming its peers.

TSR analysis	Jan. 2000 stock price	Jan. 2007 stock price	Capital gain CAGR (%)	Perceived dividends	Historical TSR
Puma	**17,0**	**300,6**	**50,7%**	**6,8**	**1703%**
Tier-1 peers					
Nike	6,0	12,2	10,6%	0,3	108%
Adidas	17,9	37,9	11,3%	10,2	168%
Average			**11,0%**		**138%**

Exhibit 5.20: Puma (€), Nike ($) and Adidas (€) TSRs from January 2000 to December 2006

To derive comparable results between peers for the period 2007-2017 (Exhibit 5.21), we chose the date of April 3rd, 2007 as the unaffected price benchmark for Puma's stock price and implied the premium based on the €330 Kering offer price. We applied this same premium of 18.7% [8] to Nike and Adidas's stock prices on the same date and then computed their respective TSRs.

TSR analysis	Unaffected price (3/04/07)	Offer price	Implied premium (%)	Jun. 2017 stock price	Capital gain CAGR (%)	Perceived dividends	Holding period TSR
Puma	**278,0**	**330,0**	**18,7%**	**249,6**	**(3,9%)**	**15,1**	**(20%)**
Tier-1 peers							
Nike	13,3	15,8	18,7%	52,0	18,6%	3,7	253%
Adidas	41,3	49,1	18,7%	151,3	17,5%	9,2	227%
Average					**18,0%**		**240%**

Exhibit 5.21: Puma (€), Nike ($) and Adidas (€) TSRs from July 2007 to June 2017

After Kering's acquisition the TSR pattern dramatically fell because of a reduction in the trading price, for which we already analysed the "U-shaped" curve for the period 2007-2017 in Exhibit 5.19 (see above). Although during most of the 10-year holding period of Puma TSR has been trading low, current Puma share price at €356 (on June 2nd, 2017) enables return to reach 12.8% — still well below Nike and Adidas, returning 261.6% and 272.3% respectively.

[8] 18.7% premium based on April 3rd, 2017; and 23% premium based on a one-month VWAP at the same trading date. For the sake of simplicity, we computed the premium using the 18.7% premium on the closing price at date April 3rd, 2017 for both Nike and Adidas.

5.3.2.7. Conclusion and key takeaways

Our Kering case study underlines what we had previously presented in our theoretical presentation of Portfolio builders. Through its acquisition of Puma, Kering fell in each and every issues that a Portfolio builders should strive to avoid: (i) it bought Puma near an all-time high; (ii) it was unable to carry out what we called the "margin challenge" since Puma's performance was the best-in-class benchmark in 2007; and (iii) it lacked a clear vision to properly integrate Puma in its holding of companies in a bid to harvest its strong cash profile. Although the 2007 financial crisis did not help in building tailwinds for Puma's initial strategic plan, its extremely weak performance between 2007 and 2017 when compared to Nike and Adidas shows that Puma did not find the way to sustain both its growth and margins on the long-run.

Thanks to Kering not having to give back the invested capital to investors like a traditional fund would have to, it was able to carry out its plan over the 10-year holding period, which appears to be bearing some fruit as recent developments helped the share price to reach €356, above the €330 acquisition price. This specific characteristic of Portfolio builders helped in securing the value even though the share price was below the acquisition price for almost 10 years. Nowadays, as returns started to materialize, Kering might be able to secure its returns, provided that it can sustain the share price.

Another question arises with Puma's role in Kering's portfolio, aside from a pure diversification motive. Back in 2007 Puma was thought to be a cash-cow business. Nowadays, as Puma's growth path in the few recent years is reaching industry's average but as margins stays extremely low, what should Kering consider doing with its Puma holding? One can difficulty advocate that Puma is a "Defend" or "Perform" asset anymore. It is not a "Growth" opportunity either. Therefore, according to our BCG framework, should we consider Puma a "Divest" opportunity? Some rumours claimed that Puma was for sale in 2011, although it was not the case. Now that returns can be secured, should Kering consider selling Puma?

5.4. Opportunistic buyers

5.4.1. Literature and overview

To illustrate the one-timer category, we will study the acquisition of Airgas by Air Liquide in 2016. But before that, we need to understand, what is a one-timer, how can we characterize it and where the value creation in such kind of M&A deals comes from.

In its M&A 2016 report, BCG classifies M&A actors in three categories: one-timer, strategic shifter and portfolio builder. According to them, a one-timer is a company that has performed only one deal over the last five years. Two-third of their sample was considered as one-timers and they gathered 35% of the M&A deals completed since 1991 globally. If we only consider that sample, it seems that companies remain very careful regarding acquisition and that they would rather favour organic growth instead of an external one. Therefore, when they go for M&A, it means that this is the one-chance opportunity and that they cannot afford themselves to miss this unique opportunity. In this way, it is not surprising to see that markets like one-timers, at least on the short-term (BCG, 2016). Indeed, the market stick to the acquisition project which is most of the time linked with a refining of the company's strategy and the selling of non-core assets. As M&A activity is rare for those players, the move must have been carefully studied. The BCG study shows a stronger positive reaction in the short term for one-timers (CAR [9] of 5.5% vs. 0.5% for portfolio masters) and 64% of the deals involving one-timers were received positively by the market. The huge difference with portfolio builders could be explained by the fact that they are serial dealmakers and M&A is continually used to pursue their corporate strategy and integrated in their share price.

However, the CAR spread between deals received positively (12.1% CAR) and deals received negatively (-6.5% CAR) is very large for one-timers. That spread amounts for 12.1% for strategic shifter and only 8.7% for portfolio builder. Indeed, as the acquisition is considered as a unique opportunity, the risk is very important and would affect deeply the whole company, positively or negatively. In this way, it is consistent to have a better expected return alongside a higher standard deviation. That equation can explain why the decision process is longer for one-timer. We will try to draw a picture of a one-time opportunistic buyer.

5.4.1.1. A strategic and related acquisition

Contrary to a strategic shifter, an opportunistic buyer is looking for opportunity in its industry. A relatedness acquisition can for instance offer the possibility to access new geographical markets or to extend its current market share. The acquisition could be horizontal, for example to strengthen the market leadership of the buyer, or vertical in order to have a stronger stranglehold on the value chain. Therefore, the one-timer needs to find complementarity resources that will bring growth and will lead to value creation.

[9] CAR stands for Cumulative Abnormal Returns

"Complementary resources exist when the resources being combined between the acquiring and target firms are different, yet mutually supportive." (Hitt, 2001). The acquirer needs to target companies acting in the same sector but with other strengths and specificities. Grimm and Smith (1997) demonstrated that the probability of creating value after an acquisition was way higher in case of complementarity resources. Similar resources will be useless as the buyer would have preferred to pursue an organic strategy as it is, by nature, very careful regarding M&A.

Indeed, by acquiring similar resources, the buyer keeps the same strengths but also threats as if it has remained independent. The acquisition needs to bring something new to the company, either new opportunities or enhancing the current situation. Synergies are the concrete assessment of complementarity resources. We will see later that consequently the three vectors of value creation are: enhancing revenues, reducing costs and generating new capabilities and revenues streams. As Flanagan noticed in 1996, it is very important to consider that a one-timer is looking for a related acquisition but also a strategic fit which he defined as a "purely related acquisition". On the contrary to previous studies which only consider the related aspect of the acquisition, Flanagan sharpened the classification: he successfully demonstrated that returns at announcement were greater that those of purely unrelated acquisitions. Yet, in the case of a one-timer, we also need to detail the uniqueness of the situation.

5.4.1.2. A unique opportunity reshaping the industry landscape

We saw that frequency matters a lot to improve the post-merger integration and fully realize the synergies. In the case of a one-timer, we are facing companies that mainly rely on organic growth but decide to perform a major acquisition because they can seize a unique opportunity. Thus, we describe an opportunistic buyer as a company which makes a major and unique acquisition in the medium term. The acquisition needs to bring new opportunities that could have not been reached through an internal road.

On the contrary to AB InBev, Air Liquide is not accustomed to complete mega-acquisitions. Nevertheless, it has an M&A department and has bought several medium-size companies. What we want to emphasise here is the uniqueness of the situation. The mega-acquisition of Airgas is a "one-in-a-lifetime opportunity". It is a game-changing acquisition. After its acquisition, a one-timer will change scale. That is why, most of the time opportunistic buyers

play in industry that are facing a strategic shift. The main objective behind the acquisition is to find new leverages of growth and M&A represents an incredible vector to pursue that goal.

The opportunistic merger will completely reshape the industry landscape. In addition to have an important impact on the buyer itself as we will see later, rivals will also be affected. Clougherty and Duso (2011) described four types of one-time mergers according to their consequences on the combined entity and the rivals: positive for both parties, negative for both parties, positive for the combined entity to the cost of rivals and conversely. What derives from their analysis, is that such acquisition due to its size and its non-recurrent nature will necessarily have a huge impact on the industry.

- If the rationale behind the move is to acquire a direct competitor to reduce market competition, the impact will be positive for both the combined entity and the rivals. As there is less competition there is an opportunity for all players in the market to increase their prices. The “collusive transaction” (Clougherty and Duso, 2011) will benefit for all remaining players;
- If the rationale behind the merger is to achieve scale and scope economies, essentially by combining complementary resources, the combined entity will get an advantage compared with its rivals. The “efficiency-based synergies” (Clougherty and Duso, 2011) coming from the share of resources and capabilities will negatively affects the rivals and the acquisition will be a threat for their market share;
- If the rationale behind the merger is to combine firms without enough complementarities, the deal will destroy value for the combined entity but will provide opportunities for the rivals. Indeed, the integration will be difficult because they essentially share similar resources and capabilities. In this way, it will come at the expense of other strategic decisions. Rivals can seize opportunities to launch aggressive strategic moves. In that case, the combined entity will lose efficiency after merging (Clougherty and Duso, 2011); and
- Last category gathers mergers which are value-destroying for all the industry. This is mainly due because there are huge integration costs they are not covered by enough synergies. At the same time, the company acquires a genuine competitive advantage on its rivals and deteriorates their market position. This is particularly true in pre-emptive acquisitions, where the acquirer will destroy less value by acquiring the target than being an outsider to the deal (Clougherty and Duso, 2011).

5.4.1.3. Post-merger integration challenges

As we have seen, the impact on the sector is huge after a one-time acquisition but the impact on the acquirer is even bigger. Indeed, the key point is to successfully integrate the target. We described previously that the learning curve effect is essential for serial acquirers to fully realize their synergies and unlock value creation for shareholders. In the case of one-timer, the equation is slightly different as the acquisition is an uncommon move and it will have an impact on all the strategy. That is why, targeting complementarity resources is key to avoid redundancies and high integration costs. One-timers are very cautious, then they usually well-prepare their acquisition. Management is mobilized to overview the preparation but also the integration. There will be effects on the corporate structure of the company but this is also a way to gain effectiveness.

That kind of acquisition is very often scrutinized by anti-trust authorities. The impact on the industry could affect the competition; suppliers and customers could be the victim of such move. That is one of the reasons why game-changing acquisitions often come alongside divestures. All reasons for divesture have already been exposed in the section 2.2. One in a life opportunity is a long and tough process for the management but the streams to unlock value are various and fruitful.

5.4.1.4. Three ways to unlock value for shareholders

We can identify three areas of value creation during a one-time in a life acquisition. They are not mutually exclusive: an opportunistic buyer should have the objective to create value through those three streams.

Enhancing Revenue: By combining two firms acting in the same industry, the combined entity will considerably increase its market power. It will therefore get a strong advantage to fix price but also will be able to increase marketing campaign, reinforce R&D, and use its brand management. It has been showed that higher market share leads to higher profits (R. Buzzel and B. Gale, 1987). Following the merger, it is easy to increase the market share because the two firms are selling on the same market. However, on the long run, it is much more difficult as the concentration of players does not necessary means that the residual rivalry will disappear. Scherer and Ross (1990), demonstrated that the market power gain following horizontal merger was limited due to rivals' response and anti-trust regulations. Therefore, value creation through increased market power is limited and difficult to prove in practise.

Top line can also be increase by acquiring a company in the same sector but with different product. Both products can be sold as a package to customers. For example, in the utility industry, gas providers merged with power providers because they are targeting the same customer base and their clients will have an incentive to buy both gas and power from the same supplier to limit paperwork. Revenues can also be enhanced by using the network of the acquirer. The acquirer will benefit from the distribution channel of the target to sell its own products or conversely. That is one of the main reason to go for M&A for one-timer. They are looking for new streams of growth and need new networks to sell their products or services. It will have been too costly to develop those networks internally. What matters is the network externality and the customers base.

Cost reduction: Cost savings is often mentioned as one of the main reasons to pursue a takeover. A market with excess capacity will generate fierce competition and will make prices go down. Profits will erode. Opportunistic buyer might seize the opportunity to buy a competitor in order to rationalize production and cut fixed costs. The price pressure will disappear as demand and supply will match again, therefore margin will increase. That kind of acquisition, completely reshapes the industry landscape because competitors also have to restructure themselves to remain competitive.

Costs saving can also come from scale economies by avoiding redundancies between the two merged companies. The sales force can be reduced, marketing expenses can be rationalized, one head-quarter can be sold etc. However, such savings are capped by the Minimum Efficient Scale (MES) described as “As the scale of production increases the cost of production falls initially steeply and then slowly before turning flat. Beyond the MES, further scale economies are unlikely.” (Sudarsanam, 2003). The other size of the coin is diseconomies of scale, which comes from the difficulties to monitor a bigger entity, the lack of communication between teams and the numerous level of management following the deal. Post-merger integration is key to avoid such issues. That should be assessed in the acquisition process.

Scope economies is another possibility to save costs given the two firms are not producing the same products. Scope economies arise when the cost to product two or several different products is lower than the sum of the production costs for each product. However, the products of the two firms need to share common functionalities to generate scope economies. Finally, the combined company can realize costs savings through learning economies. The combined company will use the experience of the two firms to rationalize effectively every business unit. The objective is to use the available combined resources and the experience to lower the cost

of production. Learning economies can arise everywhere inside the combined company, from the product design and quality control to the R&D and distribution teams.

By acquiring its suppliers or its distributors, the one-timer will be able to reorganize itself and rationalize the costs. The objective is to restore margins by removing on level of costs. However, vertical integration could be difficult to implement and costly mainly due to the lack of market reference and internal monitoring costs.

Seizing new opportunities: Creating new opportunities is much more difficult than increasing top line and reducing the cost base. It is rather a way to generate long-term value creation while the first two categories focus on medium-term value creation. A one-timer will take a major risk by going out its comfort space to launch a new adventure. There are only a few acquisitions that are motivated by the wish to pursue “exploratory investments” (S. Sudarsanam, 2003). But it can occur, for example in the Techs industry, where big players have been buying start-ups working on Artificial Intelligence. When a company is acting in a mature market, without any direct M&A opportunities, it could decide to bet on a disruptive technology in the same sector by acquiring another firm.

5.4.2. Case study 3: AirLiquide

5.4.2.1. Air Liquide snapshot

Created in 1902, Air Liquide is one of the world leader in supplying gases and services to Industry and Health. Prior to the acquisition of Airgas, the group was present in more than 80 countries, employed more than 50,000 employees for a customer base of 2 million. Air Liquide’s ambition is to become the uncontested leader of its industry. R&D has always been at the heart of its strategy to reach its objective. R&D not only focuses on industrial gases but also on healthcare products, chemicals, food and electronic chips. In 2015, Air Liquide’s revenues reached 16.4 billion euros, mainly driven by two business lines: gas and services supplied to Large Industries (31.6%) and Industrial Merchant (31.9%).

5.4.2.2. Airgas snapshot

Created in 1982, Airgas is the largest US provider of industrial, medical and specialty gases. The company also offers welding equipment and safety products and supplies

atmospheric gases. Before being acquired by Air Liquide, the company had over 17,000 employees. Airgas reported in 2015, sales for 5.3 billion dollars. Listed since 1986, the group has been acquired in 2016 by Air Liquide for 12.5 billion euros (the announcement of the acquisition happened on 17 November 2015). Before the announcement of the acquisition, Airgas suffered from a slowdown of its growth which led to a sharp decreased in its share price from January 2015 to November 2015 (-15%). The deal was a major event in the industrial gases market as it concerns the number 2 and the number 5 worldwide of that industry.

5.4.2.3. Acquisition Rationale

A game-changing acquisition for Air Liquide

The acquisition of Airgas is a major event in the Industry as it led Air Liquide to an undisputed global leadership. As underlying through the several press releases, the two companies are highly complementary both geographically and through their business lines. In this way, Air Liquide becomes the leader in the US in the industrial gas market, complementing its current leading positions in Europe, Middle-East/Africa and in Asia-Pacific. Moreover, the company reinforces its number one positions in two business lines, Large Industries and Industrial Merchant, and becomes the number one company in Electronics.

Following the acquisition, the scale of the company has considerably changed. From one of the global leaders in the industry, Air Liquide has become the uncontested number one in the market (Exhibit 5.22).

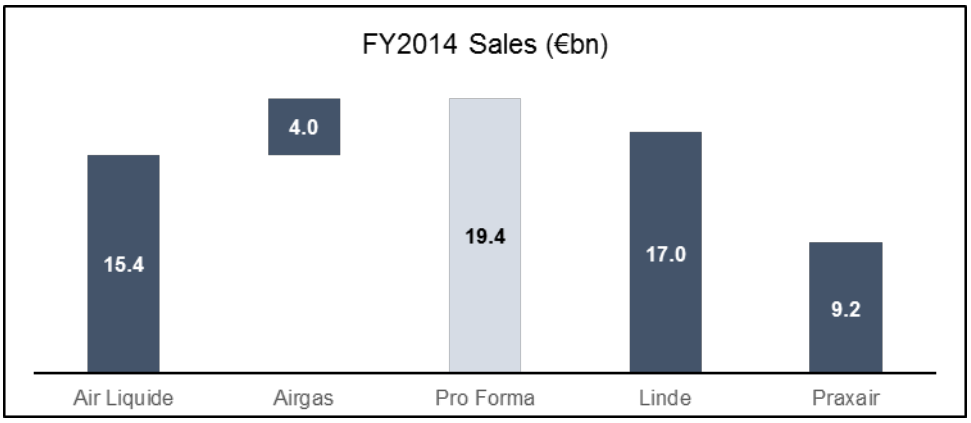


Exhibit 5.22: Air Liquide's FY2014 Sales pro forma in €bn compared to its two closest peers

A unique opportunity to access the US market

Air Liquide will affirm its global leadership by scaling up North America. Indeed, the firm will benefit from Airgas's one million customer base in the US to reinforce its footprint in a market difficult to access. The deal will double Air Liquide's percentage sales in the U.S. making it the top 1 geography for the group with 42% of total revenues (Exhibit 5.23). In addition, the US are the largest gas market worldwide and a key driver of global growth. The growth has been steady recently and should continue that trajectory. In this way, it was key for Air Liquide to strengthen its position in that market. The US gas market represented $17bn in 2014 and should reach $22bn in 2020 according to company's estimates. That represents a CAGR 14-20E of 4.4%.

The complementary offered by Airgas is unique for Air Liquide. In the US, Airgas is number one in packaged gas and one of the major suppliers of hardgoods, two markets where Air Liquide was relatively absent in that geographical area prior to the acquisition. Moreover, the group can benefit from this entry point to acquire in the future independent players which represented in 2015 still 50% of the US gas market. Given the strategic rational and the size of the deal, we can confirm that Air Liquide fulfils the one-timer's characteristics.

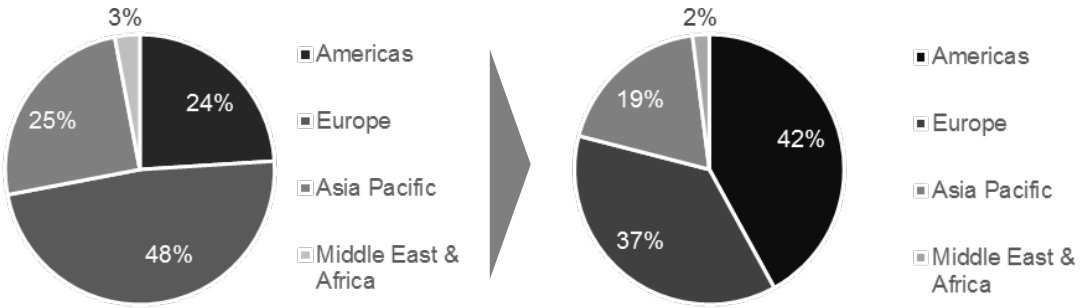


Exhibit 5.23: Air Liquide's 2014 Sales geographical breakdown before and after the acquisition of Airgas (Include only Gas & Services sales for calendar year 2014 converted from USD to Euro at 2014 average exchange rate of 1.326)

A chance to improve competitiveness and leverage innovation

The acquisition of Airgas gives a unique opportunity to improve Air Liquide competitiveness. As mentioned previously, the company could build a strong US business combination with a highly complementary firm, especially through supply chain synergies. Airgas built an unparalleled customer-centric multi-channel distribution network, including an innovative e-commerce platform on which the combined entity could capitalize. Air Liquide

could immediately inject its innovation capabilities into Airgas's distribution network and gain access to a one-million US customer base. The digital channels developed by Airgas will enable a wide and quick deployment of Air Liquide's advanced technologies in the US.

5.4.2.4. Did Air Liquide overpay to acquire Airgas?

Air Liquide's management offered to pay $143 in cash for every Airgas' share. That represented a +51% premium to Airgas' one month average share price prior to the announcement (Exhibit 5.24). A strong premium has been justified by strong potential synergies and EPS accretion since year 1. As already stated in the theoretical part, the fact that the deal is accretive does not help us to assess if there is value creation for Air Liquide's shareholders, yet it is a good signal for the market. Regarding synergies, management explained that almost 70% of them should come from cost efficiency and 30% from volume growth, for a total amount of $300m. Strategic synergies are not taken into accounts due to the difficulties to quantify them. Here to access the potential value creation for Air Liquide's shareholders, we will have to put synergies in comparison to the premium paid.

Exhibit 5.24: Airgas share price performance from January 2015 until its delisting in May 2016

If we have a closer look at the multiple paid by Air Liquide, the transaction does not come cheap. Considering historical transactions in industrial gases, the EV/EBITDA multiple paid is at the high of the range (Exhibit 5.25). The Enterprise Value amounted for $13.4bn, including $10.7bn of equity value. The EV / LTM EBITDA paid of 13.5x is way above the average 10.2x. However, the deal is not as expensive as it seems at first sight. Indeed, we compute a 9.8x multiple of EV / 2016E EBITDA post-synergies much more in line with the past transactions in the sector. We could also add that several buyers were ready to acquire Airgas, which might have driven prices upward.

Date	Target	Acquirer	Region	Currency	Price (bn)	EV / LTM sales	EV / LTM EBITDA
2015	Airgas	Air Liquide	US	$	13.40	2.5x	13.5x
2015	Yara CO2	Praxair	Europe	€	0.31	1.9x	11.0x
2013	NuCO2	Praxair	US	$	1.10	4.4x	9.6x
2012	Gasmedi	Air Liquide	Spain	€	0.33	3.9x	7.0x
2012	Lincare	Linde	US	$	4.60	2.5x	10.0x
2012	LVL	Air Liquide	France	€	0.32	3.0x	10.5x
2012	Indura	Air Products	Latam	$	0.88	1.9x	13.0x
2012	APD Homecare	Linde	Europe	€	0.59	2.8x	10.0x
Average (inc. Air Liquide/Airgas)						**2.9x**	**10.6x**
Average (exc. Air Liquide/Airgas)						**2.9x**	**10.2x**

Exhibit 5.25: Transactions multiples in recent deals in the gas sector (Companies reports)

5.4.2.5. Synergies vs Premium: value creation for whom?

To clearly assess if Air Liquide has been able to create value for its shareholders, we need to compare the premium paid to the expected synergies. The management reckoned on $300m of synergies, 70% through costs savings and 30% through revenues enhancing. Compared to AB InBev's case, the management did not give much granularity on synergies. Costs & efficiency synergies are expected to be achieved by Year 3 while revenue synergies by Year 4. Therefore, we had to make several assumptions to be able to compute the NPV of the synergies. Once again, we take a bullish view by assuming that synergies remain valid infinitively. By supposing that, we assume that Air Liquide would have never been able to complete such savings without acquiring Airgas. We assume that revenue synergies where only possible from year 3 and implemented linearly while costs synergies will be fully completed by then. We also include a cost for synergies implementation of 15%, paid linearly during 3 years. That assumption does not have a huge impact of the NPV as the Terminal Value represents more than 85% of our NPV. We found a NPV of synergies around $3.8bn (Exhibit 5.26).

Synergies ($m)	Year 0	Year 1	Year 2	Year 3	Year 4	TV
Ramp-up %		23%	47%	85%	100%	
Costs Synergies		70	140	210	210	
Revenues Synergies		0	0	45	90	
Adjusted Synergies		70	140	255	300	
Implementation cost		(15)	(15)	(15)	0	
EBIT Impact		55	125	240	300	
Tax Impact		(15)	(34)	(64)	(80)	
Net Impact		**40**	**92**	**176**	**220**	**4,143**
Discount Factor		95%	90%	86%	81%	81%
PV CF		**38**	**83**	**150**	**179**	**3,370**
NPV of Synergies	**3,820**					

Assumptions:

Synergies expected $300m

Implementation costs 15%

Amortization 3 years

WACC 5.3%

Tax Rate 26.8%

Exhibit 5.26: Net Present Value of synergies identified by Air Liquide's management

Each shareholder of Airgas was entitled to received $143 per share in cash. We decided to take as the unaffected prices, the share prices on November 12th, 2015, prior to any rumours and five days before the deal announcement. At that date, Airgas's stock price closed at $94.62, therefore the offer price represents a premium of 51%.

Post deal, we consider the new Air Liquide Value as:

$$Post\ Acquisition\ Value = Combined\ pre\ acquisition\ values + Synergies - Cash\ paid\ including\ premium$$

Using the unaffected share prices of Airgas ($94.62) and Air Liquide (€123.65 which gives us $132.10 using the EURUSD conversion ratio of that day), we get a Market Value of the combined entity of $46bn, for a new share price of $132.66. We immediately notice a small increase in Air Liquide's share price, synonym of value creation for Air Liquide shareholders. We define the premium paid to Airgas shareholders as:

$$Premium\ paid = Cash\ paid - Pre\ acquisition\ value\ of\ Airgas$$

In this way, the premium paid reaches around $3.6bn, slightly below the $3.8bn of expected synergies. Theoretically, the deal generates $3.6bn of value creation for Airgas' shareholders (95% of the total value creation) and only $0.2bn for Air Liquide shareholders (5% of the total value creation).

However, if we consider the share price right after the official completion of the acquisition on May 23rd, 2016, it closed at €94.15 ($100.59 if we apply the EURUSD conversion ratio on November 12th, 2015). Doing calculations the other way around we found negative synergies which is a non-sense. Either the market does not believe at all in the transaction, either the stock has been affected by external factors. Comparing the performance of Air Liquide against the CAC 40 since November 12th, 2015, we see that the stock has stalled since the first rumour in November 2015 and has never been able to catch up (Exhibit 5.27). Then, Air Liquide recorded a poor performance compared to the CAC 40 over the period which probably illustrates the market doubt on the acquisition of Airgas.

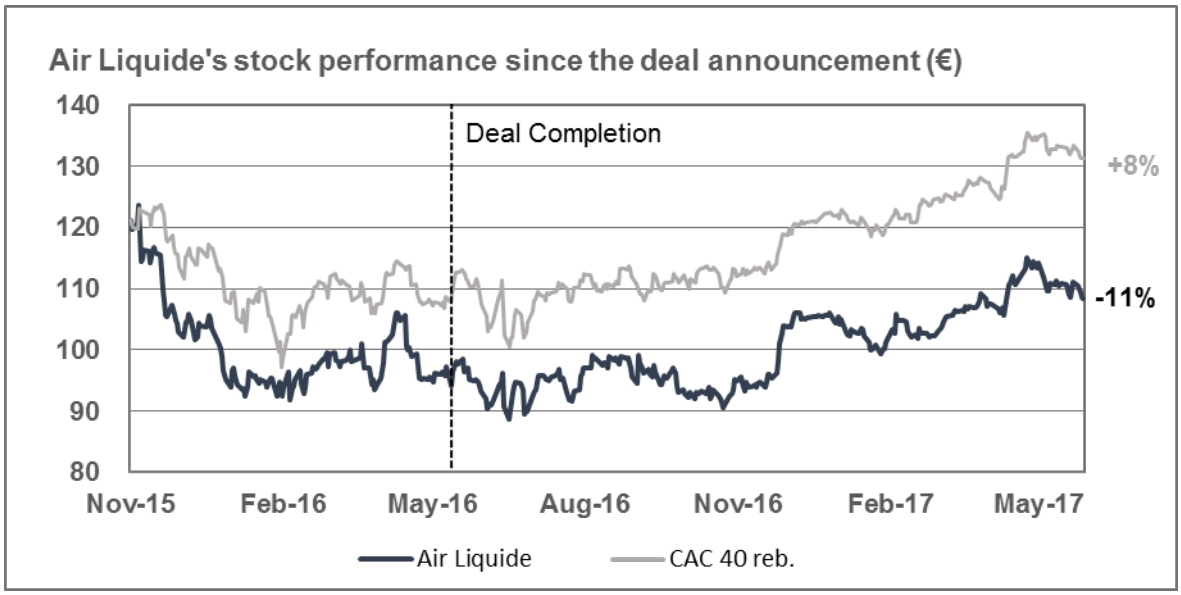


Exhibit 5.27: Air Liquide's stock performance vs. CAC 40 from 12th November 2015 until 6th June 2017

If we do a parallel with AB InBev's acquisition of SABMiller, we clearly attest that the dynamics are completely different. In the case of AB InBev, the market received positively the deal and the stock overperformed its main index. In our case, the market reacted negatively, and the stock underperformed its main index. Probably that the management did not give enough guarantee to the market and did not benefit from the same track record as the AB InBev's management did. Before the acquisition, Air Liquide was one of the top performers among the CAC 40. Indeed, the company delivered continuously a strong return to its shareholders. At December 31, 2016, for an investment in one Air Liquide's share in January 1, 2012, the total shareholder return was +9.6%. In addition, the management has continuously delivered a ROCE above the cost of capital, synonym of value creation for the firm. However, its ROCE is negatively affected by the acquisition of Airgas. First, Airgas' Packaged Gas business in more cyclical than Air Liquide's tonnage activities, therefore the operating margin is lower (12.2% vs. 17.1% in 2014) and it will affect negatively the ROCE in the short term. Secondly, Airgas has generated lower return than Air Liquide is the past years. That is why the management announced that the ROCE should not reach again its double-digit level prior to 5-6 years. Using Bloomberg estimates and Air Liquide's definition of ROCE[10], we found a sharp decrease in ROCE after the completion of the acquisition but still above Air Liquide's cost of capital (Exhibit 5.28).

[10] ROCE = ((net profit after tax before deduction of minority interests – net cost of debt after taxes) over the year) / (average (shareholders' equity + minority interests + net indebtedness) at the end of the three last semesters)

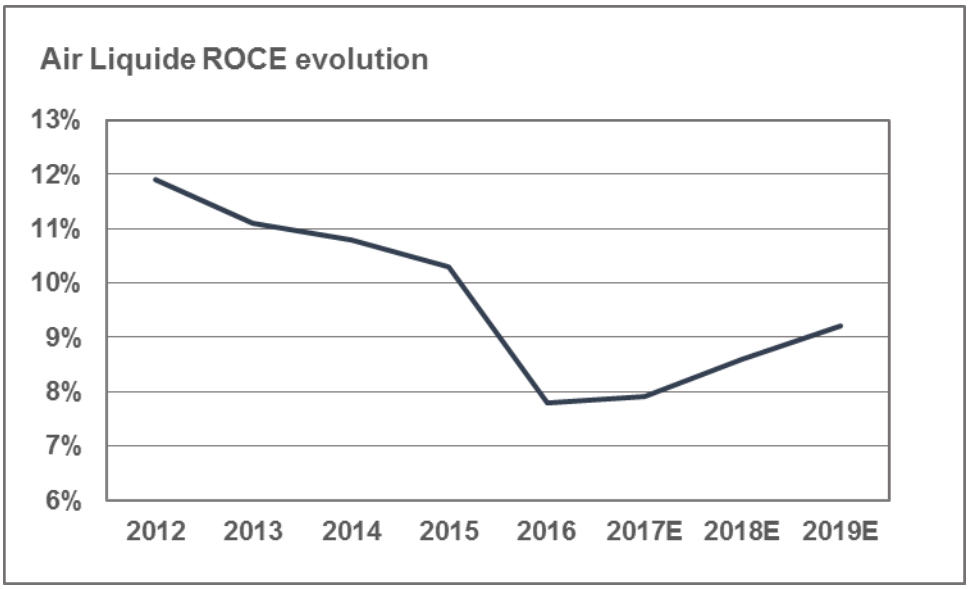


Exhibit 5.28: Air Liquide's ROCE evolution since 2012 and its future perspective

5.4.2.6. Conclusion and key takeaways

The acquisition of Airgas by Air Liquide was necessary for the Group to become the uncontested leader of its industries. Air Liquide had already missed the boat to do a major related acquisition, Airgas was one on the latest opportunities available on the market. That acquisition meets the need to re-boost Air Liquide's growth as its main Gases business is becoming more and more challenging with Europe's deindustrialization and new competition from China. By acquiring Airgas, Air Liquide could diversify its business by beneficiating both from an incomparable customer base in the United States and from a new kind of customers, closer to the market ends. The business complementarity is strong and Air Liquide could for example leverage the e-commerce channel developed by Airgas outside the US.

However, the timing of the acquisition is tricky, in a market that has stagnated with a strong dollar vis-à-vis the Euro and a sharp decrease in oil price. Therefore, it seems that Air Liquide had paid a large premium while the market was at the peak of the cycle. Moreover, as the complementary of the business is very strong, there is not much overlap between the business. In this way, it will be challenging to achieve the synergies announced, which is the minimum to preserve value for Air Liquide shareholders. We can also consider that earnings will be more volatile following the acquisition considering the cyclicity of the North America Packaged Gas end markets.

To conclude, the acquisition, although waited by most investors, has disconcerted the market as Air Liquide has always been considered as the most defensive in a defensive sector. We can easily attest that Air Liquide did a game-changing acquisition. The company has

changed dimension following the deal, by becoming the uncontested leader of the industry. The post-merger integration will be long and challenging. If the value creation for Air Liquide is difficult to perceived on the short term, it is the performance on the long-term and the management's ability to create value that need to be assessed. In the case of one-timer, the market is much warier and does not immediately integrate structural change for the company and for the industry. Air Liquide through the acquisition has reinforced its position and rebalanced its business in order to be ready to face future significant structural shift that could affect the gas industry (for example the shale gas revolution).

5.5. Transformational shift

5.5.1. Literature and overview

Most of companies who have been existing for decades have gone through major overhauling of their core business over the years: they went from fame to crisis and have been able to reinvent themselves. One of the most famous example is Berkshire Hathaway which started as a textile manufacturing company and is now one of the largest conglomerate in the world, with lines of activities ranging from insurance, to railroad, to retail and to confectionery. In the case of Berkshire Hathaway, this transformational shift has been carried out through M&A, to finally becomes its core activity. Other companies have been performing such transformations over the years to find new prospects: Nokia is another famous example that we will investigate in our next and final case study.

Fæste, Hemerling, Keenan and Reeves (2014) have shown that almost 25% of companies go through a transformational shift even when they are in a position of strength. They drive for success by pre-empting transformation in their business many years before the actual change occurs.

Although transformational shifts are quite common for long-lived companies, the financial literature is quite rare on the subject, and especially on the specific case of transformation through M&A. However, since the 2007 financial crisis, which brought numerous examples of distressed companies and triggered several turnover needs, the corporate finance and strategic literature on turnaround in general begins to be covered in a broader manner.

We believe that typical M&A value creation tools and frameworks fail to analyse properly the value creation for such an extreme case as a near-bankruptcy company turnaround. In the next few pages, and through our Nokia case study, we will investigate transformational M&A shift and try to define new ways to consider value.

5.5.1.1. Characterization of Transformational shifts

Companies can go through transformational shift in two ways:

- Cautious company will pre-empt their distress situation and implement an overhauling strategic plan before bankruptcy occurs;
- And other companies might not have been unable to foresee such a crisis and must overhaul their core business while in a distress situation (during which time become a pressing issue because of a cash-burn rate).

Transformational shifters perform M&A to disrupt their core business. They often sell their historical assets if they have any value on the market to fund, alongside additional external financing, the acquisition of new assets which are meant to put the company on a renewed growth path. The core issues for such companies will be to:

- Find a new business that is away from its historical core business, but not too far as well so that the management can leverage its knowledge and company's culture to meet success in the new line of business;
- To find sufficient financing to fund the turnaround;
- And finally, to develop the adapted corporate culture and organization to develop the new business line.

5.5.1.2. Near-bankruptcy value

Value creation cannot be considered as previously whenever a company is encountering a distress situation. Therefore, whenever a company is willing to perform its business shift before the bankruptcy situation occurs, we believe that value should be considered thanks to the expected with probability scenarios (Damodaran):

$$Value\ of\ firm = Status\ quo\ value \times (1 - Probability\ of\ distress) + Liquidation\ value \times Probability\ of\ distress$$

Using probability trees and expected value for each case is the most straightforward process to define a precise strategic plan which will lead to decide upon exiting the historical core business or not. In the latter case the management must feel confident that the company can generate significant growth and operating improvements to turn the business on its own.

According to A. Damodaran, the distress probability can be estimated in three ways:

- By using the typical distress probability used by rating agency for bonds ratings;
- If the company already has bond on the market it can imply the distress scenario probability based on the current bond trading price. Then, using additional information like maturity, coupon payment and the risk-free rate, the DCF formula can be inverted to assess the distress probability;
- Finally, using statistics with previous cases of distress companies. A linear regression model factoring in debt-to-capital ratios and operating margins can yield benchmark results for estimating the distress probability.

Although these figures are only broad estimates, they can become useful to trigger the exit decision. Moreover, performing such an analysis can help the management to decide upon whether to sell the core business as a whole or to sell each asset on an individual basis in a bid to maximize sale value. Performing a liquidation value analysis can also provide further guidance on the maximum amount that can be received from selling the historical business.

Analysing the company distress profile as well as the value of its assets will

5.5.1.3. Harvesting cash on the short-term

We believe that synergy analysis should be discarded since it should not be always be possible to generate some and because in a near-bankruptcy situation it might be better for shareholders to give away some value in the short-term — and reinvest if they can — with the hope to generate higher value in the long-run. Hopefully investors would be able to recoup the value they gave away during restructuring if everything go according to plan.

Timing is crucial in such situations since management must identify both a buyer for its assets and a target for its new business acquisition, and because it must secure enough funding to meet funding requirements to implement the turnaround strategy.

On the short-run it means that near-bankruptcy companies should sell assets and capital-intensive business units, stop dividend payments and manage for cash as efficiently and as

fast as possible. Management should therefore draw an exhaustive list of value item in its historical business. Here are some common categories which can lead to unlocking substantial value items on the short-run:

- Working capital improvement: mostly by slashing inventories or renegotiating with suppliers for extended payment facilities (however, often resulting in higher prices being paid);
- Workforce adjustment: mostly for support functions which are not vital to the business operations;
- Overheads costs like travel expenses, utilities, etc.
- Renegotiation of contracts, especially for transportation, marketing, etc.
- Divestment of capital-intensive business units and assets by targeting poor performing assets in terms of ROCE;
- Finally, cutting dividends to preserve cash flows.

5.5.2. Case study 4: Nokia

5.5.2.1. Nokia snapshot

Nokia started operating in 1865 as a paper mill Finnish company. In the 1880's Nokia started to produce telecommunication equipment. One century later, in the 1960's, Nokia became a conglomerate which comprised widespread activities such as rubber, cable, forestry, electronics and power generation following the merger with another company, Finnish Cable Works. It is as late as in the 1990's that Nokia decided to focus on telecommunication and mobile as its core business; therefore, Nokia divested historical businesses such as aluminium, cable, chemicals, paper, rubber and power plants.

In 1998 Nokia became the world leader in mobile phones, a position which it held for almost a decade, until year 2007, which acted as a milestone for a new transformation of Nokia. In 2007, Nokia and Siemens combined their telecommunication network infrastructures in their joint-venture called NSN (Nokia Siemens Network). In 2011 Nokia joined forces with Microsoft on the mobile phone business, and sold its stake to Microsoft in 2014 while Nokia acquired Siemens' 50% stake in NSN in 2013.

Nokia was comprised of three business segments: Networks, Maps (HERE) and Technologies. But in 2015 Nokia also decided to sale it subsidiary HERE.

To understand the array of the shift that Nokia undertook since 2007: within a decade, Nokia managed approximately 56 transactions, both for acquisition and divesting purposes, 64 % and 36% respectively (in volume).

The recent acquisition of Alcatel-Lucent in 2016 enabled Nokia to end a decade of portfolio management to adapt its business model to a changing environment. From a simple century-old paper-mill company to a diversified conglomerate in the 1960's and to a newly refocused company, Nokia managed over the years to always turn around its businesses whenever they could not add value to it anymore. Although we will not investigate the historical transaction, we will consider the last decade of Nokia's history, during which it most recent business turnaround has been made in a dire environment which almost put its whole business at risk.

5.5.2.2. A rough decade for Nokia: 2008-2017

Nokia was the leading mobile phone company worldwide from 1998 onward, until it missed the smartphone technology when Apple launched its first iPhone in 2007. Most analysts pointed out that this event drove Nokia in the dire situation we know it suffers from nowadays.

This crisis situation which almost lasted a decade too can be seen through a large number of metrics: sales have been declining because of large asset sale programs, capital expenditures have been cut, dividends as well, etc. We will investigate all those metrics in the following sub-sections.

When it comes to the share price, back in 2008 Nokia was valued at a maximum share price of €25.9. Nowadays, as per June 2017, Nokia's share price is only worth approximately €5.6-€5.8, implying a 14.6% decline per annum for the observed period. Exhibit 5.29 underlines the scope of the drop in Nokia's share price during the decade 2008-2017.

As shown in Exhibit 5.29 mentioned above, the drop started early in 2008 and the declining trend kept on until mid-2013, after which the share price started to adopt some stability in a slowly increasing trading price. On the January 2nd, 2008, Nokia was valued €25.6 and only €3.1 on January 2nd, 2013; over the next period the share price slowly rose from €5.9 on January 4th, 2014 to €6.5 on January 4th, 2016.

Exhibit 5.29: Nokia share price (€; Jan. 2008 – Jun. 2017)

Nokia being listed it financial stability has been closely monitored by rating agencies like Moody's which regularly adjusted their grading on Nokia's debt downward. As a result, Nokia went from an A1-investment-grade company down to a B1-speculative-grade company. Exhibit 5.30 shows that also Nokia's credit ratings remained stable until 2010, despite a stark decrease in its share price, the company suffered from successive downgrading starting July 2011 when its credit rating fell from A3 to Baa2, at the very limit of the investment grade classification.

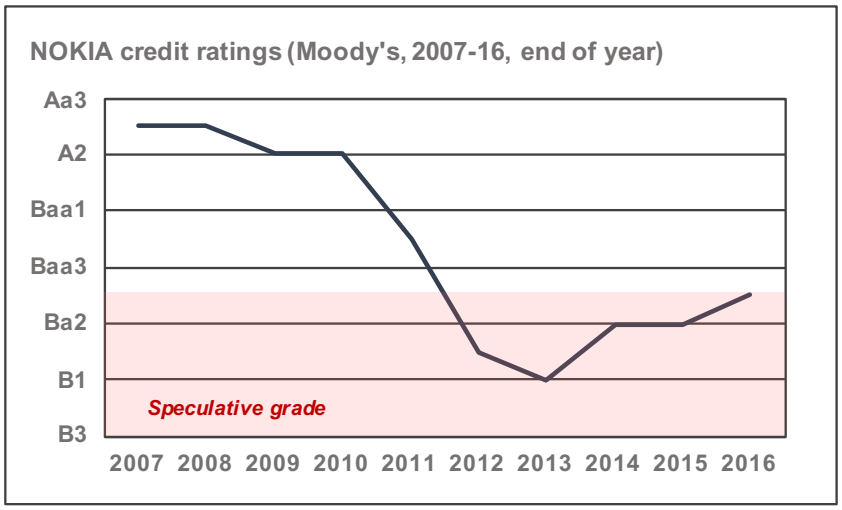


Exhibit 5.30: Nokia credit ratings granted by Moody's over the period 2007-2016 [11]

[11] All credit ratings presented in Exhibit 5.30 are the ones at the end of each year, despite several upgrading or downgrading updates that could have been issued over the year.

Exhibit 5.31 below matched Moody's rating classification with A. Damodaran's estimated of default probability per each level of credit ratings. Using Exhibit 5.30 credit rating evolution, we see that from July 2011 onward, Nokia has been classified as a speculative investment grade with ratings ranging from B1 up to Ba1 since June 2016. Those ratings are matching an estimated 10-year default cumulative default probability range of 16.9%-24.8% according to A. Damodaran's typology. Before such events occurred, Nokia was constantly graded A1 (stable outlooks), for an estimated 10-year default probability of only 0.4%.

Moody's Grade	Classification	Description	Associated 10Y default probability
Aaa	Investment grade	Minimal credit risk	0,03%
Aa1		Very low credit risk	0,3%
Aa2			
Aa3			
A1		Low credit risk	0,4%
A2			0,6%
A3			2,4%
Baa1		Moderate credit risk	4,3%
Baa2			
Baa3			
Ba1	Speculative grade	Substancial credit risk	16,9%
Ba2			
Ba3			
B1		High credit risk	24,8%
B2			32,8%
B3			42,1%
Caa1		Very high credit risk	51,4%
Caa2			60,4%
Caa3			69,4%
Ca		In near default	77,1%
C		In default	87,2%

Exhibit 5.31: Moody's ratings classification and estimated 10-year default probabilities

5.5.2.3. Short-term requirements: managing for cash

As presented in our theoretical presentation of "Transformational shift" situations, we drew a non-exhaustive list of ways to harvest cash and limit the cash-burn rate whenever a company is trying to finance its business turnaround.

In this sub-section we analyse Nokia's policy regarding dividends and capital expenditures. The most common way of cutting cash after basic operating cash flows is to cut dividends to shareholders in a bid to preserve capital expenditures and keep on reinvesting in the business. Exhibit 5.32 presents Nokia's policy regarding dividends and capital expenditures since 2010.

Because of a hefty portfolio turnaround arranged through divestures and new acquisitions, Nokia's average yearly revenue over 2012-2015 were on equivalent to almost one third (32%) of the average revenue during the 3-year period of 2009-2011. Therefore, most of the metrics displayed in Exhibit 5.32 are not directly comparable as for their absolute values. However, dividends per share (DPS) have been constantly decreasing over the year, from €0.4 in 2010 down to €0.17 in 2016, with even zero dividend granted to shareholders in 2012. Despite instability for investors, this erratic dividend policy enables Nokia to sustain capital expenditures and to invest in its core businesses on which it wants to refocus. Using the "net capex" metric, expressed as a percentage of revenue, we can note that the percentage has been slightly increasing from 1.4% in 2010 up to 1.9% in 2016, with a 2.3% average spending for the 3-year period 2013-2015. We believe that this limited-dividend policy was necessary for Nokia to finance its turnaround without slashing capital expenditures, which could have endangered the long-term sustainability of its core business.

All in €M unless otherwise stated	2010	2011	2012	2013	2014	2015	2016
Dividends							
Dividend per share (€)	0,40	0,20	-	0,37	0,14	0,26	0,17
Total dividends paid	1 498	749	-	1 374	511	1 501	972
Dividend yield (%)	5,2%	5,3%	-	6,4%	2,1%	3,9%	3,7%
Capital expenditures							
Net capex	596	549	182	269	267	314	449
Net capex (% sales)	1,4%	1,4%	1,2%	2,1%	2,3%	2,5%	1,9%

Exhibit 5.32: Nokia's dividend and capital expenditures policies

By further analysing Nokia's net debt position we concluded that the liquidity of Nokia was somehow reasonable given the large net cash balance it was displaying over the decade, despite Moody's ratings continuously being downgraded. We will investigate Moody's decision to downgrade Nokia's credit ratings later in this sub-section.

Balance sheet items (€M)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Beginning cash balance	**5 926**	**7 592**	**9 236**	**8 952**	**7 633**	**5 170**	**6 995**
Change in cash	1 666	1 644	(284)	(1 319)	(2 463)	1 825	502
Ending cash balance	**7 592**	**9 236**	**8 952**	**7 633**	**5 170**	**6 995**	**7 497**
Interest-bearing debt	5 279	5 321	5 549	6 662	2 692	2 074	4 027
Net debt	**(2 313)**	**(3 915)**	**(3 403)**	**(971)**	**(2 478)**	**(4 921)**	**(3 470)**

Exhibit 5.33: Nokia cash balance, 2010-2016 (€M)

We note from Exhibit 5.33 above that Nokia has been sustained a strong cash position over the years, with a cash balance that is positive and well above its interest-bearing long-term and short-term debt: this situation resulted in a constant net cash balance.

Moody's decision to downgrade Nokia's credit ratings from Ba3 to B1 in August 2013 was motivated by other reasons than the mere liquidity situation. In his note, R. Pozzi from Moody's wrote: "We have downgraded Nokia's CFR mainly because we believe that the company continues to face challenges returning to sustainable profitability in its core smartphone and mobile phone operations and because we believe that it is unlikely to reach break-even on a cash flow basis before well into 2014, at the earliest". This quote from Moody's press release underlines that the issue with Nokia's credit ratings was linked to the sustainability of its business on the long-run, knowing that most analysts did not believe in its capacity to hold its competitive position in the mobile phone market.

The transformational shift that Nokia carried out enabled it to foster a renewed business profile that might better fit investors' expectations.

5.5.2.4. A renewed financial stability?

While Nokia seemed to have been closely monitoring its cash balance on the short-run over 2010-2016, it carried out at the same time a major overhauling of its portfolio of assets. As pointed out in Nokia's snapshot above, between 2007 and 2017 Nokia performed 56 transactions. Largest transactions in the recent years are presented in Exhibit 5.33.

Year	Company name	Deal type	Transaction value (€M)
2010	Nokia wireless modem business	Divesture	144
2011	Wireless network infrastructure	Acquisition	658
2013	NSN (Nokia Siemens Network)	Acquisition	1 700
2015	Alcatel-Lucent	Acquisition	11 622
2015	Devices & services businesses	Divesture	5 440
2015	Here	Divesture	2 800
2016	Comptel	Acquisition	325
2017	Withings	Acquisition	170

Exhibit 5.33: Major transactions performed by Nokia (€M, 2010-2017)

The divesture policy resulted in a large swing in Nokia's revenue of the period 2013-2015 until Alcatel-Lucent was acquired. Exhibit 5.34 shows how Nokia's revenue has evolved since 2010 as a result of the asset management policy.

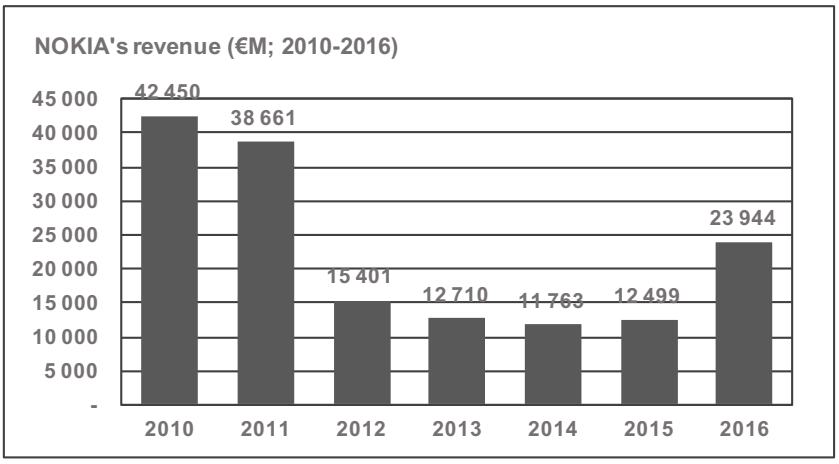


Exhibit 5.34: Nokia's revenue (€M, 2010-2016)

The two largest acquisitions that Nokia carried out over the period was for the acquisition of Siemens' 50% stake in NSN in 2013, for an estimated transaction value of €1,700m, and the acquisition in 2016 in an all-share deal of Alcatel-Lucent, for an estimated transaction value of €11,622m.

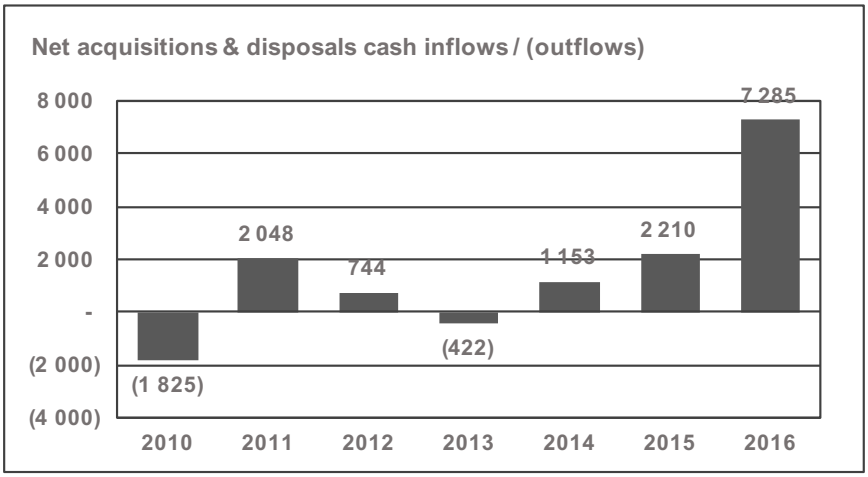


Exhibit 5.35: Cash flow impact of M&A transactions (€M, 2010-2016) [12]

Exhibit 5.35 further underlines that Nokia generated a positive cash inflow through divestures over the period 2011-2016, except during year 2013 — during which the NSN stake of Siemens was acquired by Nokia —, according to a Morgan Stanley equity research note.

[12] Cash flow impact of mergers & acquisitions transactions as estimated by Morgan Stanley equity research team (February 7th, 2017)

By divesting its map business when it sold its business unit HERE in 2015, Nokia became a group with a renewed focus on three businesses: Broadband networks (66%), IP networks and applications (25%), and Technologies (4%). The remainder comes from additional revenues from the Alcatel acquisition (5%). These businesses are grouped in two business units: Networks (91%) and Technologies (4%).

We decided not to display the historical operating cash flows performance because we believe that it would not be relevant to assess future cash generation given the large change of scope in Nokia's businesses. Therefore, although Nokia managed to turnaround its business regarding the businesses and assets it owns, the company will still have to prove that it can sustain a strong operating cash flows generation: this was the main ongoing concern for Moody's when R. Pozzi decided to downgrade Nokia's credit ratings from Ba3 to B1. Besides we believe that Nokia will not be able anymore to recourse to asset sales in the near-future in a bid to generate immediate cash to fund another transformational shift.

5.5.2.5. Valuing Nokia as a distress firm

We used A. Damodaran's formula presented above in our theoretical part to value Nokia as a distress firm based on its current financial situation (as for June 2017).

We estimated the distress probability using two of the three methods presented earlier: (i) using Nokia bonds trading to imply an associated distress probability based on the remaining cash flows to maturity and the initial face value of the bond; and (ii) using Exhibit 5.30 and 5.31 by matching Nokia's current Ba1 credit rating with the 16.9% associated default probability.

For the first method, we included a default probability in the bond's present value formula to factor in the uncertainty of the cash flows for the investor. We therefore have the following formula:

$$P = \sum_{t=1}^{N} \frac{C \times (1-\pi)^t}{(1+\ r_f)^t} + \frac{F \times (1-\pi)^N}{(1+\ r_f)^N}$$

where P is the trading price of the bond, C the annual coupon payment, r_f the risk-free rate, F the face value of the bond, and π the probability of default of the company.

Using excel and knowing all variables except for π, we back-solved our formula using Excel's solver. We used Nokia's three main bonds to derive our analysis:

- Nokia 6.625%, a dollar-denoted bond maturing in 2039 with a face value of $500M and a trading price of 113.2;
- Nokia 5.375%, a dollar-denoted bond maturing in 2019 with a face value of $1,000M and a trading price of 106.0;
- Nokia EMTN 6.750%, a euro-denoted bond maturing in 2019 with a face value of €251.3M and a trading price of 100.0.

We used a 2% risk-free rate to derive the following default probability over a 10-year period:

- Nokia 6.625%: 29.1%
- Nokia 5.375%: 2.6%
- Nokia EMTN 6.750%: 36.6%

Using the EUR/USD exchange rate we derived a weighted average default risk based on initial face values of the bonds: a 15.3% 10-year default probability based on weighted average; and a 22.8% distress probability based on a simple average. These results provided a range of default that we used to compute the distress value of Nokia. Exhibit 5.36 details our computation of that distress value (method 1); it also shows the results obtained using the 16.9% default risk that we derived from Nokia's credit ratings (method 2).

Method 1: Bond trading		
Nokia (€M, %)	**Low**	**High**
Probability of distress	**15,3%**	**22,8%**
Asset book value	44 901	44 901
Resale value (% BV)	30,0%	30,0%
Debt book value	4 027	4 027
Distress equity value	**9 443**	**9 443**
DCF valuation (per share)	6,0	6,0
NoSH (million)	5 732	5 732
As-is equity value	**34 392**	**34 392**
Nokia equity value	**30 583**	**28 712**
Nokia per share value (€)	5,3	5,0
Current share price (€)	5,7	5,7
Haircut vs current (%)	**(6,4%)**	**(12,1%)**

Method 2: Credit ratings	
Nokia (€M, %)	**Ba1 grade**
Probability of distress	**16,9%**
Asset book value	44 901
Resale value (% BV)	30,0%
Debt book value	4 027
Distress equity value	**9 443**
DCF valuation (per share)	6,0
NoSH (million)	5 732
As-is equity value	**34 392**
Nokia equity value	**30 178**
Nokia per share value (€)	5,3
Current share price (€)	5,7
Haircut vs current (%)	**(7,6%)**

Exhibit 5.36: Nokia "distress" valuation based on bond trading and credit ratings[13]

[13] For the sake of simplicity, for our "DCF valuation" share price we used a target price average as provided in their most recent notes by Morgan Stanley and J.P. Morgan equity research teams

Exhibit 5.36 above underlines that the default probability for Nokia is currently ranging from 15.3% to 22.8% based on the 2% risk-free rate and that the current equity value is higher than it should be by 6.4% to 12.1%. The results are also dependent on the liquidation value of the asset that we believe could be manageable if a fire sale situation would occur, following a default from Nokia. We believe that those assets would be worth only 30% of their recorded book value.

Nowadays, thanks to the new perspectives that arose following the Alcatel-Lucent acquisition, it seems that the market is starting to believe in the success of Nokia's business turnaround. Moody's has been upgrading its credit ratings — although Nokia remains a speculative-grade company —, and the gap between Nokia's current share price and our distress value estimate appears to be quite reasonable given the scope of the restructuring that Nokia has been through over the past decade.

However, although we did not perform a distress valuation for the period 2011-2014, it appears that Nokia's distress probability dramatically increasing during its restructuring. Looking at Nokia's dollar-denoted bond with a 6.625% coupon rate and a 30-year maturity, we can easily that from mid-2011 to beginning of 2014 the bond price kept trading below 100 and fell as low as approximately 73 in mid-2012 (see Exhibit 5.37). This implies that during this almost 3-year time frame, Nokia distress probability skyrocketed and most investors were trying to sell Nokia bonds despite the 25%-haircut incurred. This underlines the scope of value destruction that investors were expecting from investing in Nokia and when compared to the current situation, it appears that Nokia managed to secure its value over its restructuring, thus creating far more value that the mere €900m yearly synergies expected from its Alcatel-Lucent deal.

Exhibit 5.37: Nokia 6.625% (2009/39) bond trading (screenshot: Börse Berlin)

We believe that looking in-depth at credit ratings and bond trading to imply a "distress valuation" can be useful to assess whether the market is viewing the default event positively — meaning it will not happen — or negatively — it will happen. Based on that the share price of the company could be trading slightly above or below (resp.) the estimate distress value. However, this valuation method should only be used as a guidance for decision-purpose and further analyses to ensure the veracity of hypothesis such as the risk-free rate and the resale asset value should be carried out. Otherwise the valuation could yield results detached from the reality.

5.5.2.6. Conclusion and key takeaways

Nokia managed in less than a decade, and more especially since 2010-11, to turnaround its businesses and to shift from a conglomerate-like business portfolio to a more focused company specialised in networks and telecommunications technologies.

During our case study, we believe we managed to underline that value creation in the case of a Transformational shift was not put at risk because of a lack of synergies, because of a too expensive premium or because of a poor post-merger integration plan. We believe that value is already at risk because the strategic focus of the business does not match a renewed competitive environment. It was the case in 2007 when Apple launched its iPhone and that Nokia could not manage to enter in the smartphone competition in the following years. When

we look at the trading pattern of Nokia's share price, we clearly see that value has been initially destroyed: this initial value destruction is what triggers the need for a transformational shift.

Therefore, under such conditions, analysing value creation relies on defining the new strategy of the group, its capacity to generate substantial cash flows over the long-term and without endangering the short-term liquidity or solvency capability of the company. Following that reasoning, M&A is a powerful tool to divest business units that are no longer core to the strategy in a bid to free some additional cash to finance that turnaround. Nokia did manage to provide such a swift management of its portfolio of assets to turn its business around, despite credit ratings decreasing mainly hailing from the market taking Nokia's new strategy with caution: as R. Pozzi underlined it, in such a large turnaround, we cannot expect the market to believe in the future sustainability of the cash flows. Therefore, despite its sound financial health, the next challenge for Nokia will be to prove to the market that its strategic refocusing can generate substantial benefits for Nokia's shareholders in the long-run.

Finally, we believe that performing a valuation based on different "distress" scenario and relying on different estimates of a default probability can enable investors and shareholders to grasp the general feeling the market have on the sustainability of a company. Given that value has already been destructed, we feel it is of paramount importance to understand how value can be generated back. Performing such sensitivity analysis on the different metrics we discussed in our case study can give a broad idea of where investors and shareholders should look for value in a turnaround situation.

6. Research paper's findings and conclusion

Faced with what we believed were some shortfalls in the way value was broadly analysed by previous research papers, corporate finance books and other finance-related publications, we decided to investigate into new areas to analyse such value creation during mergers and acquisitions deals. Our initial thought process has been to sort deals depending on two main axes: (i) relatedness of business; and (ii) frequency of acquisition. Based on this matrix we defined four types of buyers, from serial acquirers (high relatedness and high frequency) to transformational shifts (low relatedness and low frequency). Using this matrix as a baseline to develop our master's thesis, we tried in this paper to analyse each box of our framework in a different manner.

First, we underlined that we do not believe that ROE, ROCE and EPS are relevant measure of value creation. Although ROE and ROCE can give some indication, we believe it can only be used in very specific cases, as mentioned in our thesis. Therefore, we think that synergies and TSR are the two best measures to assess value creation. However, while the former is an ex-ante measure that is often used to trigger a deal, the latter is an ex-post measure which gives an indication of the market perception of the deal that was recently signed. We believe that these metrics cannot be used properly when detached from the strategical background of the deal and the specific acquisition profile of the buyer — as defined in our matrix.

Through our theoretical research and cases studies we managed to offer some arguments in favour of a more practical approach to value creation in M&A deals. Although the synergy analysis fits well "serial acquirers" and "one-timers", mostly because of the relatively high relatedness of the businesses, the kind of measure fall short of explanatory power when confronted to deals within our "transformational shift" and "portfolio builders" boxes. Those can only be grasped with more uncertainty. Portfolio builders invest in businesses and do not necessarily look at synergies or top-line growth only. Therefore, using additional measures of value like internal rates of returns or ex-ante TSRs can provide insight regarding how the investment should behave in the future. For Transformational shifts, since value has already been destructed, the value of the transaction does not come only from the level of synergies it can generate but rather from the decrease in the probability of default it can bring to the combined entity. Even in the case of simpler and more traditional cases like Serial acquirers and One-timers, we have seen during our case studies — AB InBev and Air Liquide, respectively — that frequency can generate widely different outcome in terms of value creation. Although AB InBev and Air Liquide are both quite recent deals, we underlined in our analysis

that the market seems to vouch more in favour of the AB InBev deal whereas the Air Liquide acquisition of Airgas seem more uncertain, even at the strategic level.

As a word of caution, we want to underline that the four case studies we presented took place in very different economic conditions and industries. This two factors may have had an impact on the results and conclusions we derived from our analysis.

Due to its form and to the use of case studies, our master's thesis does not intend to act as of proof for our initial question: *"How can we classify acquirers regarding relatedness and acquisition frequency and how that classification affects the way we must consider value creation during M&A transactions?"*. However, we believe that we provided the reader useful insights on how value can be sorted in a very pragmatic and simple manner. Although not exhaustive, our framework enables the reader to consider broader areas of concerns when contemplating a deal: from basic integration skills in the case of AB InBev, to a carefully-selected target for Air Liquide, to a specific investment rationale in the case of Kering, to a fine-tuned turnaround for Nokia. And although synergies are useful in most cases, their analysis is never sufficient to contemplate the actual value and upside a deal can bring. In our mind, failing to realise this simple statement could lead many deals to collapse.

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