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„Case study: An analysis of the economic success of the acquisition of Böhler Uddeholm by voestalpine AG“

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## LIST OF ABBREVIATIONS

|      |                                  |
|------|----------------------------------|
| €    | Euro                             |
| EBIT | Earnings before interest and tax |
| E.U. | European Union                   |
| M&A  | Mergers and acquisitions         |
| Mio. | Million                          |
| Brd. | Billion                          |
| USA  | United States of America         |
| SME  | small and medium enterprise      |
| %    | Percent                          |

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The emergence and development of global markets during the last decade of the twentieth century entailed great changes with respect to economic structures.

Companies which faced a manageable amount of competitors for years, suddenly stood face to face with global competition. As a result, even big players went to rack and ruin, because it emerged that for instance operative divisions within the companies were inefficient, ponderous or antiquated and thus could not respond to the changes in the environment within a reasonable amount of time.

Researchers endeavored to decipher the company as a black box. Soon a considerable amount of papers and essays had been written, which today permit us to gain a deeper insight into the world of economic processes.

Within this thesis, I would like to dare such an insight. The topic shall thereby be embedded in the field of mergers and acquisitions.

Various authors hold the belief that it is better for public wealth to sell the inefficient company, which has been mentioned introductorily, than to liquidate it, the reason being that bound resources lose a considerable amount of value when destructed (Jensen, 1988, p 24). This is the theory for corporate control. Apart from this discussion, the field of mergers and acquisition holds various topics which are not solely important in theory, but are also a part of everyday life, and thus of considerable significance in practice.

I am very interested in the procedures, which take place in the world of mergers and acquisitions. In this complex world, one can find every peculiarity of a simple buying process: people bid, endeavor to convince stockholders to sell their shares, bids are fended off, accepted, re-negotiated, people are pulled and pushed, in order to obtain a satisfying result for one or both parties. Based on the unpredictability and the abundance of possibilities, various measures arise which are either crowned by success or failure.

In the following thesis I would like to shed more light on the acquisition of Böhler Uddeholm by the Austrian voestalpine AG. Was it crowned by success or failure? Which strategy was pursued by the acquirer and could its shareholders benefit accordingly? The knowledge gained from the investigations shall finally be compared with theoretical findings. Are the results consistent or can gaps be identified?

Before understanding the difficulties arising with the combination of two firms, the reader should understand the problems a single company might face. Therefore, the following section will take a closer look on the theory of the corporation.

### 2.1 The theory of the corporation

Before I take a closer look on the motives for *two* companies to merge or acquire other companies, the reader has to understand how in theory the single enterprise is operated. Thereby associated difficulties and possible solutions shall be portrayed.

Firstly, one has to imagine a corporation, which is wholly-owned (Jensen and Meckling, 1976, p 10) by an entrepreneur. In this case, we can observe that the owner decides on how the firm is managed, meaning which goods are bought, how excess cash is spent, and how certain investments should be financed.

Apart from the benefits the owner-manager derives from these pecuniary returns, there are also non-pecuniary benefits such as personal relations with employees, respect and more which add utility to the owner's preference function (Jensen and Meckling, 1976, p 11).

The optimal mixture is "when the marginal utility derived from an additional dollar of expenditure (...) is equal for each non-pecuniary item and equal to the marginal utility derived from an additional dollar of after-tax purchasing power" (Jensen, Meckling, 1976).

This scenario can however become more complex, as soon as we implement the possibility that parts of the company are sold. In practice, the corporation would commonly go public and sell shares on a stock exchange market.

Now, various shareholders – meaning persons who legally possess an ownership stake (Legal dictionary, 2010) – participate in the business of the corporation. The firm is consequently not owned by one single entrepreneur, but by a number of shareholders. These can be described, depending on the number of shares they have acquired, either as large – or minority shareholders.

Doubtlessly each and every shareholder will expect to receive a certain payoff, for the fact that he/she has placed a fair amount of money at the disposal of the

company. Furthermore, in case of bankruptcy, the shareholders face the possibility of losing all of their capital contribution. This risk, which is a limited liability, also has to be considered and thus the shareholder will expect to be rewarded accordingly.

Nonetheless, the company is only likely to go bankrupt, if it is not managed appropriately. As we can imagine, this management process can make a vital contribution to the success of the corporation. But apparently, not every shareholder will be able or willing to manage the businesses of the company. This is the reason why certain choices need to be delegated from “many to few” (Grossman and Hart, 1980, p 42).

Delegation can however generate costs, which have to be considered, when discussing the efficiency of the corporation. This phenomenon is often referred to as the agency problem and thereby arising costs are called agency costs.

## **2.2 The principal-agent model**

The model was first introduced by Jensen and Meckling in the year 1976. It is to some extent a broader view (Eisenhardt, 1989) of a paper written by Wilson in 1968, which came to the conclusion that individuals, pursuing the same goal and thereby forming a syndicate, possess different attitudes towards risk (p 119). The author found that the decisions can only be consistent if the parties hold the same cautiousness or if they agree on the same probability that an event will occur (p 131). In practice, this will however be seldom the case.

The theory by Jensen and Meckling is based on the assumption that “one or more persons (the principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen and Meckling, 1976, p 5).

Since both parties want to increase their utilities, the process of delegation will lead to divergences. Generally these can be limited by the principal, either paying fees for monitoring, or setting the right incentives (e.g. contracts) by incurring bonding costs.

Nevertheless, at zero cost, an optimal decision from the principal's viewpoint will not be reached.

The idea of agency costs was born, which are the sum of bonding-, monitoring costs and residual loss, which stems from diverging interests (Jensen and Meckling, 1976, p 5).

## **2.3 More on agency costs**

Furthermore the authors found that with an increasing fraction the manager sells to outside shareholders, the incentives of increasing his/her own utility through perquisites will rise.

This behavior occurs at the expense of outside shareholders, who will soon anticipate it and therefore spend more resources on monitoring. The greater the fraction the owner tries to sell, the higher the expected costs.

The question remains however, why apart from diverging risk preferences, interests between principals and agents differ as much as they do. What drives managers as agents and how is their utility influenced?

### **2.3.1 Empire-building**

On the one hand, the agent is commonly held to engage in what is known as empire-building. Here, resources are wasted in the sense that they are used to increase the agent's control of resources rather than the efficient management of the same (Chen, Lu and Sougiannis, 2008, p 2).

Thereby the level of assets and employees is on the rise (Answers.com, 2010), and financial slack in the form of "cash and cash equivalents" such as "cash, credit and other corporate purchasing power by which management commands goods and services" (Donaldson, 1984, p 22) is generated.

Thus managers might pursue a size-maximizing strategy rather than a value-maximizing one (Walker, p 53, 2000).

Jensen (1988) got to the heart of the dilemma: “The problem is how to motivate managers to disgorge the cash rather than invest it at below the cost of capital or waste it through organizational inefficiencies” (p 29).

### **2.3.2 Incomplete contracts**

On the other hand, agents might have different incentives, based on how they are rewarded. Compensation contracts as incentive mechanisms play a vital role, however in practice contracts are often “not powerful enough to curb the managerial discretion problems in large corporations” (Gugler and Yurtoglu, 2008, p 5).

This principle is also known as the theory of incomplete contracts, which is largely based on the assumption of asymmetric information. It concludes that it is impossible to write a contract for every state of the world (Hart and Moore, 1988).

How can corporations be steered efficiently in spite of the existence of incomplete contracts and how can managers be kept from engaging in empire-building activities? Research has not stood still. This is the reason why various papers have been written, discussing how the problems associated with the principal-agent theorem might be solved.

In these subsequent sections, the role of takeovers and mergers will partly become apparent.

## **2.4 Monitoring**

If contracts are not powerful enough to induce managers ex ante, then adequate monitoring must ensure that agents act in the interest of the shareholders. As already mentioned, it is an agency cost, since monitoring has to be paid.

Various instruments can be identified.

### **2.4.1 Boards**

One way to incorporate proper monitoring is by implementing a board of directors. Besides setting the proper compensation for the chief executive officer, the board has to approve financial statements, decide on dividend payments or share repurchases and recommend or oppose mergers and acquisitions (Kennon, 2010). Directors' primary incentive is to protect the assets of shareholders.

Gugler and Yurtoglu (2008, p 5) have found that performance of the board is positively related to the proportion of outside directors and negatively related to its size. Nevertheless, in practice it is not yet fully comprehensible how the different aspects interrelate and whether an association between composition and performance can be made (Hermalin and Weisbach, 2003).

Another remark shall be that boards with rotating systems might be less likely to be taken over in the case of a hostile takeover. This is due to the fact that solely a fraction of directors are elected and therefore replaceable each year (Kennon, 2010).

### **2.4.2 The bank-company relationship**

Gugler and Yurtoglu (2008) offer a good overview of how the relationship between banks and companies affects performance (p 7). Based on the findings of Degryse, Ongena and Tümer-Alkan (2008), they hold that banks - particularly in Continental Europe, where they own "large equity stakes (...) and join the boards (...)" (p 7) - can improve the corporate governance of firms (p 7).

Additionally, "close bank-firm relationships create shareholder value, increase credit availability and discipline firm managers by preventing them from overinvesting (...), banks as large shareholders generally improve the performance of firms (...) and bank board membership improves firm performance, increases executive turnover, but having lenders on board decreases firm debt ratios" (Gugler and Yurtoglu, 2008, p 7).

### **2.4.3 The role of shareholders**

Apart from boards and banks, also shareholders can have a significant influence on the monitoring of managers. This section shall analyze which type of shareholder is involved and under which circumstances monitoring can be successful.

#### **2.4.3.1 The free rider problem and monitoring**

In this context, the so called free-rider problem is of significant importance (Grossman and Hart, 1980. Also: Shleifer and Vishny, 1986) and shall therefore be discussed briefly.

The principle states that persons attempt to be free riders in the production process of “the Public Good” (Grossman and Hart, 1980, p 42).

In case, choices are delegated and the private benefit to any individual is below the social benefit of monitoring the behavior of the agent, “no one has a large enough incentive to devote resources to ensuring that the representatives are acting in the interest of the represented” (Grossman and Hart, 1980, p 42).

This implies that especially minority shareholders might not set appropriate measures to monitor management, because the marginal increase in their personal utility is too small. They tend to free ride, thereby reducing optimal efficiency.

Shleifer and Vishny (1986) consequently analyzed how large shareholders can “bring about value increasing changes in corporate policy” (p 462). They found that the average holding of large shareholders equaled to 15.4% (p 462). The conclusion of their work was that large shareholders “raise expected profits and the more so the greater their percentage of ownership” (p 465).

Nonetheless, later research by Gugler and Yurtoglu (2008) has found that despite a certain incentive effect, “at some level concentrated ownership can induce an entrenchment effect and hence the quest of large shareholders for the private benefits of control can be detrimental to minority shareholders or creditors”(p 6).



Furthermore they concluded that especially pyramidal ownership structures in Europe lead to entrenchment being more likely, than with structures uniting cash flow - and control rights.

#### **2.4.3.2 The free rider problem in a corporate context**

As a consequence, this theory has also an impact on the specific takeover process. Before the identification of the free-rider problem, it was commonly alleged that hostile takeovers can easily discipline managers.

Manne (1965, p 113) suggested for instance that a corporation, which was not managed on a value-maximizing strategy and thus had a lower share price, could easily be taken over by a raider, managed more efficiently and be sold back at a premium.

Only when the free rider problem was identified, it could be proven that in practice the process is not as undemanding:

Once the raider approaches the company, shareholders are inclined to believe that an appreciation of value will be possible in the future. By doing so, as well as by believing that selling their small share will not make a change, they do not tender the offer and free ride. Despite the raid, possibly increasing the profitability of the company, the merger cannot be executed (Grossman and Hart, 1980, p 43).

One way to overcome this problem, is by excluding minority shareholders from post-merger benefits, as further suggested by Grossman and Hart (1980, p 43). This process is called dilution and can be implemented in various ways. The constitution of the target company may comprise a regulation, which allows the raider to transfer post merger wealth to himself (p 46). By doing so, minority shareholders cannot capture the full post merger gains and are therefore inclined to tender the shares ex ante.

Due to the negative effects of dilution on minority shareholders' rights, it has however been largely restrained by courts (Easterbrook and Fischel, 1982. p 699), thus limiting its effect.

Another method is called freeze-out (also: squeeze out) and is described by Burkart, Gromb and Panunzi (1998). It can be employed, if the mode of payment is shares. In this case, the remaining shareholders are forced to sell on the terms of a certain offer, thus they can already accept the original offer (p 195).

This can only be done, after the bidder company has acquired more than a threshold and possesses a compulsory acquisition limit (CAL, p 185). The CAL for most European countries lies at around 90% (Bergström et al 1994, *in* Burkart, Gromb and Panunzi, 1998). The idea is partly based on the findings of Yarrow (1985), who found that with the use of CAL, the free rider problem can be overcome.

## **2.5 Debt in the context of the free cash flow theory**

Apart from costly monitoring, the use of debt can be a way to discipline managers, preventing them to engage in empire-building.

According to Jensen (1988), the firm must pay out cash in excess of required funds if it wants to operate efficiently (p 28). Nonetheless, empire-building managers do not like to reduce resources voluntarily, because in case of financing new projects, they have to raise funds on capital markets instead of using internal resources that are not subject to being monitored (e.g. by banks).

Further Jensen argues that debt can act in a way to discipline managers (p 29, 1988). Debt payments reduce the amount of free cash flow, thereby reducing agency costs (p 29, 1988). Moreover debt issuance is somewhat a promise to pay out future cash flows. The sole threat of bankruptcy (p 29) might suffice to induce a more efficient management of corporations.

Also debt is a “tax deductible expense” (Jensen and Meckling, 1976, p 35) and can be used as a tax shield to defer expenditures into future periods.

Especially industry branches with high free cash flows and low growth opportunities are under substantial pressure, since they might waste resources for financing uneconomic projects (Jensen, 1988, p 31). In these cases, the control function of debt can be important (1988, p 31).

Furthermore Bradley and Jarrell (1985) found that acquirers perform exceptionally well before an acquisition. Jensen (1988) concluded from this fact that increased stock price performance leads to higher free cash flow, which is subsequently used to acquire targets (p 36). These have either the nature of being a bad performing company with poor management, or a firm which has performed well and has consequently generated free cash flow, which it is not willing to pay out (p 36).

It must not be overlooked that apart from the advantages, there are also numerous drawbacks associated with the issuance of debt.

Myers (1976) defined the debt overhang problem, which basically addresses the possible difficulty that excessive debt can lead to the forgoing of positive NPV projects. The nature of the dilemma lies in bondholders receiving less from an additional positive NPV project than else they would receive from interest payments.

The optimal level of debt shall be “the point where marginal costs just offset marginal benefits” (Jensen p 30, 1988. See also: Jensen and Meckling, 1976), since otherwise the usual agency costs of debt as well as direct and indirect bankruptcy costs are likely to increase.

The theory is also known as the static trade-off model, together with the assumption that companies set specific targets and balance equity and debt accordingly.

## **2.6 The Pecking-Order Theory**

Another theory which is often referred to when discussing the advantages and drawbacks of debt, is the Pecking-Order model, which was first discussed by Myers (1984), and Myers and Majluf (1984). It was written to shed more light on how companies tend to finance future investments.

The theory is not directly related to monitoring as a way to mitigate agency costs, but more on how capital structure affects the value of the corporation. Due to the fact that this aspect will also be analyzed in the context of the underlying takeover, I would like to briefly introduce this theory at this point.

Myers and Majluf suggested that managers of a firm hold inside information and thereby possess knowledge that outside investors do not have. Both parties know of the existence of this asymmetric information.

In case the company requires capital, because it does not hold the required funds internally, this issuance of stock can convey vital information to the market and its participants (p. 4).

Since management would only issue stock if conditions are favorable, one might assume that at the moment of issuance, the company is overvalued. As a consequence, after the announcement of issuing stock, *ceteris paribus*, stock prices will drop (p 47).

If investment are however financed with “safe (default-risk free) debt (...), stock price will not fall” (p 47).

The paper concludes that sometimes positive NPV projects might not be undertaken, if companies are forced to finance their project with equity. It further states that projects should be financed according to the Pecking-Order model. The preference shall thereby be the following:

First, finance internally with financial slack. In this case, the company does not need to get in touch with capital markets and hence no signals are communicated.

If financial slack is not available, and the company needs to raise funds externally, it should do so by first financing with safe and consequently with risky debt (see also Swinnen, Voordeckers and Vandemaele, 2005). Equity shall only be raised by retention. This is due to “external financing using debt” being “better than financing by equity” (p 46).

As it becomes apparent, the Pecking Order model and the free cash flow theory come to similar conclusions. Both theories, despite having been developed separately, are in favor of the use of debt to limit free cash flows.

While the static trade-off theory suggests that debt should be issued according to setting a target simultaneously trading off its costs against its benefits, the Pecking Order Theory holds that equity should only be used as a last resort.

Both models have not entirely been able to forecast how companies make their financing decisions in the real world.

Recent research has turned increasingly towards dynamic models, such as the Market Timing Theory by Baker and Wurgler (2000). It proposes that capital structure is very much a result of past financing decisions of correctly timing when to issue or repurchase shares, thereby making use of temporary mispricing (p 35).

Their findings are consistent with a survey conducted by Graham and Harvey (2001), where CEOs agreed that whether their stock was over- or undervalued “was an important or very important consideration in issuing equity” (in Baker and Wurgler, 2000, p 36)

## **2.7 Concluding remarks to Chapter 2**

To sum up, agency costs which arise with the necessity for delegation, negatively affect the efficiency of a corporation. Empire-building managers and goal divergences are among the biggest concerns.

Debt can partially mitigate the problems associated with free cash flow, by reducing resources accessible by managers. The drawbacks need to be considered, however.

Capital structure decisions of the corporation can convey information to the market. The issuance of debt can confirm that principals want to keep their agent from engaging in size-maximizing activities. Moreover it can be a sign of the ability to pay future obligations.

Monitoring can be executed with the help of boards or banks. Shareholders can also provide an incentive. Minority shareholders are prone to free ride, whereas high ownership concentration might again lead to increasing entrenchment.

Last but not least the vulnerability of corporations to takeovers can provide an incentive which is strong enough to discipline their agents accordingly. Free riders are one reason why a takeover might not be profitable for a raider, resulting in inefficient management despite being monitored and in an even further engagement

in size-maximizing empire-building. The merger and takeover activity vastly depends on the efficiency of the market for corporate control.

After having highlighted the different issues which can make a contribution to the success of a single company, I would like to dive into the theory of mergers and acquisitions and analyze the factors why companies decide to merge or take over another company.

The following section will closely look on a particular period of merger waves, in order to evaluate, why mergers and takeovers take place. The question whether such processes create value and for whom remains unrequited and shall be answered in the later part of the next section.

### **3                    MERGERS AND ACQUISITIONS**

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#### **3.1                The need for restructuring**

Various definitions have already been stated; therefore it is time to outline the most important terms, since they will be used more extensively in the consecutive sections.

The most central goal of a company is usually to grow, since “growth is vital to the well-being of a business” (Weston, in Rock 1987, p 31). Only then, companies are able to create value and as a consequence finance projects and technologies, guarding and building up the market position.

Sometimes it may be necessary, to sell certain assets due to declining demand, while in other times the company might face the need to expand production in order to satisfy increasing demand. Whichever is the case, the company has to redeploy assets. If it does not, it faces death in the long run owing to over and underproduction respectively. This is the reason, why restructurings of businesses are common.

### **3.1.1 Sell-offs**

According to Weston (in Rock 1987) there is a choice of instruments of how a corporation can decrease or get rid of certain assets, which are not needed any longer. On the one hand, parts of the assets can be sold to another company. This process is called divestiture (p 32). On the other hand, the company can decide to e.g. spin-off a division, creating a subsidiary, which is still pro rata controlled by the shareholders of the mother company, but shares are subsequently traded separately (p 33). There are even more options of sell-offs, which will however not be discussed in more detail.

### **3.1.2 Expansion**

Expansion is the playground for mergers and acquisitions. Companies are fused together, other are acquired by their rivals or competitors. Another form, also commonly known is the joint venture, which is also considered as an expansion (Weston, in Rock 1987, p 32), because companies engage in a “temporary partnership arrangement” (Ibid) with a limited lifespan.

The main distinction, which has to be made, is how mergers actually differ from acquisitions.

#### **3.1.2.1 Merger or acquisition?**

A clear line between the terms merger and acquisition is hard to draw. The English dictionary does not only understand fusion, union and combination, but also integration, when talking about mergers (Linguee.com, 2010). From this perspective, these definitions can be confusing, because similar or even identical expressions are attributable to acquisitions: acquirement, takeover, purchase (Ibid).

From now on, the term merger shall be used when talking about fusions, whereas acquisition is to be seen more as a process, in which the target is overtaken and consequently integrated. The term mergers and acquisitions (M&A) shall encompass

the activity of fusions and purchases, hence the overall market activity in the field of expansion.

### **3.1.2.2 Horizontal or vertical?**

Research by Buehler and Schmutzler (2003) shows that despite treating horizontal and vertical issues simultaneously, they do have different characteristics (p 2). The European Commission even stated that vertical integration is a requirement for “significant increases of market shares” and “that only firms of sufficient size were (are) able to integrate vertically” (Ibid).

Furthermore the authors found that “efficient firms with a large market share are more likely to integrate vertically than inefficient firms, and integrated firms tend to invest more into cost reduction than separated firms” (p 27).

As a matter of fact, the underlying acquisition of Böhler Uddeholm can be considered as a vertical acquisition. Whether voestalpine can consequently be regarded as an efficient company which significantly increased its market share, shall be analyzed in Chapter 5 and the subsequent sections.

### **3.1.3 Corporate control**

Restructuring can also occur in the way that steps are taken to “retain, strengthen, or change corporate control” (Weston, in Rock 1987, p 33). Prominent ways of *strengthening* control would be antitakeover measures, which shall be discussed in Chapter 4. A means to *change* corporate control, however, is the use of golden parachutes which will be briefly stated under 3.4.

### **3.1.4 Rearranged ownership structure**

Moreover a company can be restructured in a way that it is delisted from public stock trading. This process is called going-private (Weston, in Rock 1987, p 34). Frequently, acquiring parties are members of management, who then gain a certain



amount of equity (managerial buy out) (Ibid, p 34). If the deal is largely financed with debt, the transaction is referred to as leveraged buy-out (LBO) (Ibid, p 34). Other forms of rearranging ownership structure can be in the form of management buy-ins, where a company is overtaken by *external* management (Wirtschaftslexikon24.net, 2010).

### 3.2 Waves and their drivers

A great deal of how we understand merger and takeover activity today is based on the research of past merger waves. These investigations partly help to make us understand why mergers occur in the first place and endeavor to explain under which circumstances value for shareholders can be created.

Statistical data of early merger waves is mainly provided by the U.S - merger control, which was introduced by the end of the 19<sup>th</sup> century. European merger control for instance, was launched much later in the 1980s (Kleinert and Klodt, 2002, p 3). International data is not really available (Black, 2000). Hence, much of early research is based on developments in the United States.

Illustration 1 demonstrates that M&A activity dates back to the early 20<sup>th</sup> century.

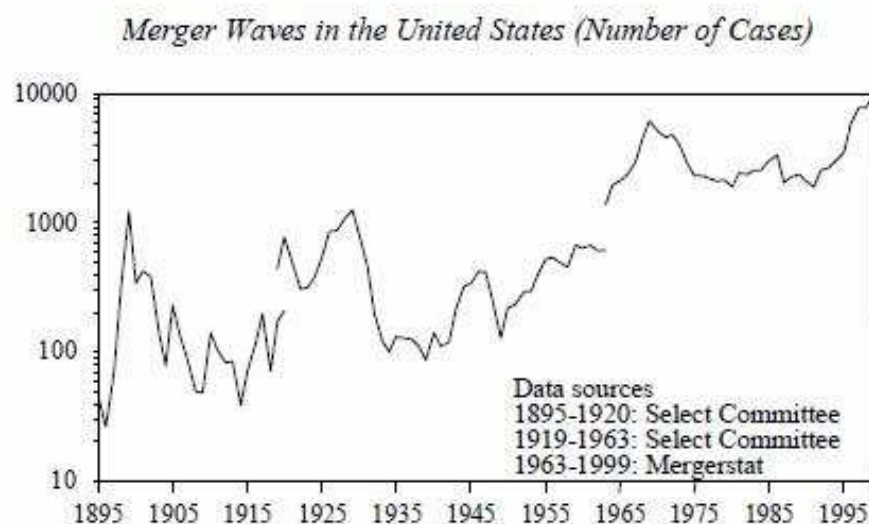


Illustration 1. Kleinert, Klodt, 2002 (p 4)

### **3.2.1 The first and second wave**

The first wave (1897-1904) was characterized by horizontal mergers, which were motivated by the wish to increase efficiency. This was done with the help of lower production costs by increasing output: a phenomenon also referred to as economies of scale. This resulted in large industrial trusts. Nonetheless, the political world did not appreciate the happenings and thus introduced the Sherman and Clayton Act, thereby limiting further horizontal merger activity (Kleinert and Klodt, 2000)

Due to the limitations, companies explored efficiency gains from vertical and conglomerate mergers (1920-1929). Again, economies of scale could be realized as a result of networks, particularly in the railroad and utilities sector. So called clusters started to emerge as a consequence (Kleinert and Klodt, 2000). The end of the wave was put to a halt by the Great Depression and the collapse of the stock market in October 1929 (Gaughan, 1994).

### **3.2.2 The third wave (1965-1975)**

Research is mainly based on findings by American authors, such as Shleifer and Vishny, who report findings of Fortune 500 companies. The main characteristics of this wave were friendly acquisitions in the form of stock and even more importantly, unrelated diversifications. Rumelt (1974) found that this type of merger experienced an increase from 7.3% in 1959 to 18.7% in 1969.

One reason why takeover activity was at such a high level, was the reluctance to pay out free cash flows, which were accumulated owing to high valuations of stock (Shleifer and Vishny, 1991, p 52). Acquisitions were therefore a way to get rid of these reserves, without facing the need to pay out cash in the form of dividends, which were “regarded as a complete waste” (Shleifer and Vishny, 1991, p 52).

A perfect example for this behavior (see free cash flow theory, section 4.5) is the oil industry, which was subject to fundamental restructurings, beginning in 1973 (Jensen, 1988, p 32). Managers did not find valuable investments within the industry, thus turned to other industry branches. Mobil purchased the retailer Marcor, Exxon bought the office equipment company Vydec (Jensen, 1988, p 34).

At first, it was commonly held that unrelated diversifications can be a source of value, because small companies, which are subject to takeover were said to possess inefficient management (Shleifer and Vishny, 1991, p 52).

Not surprisingly, shareholders also appreciated unrelated acquisitions and valued the announcements accordingly. Research by Matsusaka (1990) shows that on average the stock price of the bidding company rose by \$8 million, whereas a related acquisitions resulted in a decline in stock price by \$4 million.

The most important reason was however the aggressive antitrust regulation, which had been put in place, in order to scotch mergers within the same industry.

As a consequence, the regulations of the government had created acquisitions, which were “among the least successful of the last decade” (Jensen, 1988, p 34).

According to Kaplan and Weisbach (1990), 44% off all acquisitions between 1971 and 1982 were divested by 1989 (in Shleifer and Vishny, 1991, p 52) and are hence a confirmation for the unsuccessful third merger wave.

By the end of 1973, Germany implemented its own merger control while the U.S additionally tightened its system (Kleinert and Klodt, 2000), moving away from liberalizing the market for corporate control.

The interpretation of this matter is critical. Some argue that this form of diversification was a good idea back in the 1960s (Williamson, 1975), whereas other claim that it was a mistake right from the start (Chandler, 1990) which was undone during the fourth wave.

The Chandlerian view would however imply that the market and its participants made wrong expectations as far as success of unrelated diversification was concerned (Shleifer and Vishny, 1991).

### **3.2.3 The fourth wave (1984-1988)**

The fourth wave was an occurrence attributable to Europe rather than to the United States, mainly because national companies prepared for the European Union as a single market (Kleinert and Klodt, 2000, p 4).

But, the wave also hit the States, as research by Shleifer and Vishny reports. A large proportion of transactions were hostile. Contrarily to the third wave, the form of payment turned away from stock towards cash (p 53).

Apart from leveraged buyouts, new acquisition modes encompassed also so called bust-up takeovers, which pursued the idea to sell certain divisions that were overtaken to other companies. "A substantial fraction of the assets" were target of these divestiture processes (Bhagat, Shleifer and Vishny, 1990).

The number of unrelated acquisitions was on the decline. In contrast to the third wave, shareholders now did not appreciate such transactions. When companies engaged in related diversification however, stock prices rose accordingly (Morck, Shleifer and Vishny in Shleifer and Vishny 1991). In this new type of expansion, acquirer and target are not related, but due to e.g. selling similar products, synergies can be created (Walker, 2000, p 56).

Moreover industries which were mainly targeted by mergers had previously been deregulated. Examples would be the airlines and transportation sector, but also financial services, broadcasting and oil and gas. Thereby transportation and broadcasting accounted for 20% and oil and gas for 26.3% of the total M&A activity from 1981 until 1984 (Jarell, Brickley and Netter in Gaughan, 1994, p 297).

One indication of the research in the field of the third and fourth merger wave is that a constant development towards greater efficiency does not necessarily take place without detours.

Another finding is that stock prices do not certainly reflect true value, because "investors can and do make mistakes" (p 59).

Last but not least "aggressive government policy (...) can have large unintended effects" (p 59).

### 3.2.4 The fifth wave (1995-

The last wave has an international character with various cross-border transactions (Black, 2000). Examples would be Daimler Chrysler as well as the \$180 billion Vodafone-Mannesmann deal.

Illustrations 2 and 3 below demonstrate that merger activity in Europe is on the rise during the period 1988-1992 and from 1998 onwards. The illustrations suggest that in 1999 more than 45% of total merger value involves at least one European party. At the same time the value of U.S. acquisitions decreased.

Also Asian markets join the activities, having grown “70-fold in dollar value (...) from \$4 billion to \$281 billion” over the period 1985 to 1999 (Black, 2000, p 5). The expansion of Chinese manufacturers in the steel market, which will be described in chapter 4, is only a hint of how strong growth continues to accelerate the M&A market from then onwards.

Liberalization and deregulation are probably the best words, which describe the fifth wave. The most active industries shifted from the 1970s with *metal mining* and *real estate* to the *oil and gas* and *textile* industry in the 1980s. Finally in the 1990s, again *metal mining* and ranked second *media and telecommunications* were among the most dynamic environments (Kleinert and Klodt, 2000, p 6).

The following section shall outline which theories exist, in order to explain this phenomenon of clusters within various industries and the waves themselves.

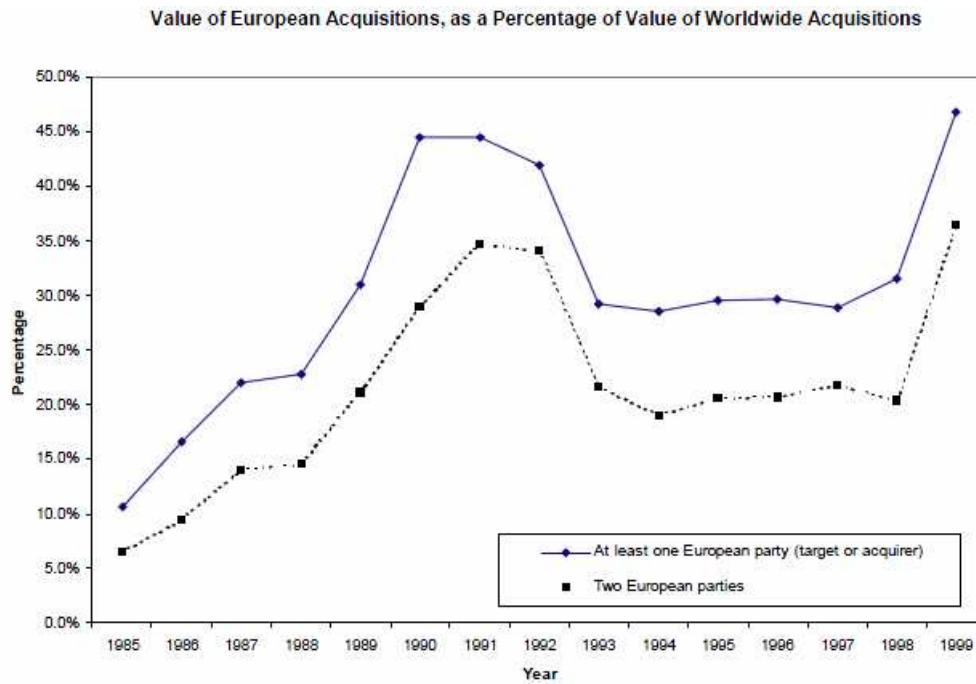


Illustration 2. Black, 2000 (p 5)

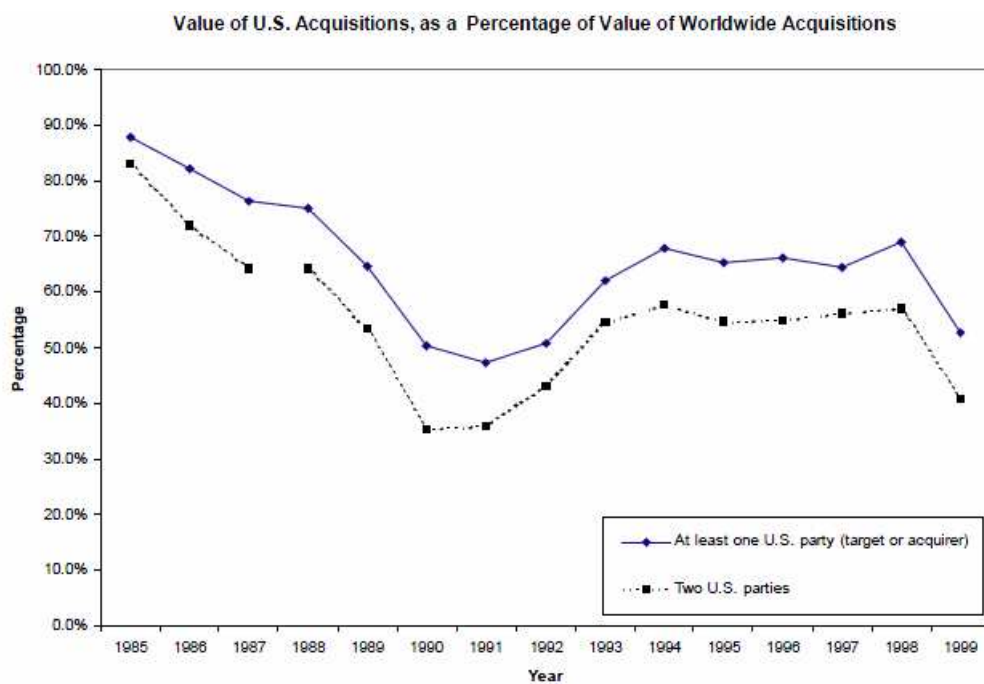


Illustration 3. Black, 2000 (p 4)

### **3.3 Why waves?**

The reasons for waves are often tried to be explained with two rather contrary theories.

#### **3.3.1 The neoclassical approach**

Supporters of the neoclassical hypothesis suggest that these reorganizations within these industries stem from shocks which affect the economic, technological, or regulatory environment. (Harford, 2004, p 530). Coase (1937), Gort (1969), or Jovanovic and Rousseau (2001,2002) are among the most recognized followers of the theory (in Harford, 2004).

Generally it can be said that three main assumptions are made. (1) Managers maximize shareholder wealth, (2) mergers create wealth and last but not least, (3) capital markets are efficient (Gugler, Mueller and Yurtoglu, 2006, p 2). This stands in contrast to behavioral approaches, which does not assume (1) and (3).

#### **3.3.2 The behavioral hypothesis**

Work by Shleifer and Vishny (2003) has recently moved into the foreground, proposing that mergers are mainly motivated by how stock is valued. In case managers see their stock is overvalued, they “use the stock to buy real assets of undervalued targets through mergers” (Harford, 2004, p 533).

Their approach is not new. Already in 1988 Golbe and White found a “positive correlation between stock valuations and merger activity” (Harford, 2000, p 533).

#### **3.3.3 Contrary conclusions**

Recent literature provided by Harford (2004) and Gugler, Yurtoglu and Mueller (2006) come to rather dissimilar conclusions.

Harford, for instance holds that by and large mergers are a result of industry shocks, thereby supporting the neoclassical hypothesis. This phenomenon alone does not however create a merger wave, so Harford. Solely in combination with adequate liquidity within the markets, the necessary transactions are likely to be made. The author further clarifies that clustering as can be found in merger waves, is not caused by the shock itself, but by the increased macro-level liquidity (p 559).

Gugler, Yurtoglu and Mueller apparently belong to a different school of thought. Their reasoning is in so far diverse that they argue from a valuation perspective. The initial idea is that markets are increasingly optimistic, owing to increasing share prices. Hence, announcements for value destroying mergers are not valued accordingly: they should lead to drops in share price, but do not. As soon as the actual outcomes are realized, stock prices drop and the optimism vanishes (p 39-40).

Apart from the need for liquidity, which both theories seem to embrace, there are numerous factors, which can either encourage or hamper the appearance of mergers and takeovers.

The subsequent analysis will however refrain from the context of waves, and concentrate on the climate and motives for specific takeovers.

### **3.4 The proper climate**

In his paper, Black (2000) discusses various factors, which can lead to higher M&A activity in the United States as well as in Europe. I would like to put the focus on the findings related to Europe, as they will be relevant in subsequent sections.

Weak unions, as can be found in the newly established technology and communications sector, can be considered to be fertile ground for takeovers. In Europe, labor unions are comparatively strong, but becoming weaker (p 11).

The hostility of target governments with the aim of preventing foreign takeovers of domestic companies is also a characteristic of the European market. France and Spain are very good examples for this type of behavior (p 11), but also Austria. This will become particularly apparent in the takeover, which is subject of this paper (see



5.3.2 *Ownership structure and corporate governance*). However, the political opposition against hostile takeovers seems to be declining. Evidence can be found when looking at the takeover-friendly regulations (the Thirteenth Company Law Directive), the European Union is implementing (p 12).

The introduction of golden parachutes and stock options is supposed to decrease resistance of target top management, rewarding it accordingly for the loss of their occupation. It has the aim to facilitate changes in corporate control. Trends to implement such techniques can be observed in Europe, despite being pushed much stronger in the United States.

The recognition that governments are often unsuccessful in managing businesses has furthermore lead to a worldwide trend of privatization and deregulation (p 13). Again, evidence which is provided in the next section, will show that the two companies voestalpine and Böhler Uddeholm were wrested from the grip of the state, before the acquisition occurred (see 3.2, 3.3)

The capitalist tendency towards “the market knows best”, leads to less interferences in large takeovers (p 13).

### **3.5 Motives**

Besides the climatic reasons already mentioned, which are of a more macro-economic or at least industry-wide nature, I would like to shed more light on the motives for particular companies to merge with or take over another company.

There are various theories of asset redeployment in the course of reorganization, each offering a slightly different form of why M&A might be preferable. The most important ones are the following:

#### **3.5.1 The efficiency theory**

This theory states that by combining two companies, management can be improved or the overall efficiency of the company can be amplified by making use of synergy

gains (Weston, in Rock 1987, p 35). This theory found a great number of supporters during the 1960s merger wave, with the commonly held “2+2=7” effect. Synergies fall into one of the three consecutive categories:

#### **3.5.1.1 Operating synergies**

Examples for operating synergies can especially be found in the period of the first merger wave, which was the age of *horizontal integration*. In this particular period the managers’ objective was largely economies of scale.

In *vertical integration*, it is held that increases in efficiency stem from a reduction of overall costs, emerging for instance in communication and bargaining processes. By combining companies at different phases of production, coordination may also become more efficient (Weston, in Rock 1987, p 35).

#### **3.5.1.2 Financial synergies**

A merger can lead to a different composition of cash flows, reducing the risk of bankruptcy. Debt holders benefit from this effect, because their risk is lowered, thus re-levering the firm after the merger can be useful. Thereby the company can profit from tax shields (Weston, in Rock 1987, p 35).

Furthermore, financing due to reduced transaction costs can diminish costs even further, particularly in conglomerate mergers (Levy and Sarnat, 1970).

#### **3.5.1.3 Strategic realignment**

In this case, the acquiring company aims to adapt to changes in the environment. Doubtlessly, in practice such adjustments require rapid responses (Weston, in Rock 1987, p 36). Walker (2000) states various ways in which a company can do so (p 55).

- The firm can expand its business geographically.
- Furthermore it might expand product lines, thus targeting economies of scope.

- The third option would be to augment market share through the acquisition of a rival or competitor.
- Last but not least, the corporation can diversify.

In his paper, Walker (2000) further analyzed the abnormal returns of a sample of 278 American acquisitions from 1980-1996. In so doing, he reached the conclusion that expanding geographically was the best value creating strategy for acquiring shareholders before augmenting market share. All other strategies were not beneficial. (Table V, p 62 – for more research on creating value see section 3.8).

### **3.5.2 Information theory**

This theory states that mergers and takeovers can lead to a revaluation of ownership due to new information that is made available during negotiations and the bargaining process (Weston, in Rock 1987, p 36). One form is for instance the “sitting-on-a-goldmine-hypothesis by Bradley, Desai, and Kim (1983). It states that the approach of a bidder can induce the market to revalue previously undervalued stock. In addition they introduced the “kick-in-the-pants” explanation, which encourages management to “implement a higher-valued operating strategy” (Weston, in Rock 1987, p 36).

#### **3.5.2.1 The q-ratio**

Moreover it may be cheaper to purchase a firm, than to start building an own facility. Whether such a strategy can be successful depends on the q-ratios within an industry, which is defined as “the ratio of the market value of a company’s shares to the replacement costs of the assets represented by those shares” (Ibid, p 36). In case this ratio is below 1 for one firm, another company should think about acquiring it, instead of building a proper line of production the reason being that the costs of replacement of the acquired assets is higher than the price paid.

The relevance of q-ratio theory for the explanation of waves was however limited. The findings clearly showed that q-ratios of acquired companies were above 1.0 (Gugler, Mueller and Yurtoglu, 2006, p 33).

### **3.5.3 Agency problems theory**

The problem has already introductorily been described and related to issues of minority shareholders and free riders. The agency problem theory in this context states once more that the threat of takeovers can possibly discipline managers

## **3.6 Sources of value for whom?**

So far, the climate and motives of M&A have been discussed. A very central aspect has yet to be answered: Even if companies operating in a proper climate and having motives to justify a takeover or merger decide to execute a certain transaction, can value be created? If so, under which circumstances and who are the beneficiaries?

First of all, there are two main parties involved in such a transaction. As a matter of fact, target-firm shareholders are affected in a different way than acquiring-firm shareholders as far as value creation is concerned.

### **3.6.1 Target-firm shareholder wealth**

The shareholders being acquired usually benefit from large premia being paid. Evidence is offered for instance by Jensen and Ruback (1983). According to their findings, target shareholders earn significantly positive returns on the announcement date, both for mergers and successful tender offers (Ibid, p 14). Table 3 (p 9) demonstrates that successful target firm experience an increase of 29% in stock price on the day of announcement.

Unsuccessful tender offers also lead to increased stock prices on announcement date. Further development of stock prices heavily depend on whether a new offer is

being made or not. If so, stock prices rise, if not however, returns fall back to pre-announcement levels (Ibid, p 14).

Furthermore Jensen and Ruback (1983) argue that a certain resistance of management can lead to even higher premia, increasing the benefits for target shareholders (p 40). Forms of resistance can be to either encourage competing bidders, or to trigger actions of courts. Nonetheless such actions should not result in an entire termination of the process, because this is usually not in the interest of shareholders (Ibid).

The associated problem is that target management is highly likely to lose occupation as soon as the acquirer takes over. They might therefore be inclined to take measures to fend off takeover bids that would actually be in the interest of target shareholders (Harris, 1980, p 514). This can be considered as an agency problem, which can however be overcome with the implementation of golden parachutes, granting target management a certain payoff. As a result, target shareholders may be able to capture more synergy gains (Harris, 1990, p 623).

Evidence of the different methods is provided by Kummer and Hoffmeister (1978). In their sample consisting of 88 firms, they found that on the date of announcement targets which resisted the bid experienced a higher return of 19.79% compared to 16.5% for non-resisting targets (Table 1, p 510). Nevertheless 15 of these 21 resisting targets were not taken over in the subsequent ten months. As a consequence they exhibit large cumulative losses. 20 months after the takeover, the non-successful resisting targets show -12%, whereas resisting successful targets had a return of around 11%. Targets which did not resist at all also evince a slightly negative return of -3% (Ibid).

Another interesting result is that many targets performed abnormally low preceding the takeover announcement, indicating that current management was not able to capture gains accordingly (p 514).

Thus, resisting managers can be awarded with golden parachutes, making them more willing to letting a takeover succeed. Target shareholders can benefit from

defensive behavior of management only if the company is still overtaken. Otherwise no premium is paid and the firm stays in the hands of incumbent management.

### **3.6.2 Acquiring-firm shareholder wealth**

Despite the largely positive returns earned by target-firm shareholders, the benefits to the acquiring-firm shareholders are more complicated to grasp.

While Jensen and Ruback (1983) argue that “corporate takeovers generate positive gains, that target firm shareholders benefit, and that bidding firm shareholders do not lose” (p 47), an opposition is not at all convinced of the benefits for acquiring firms: “Researchers (...) have found them to average close to zero and to be negative for some categories of offers” (Jarrell and Poulsen, 1989, p 12).

In analyzing tender offers from three decades, evidence from Jarrell and Poulsen (1989) suggests that this might be due to the difference in size. When the bidder is large compared to the target, the increase in acquiring-firm stock price will be smaller. These findings are consistent with research on mergers by Asquith, Bruner and Mullins (1983) which found that abnormal returns for bidders increase with the size of the target (p 138).

Furthermore, if a bid is resisted by target management, the returns for the acquiring firm will decrease (Jarrell and Poulsen, 1989, p 18).

Last but not least, Bradley Desai and Kim (1988) report that multiple bidders result in higher payoffs for the target firm and at the same time “decrease the returns to acquiring firms” (p 25).

As mentioned under 3.5.1.3, Walker also found that only two of six strategies were value creating for acquiring-shareholders.

Thus, there are two sides to the creation of wealth in the context of acquisitions. Target resistance can increase returns on the side of the target, at the same time decreasing payoffs to acquiring-firm shareholders.

Target-shareholders are likely to benefit with average returns of around 30%. Acquiring-firm shareholders can however often not capture the benefits, partly owing to relatively small gains compared to overall size.

Another reason often associated with the rather poor performance of acquiring companies stems from mispricing of targets. This phenomenon shall be described more closely in the next section (see 3.7.1.1 “The winner’s curse”) as it needs to be embedded into the process of valuation.

### **3.7 Special cases in M&A**

#### **3.7.1 Valuation**

If one company is acquired by another corporation, a very delicate and complex process is required to ensure a smooth transaction.

As one can imagine, the most difficult task in this framework is to price an entire firm at a specific point in time. The fact is that a corporation underlies constant fluctuations in value, especially if shares are traded on the stock market.

This does of course cause a number of problems, especially under the common but controversial assumption of market efficiency, meaning that “relevant information is impounded into the price of financial assets” (Dimson and Mussavian, 2000, p 1 and investopedia.com, 2010). This implies that not solely current earnings, but also expectations about the future are encompassed in stock price calculations. Clearly, this aggravates the true value estimation, making the procedure prone to over- or under ratings.

##### **3.7.1.1 The Winner’s curse**

One example of how such an overestimation can negatively influence the outcome of an acquisition is best described with the Winner’s curse hypothesis. It affirms that in a fight of control over a certain target, the competing party which unknowingly overvalues the object has a higher probability to win the race (Varaiya, 1988, p 209).

After the acquisition, however, the acquirer is cursed by the overpayment. The likelihood of occurrence is also dependent on “the degree of competition” (Ibid, p 211). Varaiya concludes that two thirds of the sample companies overestimated the benefits arising from the acquisition (p 216). This result also supports an idea by Roll (1986) which is universally referred to as hubris.

### **3.7.2.2 Hubris**

In his paper, Roll (1986) takes a more psychological standpoint from which he argues that market participants do not always behave rationally (p 199). Therefore they do not realize that valuations can be wrong and still bid despite knowing of the winner’s curse’s existence.

If they would behave rationally however, they would only decide to acquire a company “below the current market price” (p 212). This is why “hubris is necessary to explain why managers do not abandon these bids also since reflection would suggest that such bids are likely to represent positive errors in valuation” (Ibid).

Roll (1986) expected combined value of target and acquirer to fall owing to the observation of hubris. But findings of how acquiring-shareholder wealth is affected were very contradicting; therefore it was hard to confirm the existence of hubris. At the same time there was no evidence against it.

Allegedly hubris can play a role in the acquisition process and should nonetheless be considered by acquiring-firm management, when evaluating a potential target. One must bear in mind that the bargaining process still takes place between human beings who underlie certain psychological patterns and more importantly, emotions.



### 3.8 Global M&A activity

Over the past decades, the activity and at the same time the volume of M&A has increased significantly. To be more precise, the volume skyrocketed, augmenting 12-fold from 1990 until 2000 (Kleinert and Klodt, 2000, p 1).

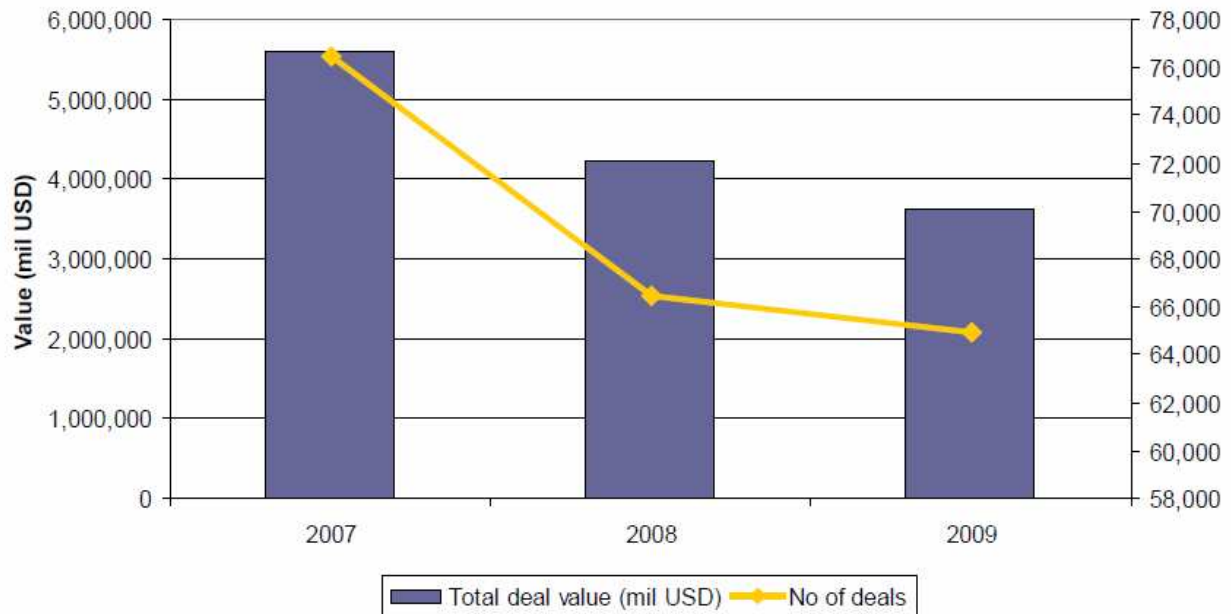


Illustration 4. Zephyr Annual M&A Report, 2009, p 2.

In the year 2009 M&A value equaled to \$3621 billion. That amounts to a decrease of 15% compared to the year 2008, where the transaction volume resulted to \$4242 billion (Zephyr Annual M&A Report 2009, p 1. for reason being the world economic crisis, see Chapter 4). Globally 64.981 deals were signed off, as illustrated by the graph above. The record year is considered to be 2007.

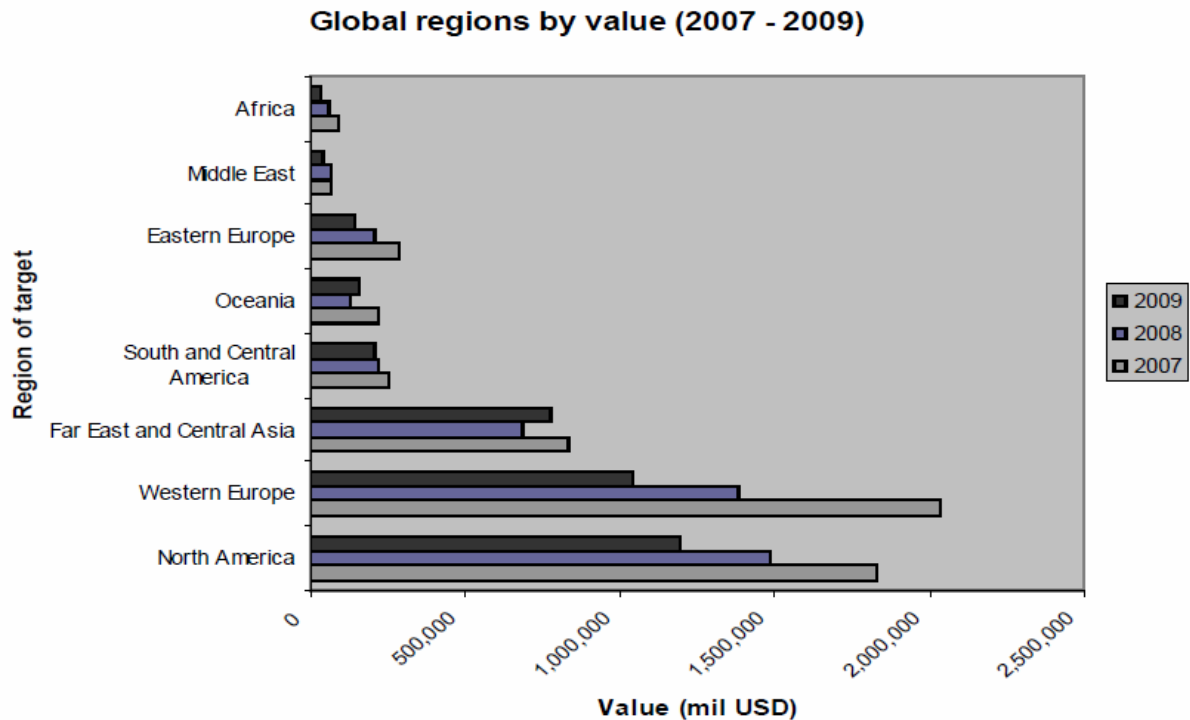


Illustration 5 from Zephyr Annual M&A Report, 2009, p 6.

As can be seen in illustration 5, in the year 2007, Western Europe had the highest-value deals. In the years 2008, 2009 M&A activity decreased over proportionally, thus allowing North America to obtain the first rank.

An interesting fact is that besides the comparatively small region *Oceania, Far East and Central Asia* was the only global region that succeeded in increasing value after the cut in 2008. This again indicates higher liquidity within the Chinese markets.

Illustration 6 shows that in 2008, most M&A activity occurs within the banking sector. *Machinery, equipment and furniture* is ranked third, in front of the *chemicals, rubber and plastic* industry. Globally speaking, the *metal and metal products* industry branch, in which voestalpine operates, is ranked in 9<sup>th</sup> position (Zephyr Annual M&A Report, 2009, p 9). Within Western Europe, the volume of this particular sector is higher than its value (p 32). On the one hand this indicates that various mergers and acquisitions take place in

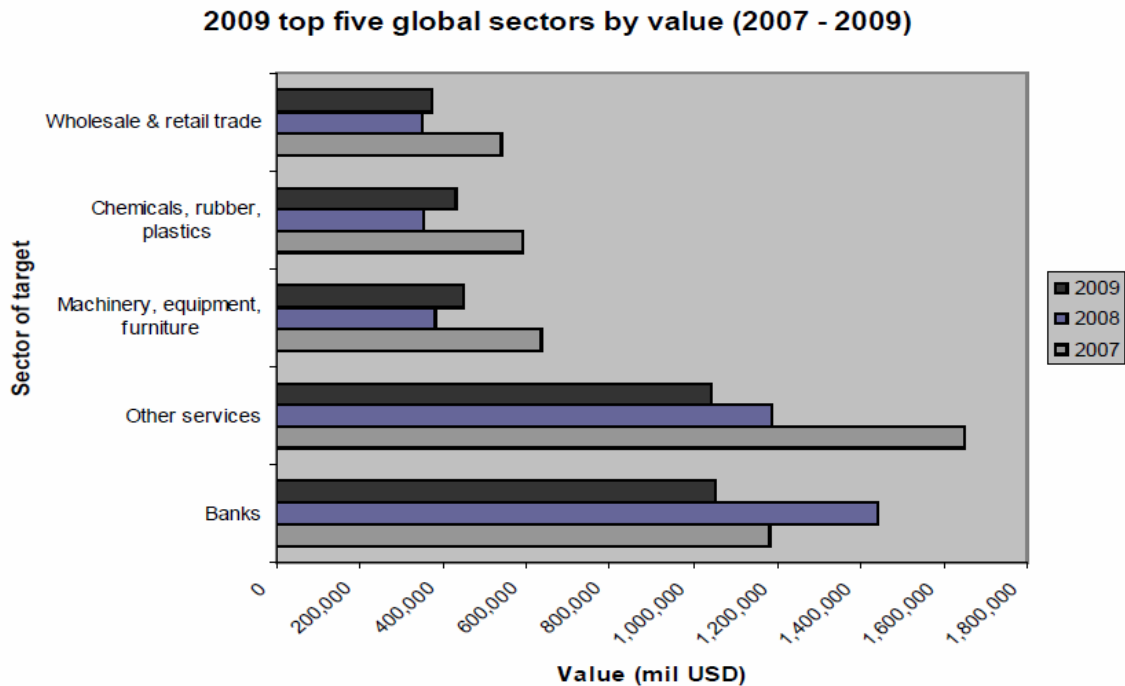


Illustration 6 from Zephyr Annual M&A Report, 2009, p 10.

the *metal and metal products* branch. On the other hand it might imply that vertical acquisition is more common, because it is less costly to for instance acquire distributors or service providers than a rival company at the same stage of the production process, hence leading to more takeovers at lower values.

Clustering might be explained with either a neoclassical hypothesis, arguing that shocks hit the banking sector particularly hard, or with the help of the behavioral approach, which would probably suggest that stocks within the banking sector were overvalued, leading to elevated M&A activity.

With having the world wide crisis in mind (see Chapter 4), it becomes quite evident, that the neoclassical approach is probably the better explanation: various banks had to be bailed out as a consequence. With a deal volume of \$36.240 million *The Royal Bank of Scotland Group plc* was acquired by *HM Treasury* and is ranked number one. Rank 2 is represented by *Lloyds Banking Group plc* (deal volume \$22.287 million), *HSBC* is positioned fourth (Zephyr Annual M&A Report, 2009, p 25).

Just to demonstrate the dimensions, it is worth mentioning that *RBS* was the fourth and *HSBC* the fifth biggest bank in the world in 2009 (diePresse.com, 2009).

Presumably, in most of the cases banks were rather in the position of the target than the bidder.

### 3.9 M&A in Austria

#### 3.9.1 The M&A market

The Austrian M&A market is comparatively small, with an economic landscape mainly shaped by SMEs (small and medium enterprises) and a manageable amount of multinationals, such as the OMV, Swarovsky or the voestalpine (Hack, 2004 *in* Martinius 2004, p 52). A large proportion of Austrian companies are family-owned.

| Target country | 2007<br>(mil USD) | 2008<br>(mil USD) | 2009<br>(mil USD) |
|----------------|-------------------|-------------------|-------------------|
| UK             | 149,570           | 44,773            | 11,364            |
| France         | 40,609            | 15,159            | 10,428            |
| Luxembourg     | 931               | 2,901             | 5,583             |
| Belgium        | 2,312             | 1,978             | 4,987             |
| Italy          | 8,997             | 13,397            | 4,033             |
| Germany        | 28,728            | 20,429            | 2,685             |
| Spain          | 10,186            | 17,342            | 2,679             |
| Switzerland    | 1,984             | 1,576             | 2,251             |
| Netherlands    | 23,636            | 4,109             | 2,065             |
| Ireland        | 2,869             | 384               | 1,291             |
| Sweden         | 9,087             | 5,279             | 1,166             |
| Finland        | 1,916             | 1,704             | 747               |
| Denmark        | 3,974             | 3,075             | 706               |
| Austria        | 2,305             | 51                | 633               |
| Norway         | 6,148             | 2,828             | 594               |
| Portugal       | 151               | 2,483             | 433               |
| Greece         | 709               | 1,239             | 400               |
| Turkey         | 636               | 3,075             | 175               |
| Iceland        | 1,564             | 0                 | 15                |

Illustration 7. Zephyr Annual M&A Report, 2009, p 31.

The overall market was however not spared from the consequences of the decline in world market activity: in 2008, there was a decrease of around 20% to 30% (Fellner and Luiki, 2009). Related to volume, Austria's number of deals dropped from 29 in 2007 to 18 (2008) and finally to 12 (2009) (Zephyr Annual M&A Report, 2009, p 31).

Regarding value, the Austrian economy has had a comparatively low involvement, measured in terms of total Western Europe transactions.

In 2009 Austria was ranked 14<sup>th</sup>, solely accounting for 1.2% of total Western European value, or for 24% of the value of its big neighbor Germany (taken from Illustration 7). The largest deal was the institutional buyout of Constantia Packaging AG (Ranked 15<sup>th</sup> of the Top 20 value deals, 2009).

### **3.9.2 Banks and M&A**

The importance of banks in Austria is remarkable, because apart from financing, they also engage in national and cross-border transactions, both as buyers and sellers (Fellner and Luiki, 2009). A close bank-company relationship (section 2.4.2) can thus be acknowledged. The largest banks are Unicredit Bank Austria, Raiffeisen Zentralbank (Ranked 79<sup>th</sup> of Top 1000 banks worldwide) and the Erste Group (Rank 88) (diePresse.com, 2009).

### **3.9.3 Risks and anti-trust regulations**

Due to Austria being a member of the European Union, economic risks associated with M&A activity is comparatively low. Nonetheless, the European Commission has the power to reject certain activities for fear that European anti-trust law is violated. Also, Austrian authorities must approve the process. In the past, there were however hardly any concerns, because “macro-economic arguments” were often pushed to the foreground (Hack, 2004 *in* Martinius 2004, p 54). Therefore the Austrian M&A market can be considered as a safe harbor for transactions.

### **3.10 Concluding remarks to Chapter 3**

Companies face the need to restructure thus adapting to changes in the environment. Mergers and acquisitions are a form to expand capacity and can occur in a variety of forms.

A closer look on merger waves has shown how motives have changed with time, not always pursuing value-maximizing strategies. Certain detours were necessary in order to make companies learn from their mistakes.

Apart from climatic reasons, there are numerous motives why companies engage in M&A activities. Synergies are probably the most common ones, but also strategic motives can play a crucial role.

Target shareholders benefit most from such activities, while acquiring-firm shareholders may not capture gains accordingly, especially if multiple bidders and target resistance increase the price to pay.

Valuation can be a difficult task. The success of M&A heavily depends on the accuracy of this process. Managers must be aware that the winner's curse and hubris can lead to excessive bidding, overpaying the target and subsequently suffering from the consequences.

Global activity experienced a cut by 15% in 2009, mainly due to the financial crisis, which also led to the majority of deals shifting to the banking sector.

The main players are Western Europe and North America.

Austria's M&A activity declined by 20-30% in 2008, in spite of the market being relatively small. The economy solely accounted for 1.2% of total Western European M&A value.

When planning M&A in Austria however, the strong interference of politics and the important role of banks have to be considered.

#### 4.1 The commodity crisis

The year 2004 is a prominent date for the worldwide steel industry. Up until then the world market had gotten accustomed to China whelming it with coke.

However, based on the persisting boom in the People's Republic of China, suddenly the 140 million tons produced annually are required by companies of their own industry. Thereby market rates increase drastically from 60 to over 450 Dollars per ton (Manager Magazin, 2004). Cautious calculations assign an additional burden of at least 2,5 billion Euro for the industrial middle class in Germany (Steinkohle Portal, 2004).

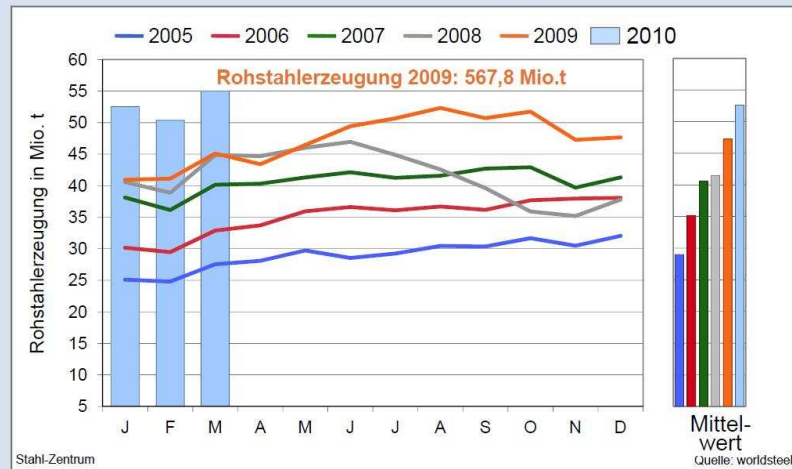
As if that were not enough, China falls back on scrap trade in order to satisfy the constant hunger for steel. Nonetheless this raw material is indispensable for the steel industry, which is put increasingly under pressure. In August 2004 for instance, scrap of sort 2 registers an incredible ascent of 145% (Stahl Online, 2004) and additionally afflicts steel producers. At the end of the year China finally imported 13 million tons more than it exported (Kerkoff, 2005, p 2).

Later this sequence of events shall become known as the commodity crisis.

Austrian production is largely spared from the consequences and is able to boost output of raw iron, crude steel, flat- and long products steadily until 2008 (WKO Fachverband Bergbau-Stahl, 2008b).

In 2005 China remains the center of attention. The fear, the net importer could unexpectedly develop into a net exporter is first being manifested (Kerkoff, 2005, p 2) and is confirmed in the subsequent years, as seen in Illustration 8.

### Monatliche Rohstahlerzeugung in China



Apr 2010 · © WV Stahl

Stahl-Zentrum

Illustration 8. Stahl Online 2010. Monthly output of China.

Critical voices are raised concerning the energy policy within the European Union (Stahl Online, 2005), which is much more strict than regulations imposed on Chinese production, thus distorting competition.

In Germany, emission trading puts additional charges on the production process (Brüninghaus, 2005); the room for maneuver of national steel producing companies is hence decreased considerably. Moreover the energy-intensive sector is increasingly burdened with high electricity prices (Stahl Online, 2005).

## 4.2 The world economic crisis

During the year 2006, the steel industry can largely recover from the negative effects associated with the commodity crisis (Stahl Online, 2005) and in 2007 the world steel production reaches the highest output ever measured: 1.3 billion tons (Schmidt, 2008).

However by the end of 2008, the world economic crisis strikes slightly delayed. This time the real economy is severely hit.



The crisis originated on the financial markets in the early summer of 2007. From then on, it caused several insolvencies and high losses within the industry. On the one hand, it spread into dynamic emerging markets, which had considerably propelled the development of the steel sector during past years (Kerkoff, 2009). On the other hand, however, it also infected other branches of industry, such as the automobile sector. Already in October 2008, an author believes that car manufacturers might soon be in the biggest crisis since 1973 (BoerseARD.de, 2008).

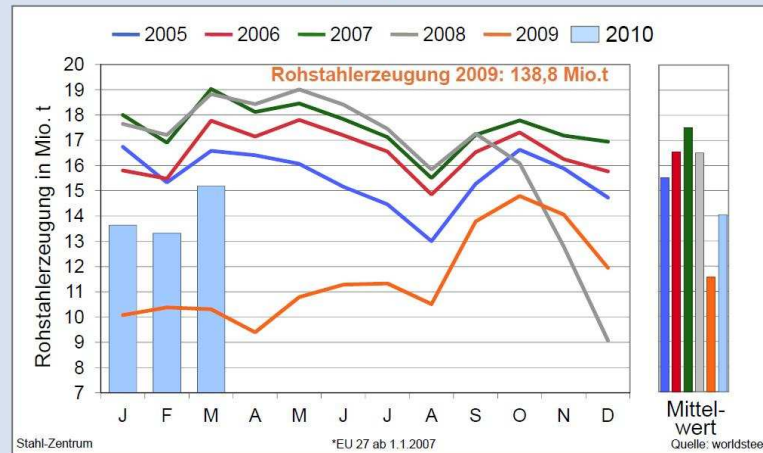
The high dependence on clients such as the engineering industry, producers of metal goods and of course automobile manufacturers hits steel producers especially hard, mainly because they are the primary link in the value chain. In Germany for instance, around one quarter of the annual steel production is consumed by the automobile sector (Spiegel Online, 2009).

As seen in Illustration 9, the monthly production of crude steel in Europe almost collapses from September 2008 onwards with a drastic decrease from 17 million to only 9 million tons in December 2008. With solely 60 percent, the load of operating facilities reaches a long-time low (Kerkoff, 2009).

Austria is a comparatively small market with an annual production of around 7.6 million tons (WKO Fachverband Berbau-Stahl, 2008a) and is therefore not hit as hard. The Alpine state is ranked 23<sup>rd</sup> among the most important steel producing countries worldwide (Ibid). By comparison, Germany is in seventh position with six-fold output of around 46 million tons per year (Ibid).

Also in 2008, issues such as the temporary strains placed on the liquidity of banks and the steadily growing exports of China are discussed. In this context, the catastrophic environmental circumstances under which the production of steel takes place in the far east, are again highlighted.

## Monatliche Rohstahlerzeugung in der EU 25/27\*



Apr 2010 - © WV Stahl

Stahl-Zentrum

Illustration 9. Stahl Online 2010b. Monthly output of the European Union.

In the same year, the European Commission files an anti-dumping petition at request of Eurofer against China. The complaint is mainly based on unfair commercial practices. Especially the suspicion of missing standards in the fields of competition, environment, intellectual property rights, might lead to subsidized low prizes (Wirtschaftsvereinigung Stahl, 2008). Thus, anti-dumping duties shall prevent exports from growing and thereby impairing the domestic steel industry. As a matter of fact, steel exports to Europe amounted to 1 million tons in 2005. In the following year, the amount had already increased fivefold and 2007 finally reached 10 million tons (Wirtschaftsvereinigung Stahl, 2008).

The year 2009 will go down in history as the year with an elusive 8% drop in the world steel production. Without China, which had been supported by intense stimulus packages and got off comparatively lightly, the reduction even amounts to 22% (Kerkoff, 2010).

### **4.3 Outlook**

At the end of 2009 the steel industry already presents a slightly friendlier picture: Overall, an amount of 1.33 billion tons of crude steel had been melted. This number is only a little behind the pre-crisis level of 1,346 tons (Kerkoff, 2010).

The faster-than expected recovery process of the car manufacturing industry lead to an ameliorated situation regarding orders, however, according to analysts there are still various issues that could threaten a sustainable upswing.

On the one hand the worldwide recovery has largely been borne by vast stimulus packages that yet have to be financed (Ibid). On the other hand liquidity within the markets is still restricted. According to a survey conducted in February 2010 by the IFO institute, almost 40% of the companies questioned, find fault with the current access to credits (Ibid).

The big question remains nonetheless, how prices of commodities will develop in the near future. It appears likely that a steady and elevated demand from China will lead to rising prices (Ibid). But also the fact that a long-term benchmark system for the pricing of resources will be abandoned for short-lived spot market coordination makes the underlying raw materials prone to high volatilities. This significantly hampers a secure and stable way of pricing (Ibid).

Furthermore it must not be overlooked that market power of raw material suppliers has tremendously gained momentum during the past years. As a result there are solely three major companies – the Australian BHP Billiton with 17% market share, behind the British-Australian number two, Rio Tinto with 19% and the Brazilian Vale with astonishing 33% (Kerkoff, 2010b) market share – which cater more than two thirds of the overseas iron ore demand. The announced increase in prices by almost 90% would for instance cause the German steel industry to pay an additional 3 billion Euros (Ibid). It is doubtful that the industry can absorb this surplus load.

Concluding, the recovery stands on wobbly legs. It remains to be seen how the steel industry will perform in the months to come.

#### **4.4 M&A in the steel industry**

The world's biggest steel producer Arcelormittal employs 310,000 people in 60 countries worldwide. Due to this representative position, it shall be analyzed how M&A activity in the steel industry reacted to the crisis in the world and in Europe.

In 2007, when the resource crisis had been overcome and the overall outlook in the steel industry started to brighten up, the giant was highly engaged in countries such as Saudi Arabia, the USA, Argentina, China, Mozambique, Mexico or Senegal. It also acquired companies in Europe such as the 77% stake in the German RAG AG, facilities in France, and a 100% stake in the steel galvanizing Estonian Galvex OÜ. Last but not least Arcelormittal bought 100% of the Austrian steel distribution company Eisen Wagner GmbH, which sold 60,000 tonnes of steel in 2007 (Arcelormittal, Highlights 2007).

This shows that M&A activity in the steel industry was at a very high level, which could also be kept during 2008. Acquisitions included steel manufacturers and distributors in Venezuela, Costa Rica, Brazil, United Arab Emirates, the United States, as well as iron ore mines in Brazil and Australia. The only months without activity are March and October (Arcelormittal, Highlights 2008).

The drastic cut in M&A activity becomes apparent, when looking at the year 2009, which solely comprised a divestment activity in the Canadian Wabush mines. The year 2010 starts with an acquisition of 28.8% of the Indian steel producer Uttam Galva, implying a slightly better overall outlook in the steel branch (Arcelormittal, Highlights 2009).

#### **4.5 Concluding remarks to Chapter 4**

Arcelormittal is hence a perfect example of how the world economy affected M&A activity of steel manufacturers.

Whereas in 2007 solely the financial sector experienced troubles, September 2008 marked the beginning of decreasing demand in the real economy resulting in a cut in M&A activity, which peaked in the 8% drop in world steel production in 2009. Mergers

and acquisitions were low, mainly because companies faced the uncertainty of how to finance future investments (consistent with 3.8 Global M&A activity, 3.9 M&A in Austria).

## 5 COMPANY ANALYSIS

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### 5.1 History – shared paths

In the following section I would like to shortly describe the historical backgrounds of voestalpine and Böhler Uddeholm and thereby show important developments as well as the companies' roots. The source of the subsequent data is the documentary section of voestalpine (Voestalpine AG, 2010) and the information provided on the homepage of Böhler Uddeholm (Böhler Uddeholm AG, 2010).

In the year 1870 the brothers Böhler & Co open business after having negotiated an exclusive agency contract with Baron Mayr-Melnhof, which granted the distribution of the steel products produced at the smeltery Kapfenberg. A change in ownership of the smeltery leaves the contract untouched. In the following years countries such as Germany, Russia, France, Great Britain, but also Japan and Australia are supplied with products such as *Schnellarbeitsstahl* and welding rod. After having purchased the smeltery, the Böhler & Co lose ownership to the Germans in the year of the Anschluss, 1938.

In the same year, the voestalpine as it is known today is founded in Linz. Primarily as a subsidiary of the German Reichswerke, in 1941 the site commences intensive production of tanks. With the invasion of US troops 1945 in Linz, the German proprietorship gets confiscated. On grounds of the nationalization act 1946, both Böhler and the subsidiary, which is renamed to „Vereinigte Österreichische Eisen- und Stahlwerke AG“ (VÖEST), fall to the Republic of Austria.

In the consequent years, the production facility of the VÖEST, which is fostered by debenture capital that is provided for the reconstruction of Western Europe under the so called Marshall Plan, can soon be established as a competitive business. Administration and coordination among the enterprise are tightened, in order to increase efficiency.

A noteworthy fact is that already 4 years after the end of war, engineers of the VÖEST made one of the most significant inventions of the steel industry (Sandgruber, 2008). The so called LD (Linz Donawitz) method allowed the manufacture of low carbon steel, thus decreasing costs compared to ordinary processes by 30 to 50 percent (Ibid).

During the postwar period, Böhler however posts mainly losses, which have to be covered by the state.

1973 is another remarkable year for the two companies. Under the governance of chancellor Bruno Kreisky, all Austrian steel manufacturers, such as the Österreichisch-Alpine Montangesellschaft, Böhler, Schoeller-Bleckmann and VÖEST among others, are consolidated. The VOEST-ALPINE group is born.

Already 1975, Böhler is being subsumed with Schoeller-Bleckmann and Steirische Gusstahlwerke. The 100 percent subsidiary of the VÖEST-ALPINE is renamed Vereinigte Edelstahlwerke (VEW).

Four years later a restructuring of the mother company results in four divisions and a slight modification: the concern loses the Ö and gains an O instead. In 1990 the VOEST-ALPINE group buys the Swedish Uddeholm, which is fused with Böhler one year later.

As a consequence, the Böhler Uddeholm group is being founded. Shortly after this event the company manages the economic turn-around, which is almost certainly also a result of profound restructurings.

The VOEST-ALPINE group, as it had been known up to date, seized to exist. Since 1995, both companies strike new paths.

## **5.2 Böhler Uddeholm AG**

During the course of the IPO, the shares of the state of Austria, represented by the Österreichischen Industrieholding AG (ÖIAG) first declines from 100 to 72.7% and in 1996 even further to only 25%. The operative sections of the tool steel producer are reduced to four core areas: high performance metals, welding consumables, precision strip and special forgings (Böhler Uddeholm, 2007/08 annual report, p 4). Acquisitions and investments are meant to ensure growth in the years to follow (Böhler Uddeholm AG, 2010).

In 2001 Austrian private investors of the Fries group buy 25.1% of the company's shares. Two years later the ÖIAG sells the remaining 25%, whereby Böhler-Uddeholm completes the transformation into a fully privatized enterprise.

From 2004 to 2006 the stainless steel manufacturer delivers one record years after another, as far as sales and operating profit are concerned.

In the year 2007 Böhler-Uddeholm is acquired by voestalpine, after the transaction had been decided by management of the firms involved (Böhler Uddeholm, 2007/08 annual report, p 7). At this juncture, the company comprises 15,453 employees and presents sales of 4.6 Billion €, with earnings before interest and tax being 576 Mio. €.

The enterprise is a world leader in the manufacture of stainless and tool steel (Böhler Uddeholm, 2007/08 annual report, p 3). The facts that tool steel is the top selling product, and only 0.1% of the worldwide steel consumption flow into this type of production (Ibid), lead to the assumption that Böhler Uddeholm is a niche provider. This is the reason why the company moved quality of its manufactured goods into the foreground.

The products are manufactured in Austria, Germany, Sweden, Brazil, Italy, Belgium, Turkey, USA, Mexico and China (Ibid) and consequently being shipped to overall 100,000 customers in Europe, the United States and Asia (Ibid).

### **5.3 voestalpine AG**

Also in 1995 the VOEST-ALPINE AG sells 31.7% of its shares on the stock market and breaks free from the hold of the state. After another restructuring in 2001 into the divisions steel, motion (2005: automotive), railroad systems and profiles, the privatization is finalized in 2005. High investment enables the company to climb up to rank 43 in the top 80 list of the world's biggest steel producers (Worldsteel Association, 2008).

The international presence is further developed, opening up markets in Eastern Europe, China, Brasil and Great Britain. With 41,000 employees, the group is represented in more than 60 countries with more than 360 production- and distribution sites throughout the world. In the financial year of 2008/09, voestalpine made a historical profit and realized with sales of 11.6 Billion € the best result of all times.

The succeeding subsection shall portrait the markets and structures of voestalpine, not only before, but also after the acquisition of Böhler Uddeholm. Hence changes shall be highlighted, which have been caused by the integration of the stainless steel producer.

Sections such as ownership structure and innovation will only be described post-acquisition, since no significant changes have been found.

As sources the annual reports of the years 2006/07 and 2008/09 have been used.

#### **5.3.1 Group structure**

Before the acquisition, voestalpine consists of four major divisions. Illustration 10 shows that division steel is top selling with a percentage of 49% of total revenue.

After the purchase, Böhler Uddeholm is implemented into the voestalpine group as a fifth division stainless steel and ever since accounts for 29% of the enterprise's sales volume. Division steel maintains its importance with 36%, being clearly ahead of division railroad systems, which generates 19% of the 2008/09 sales.



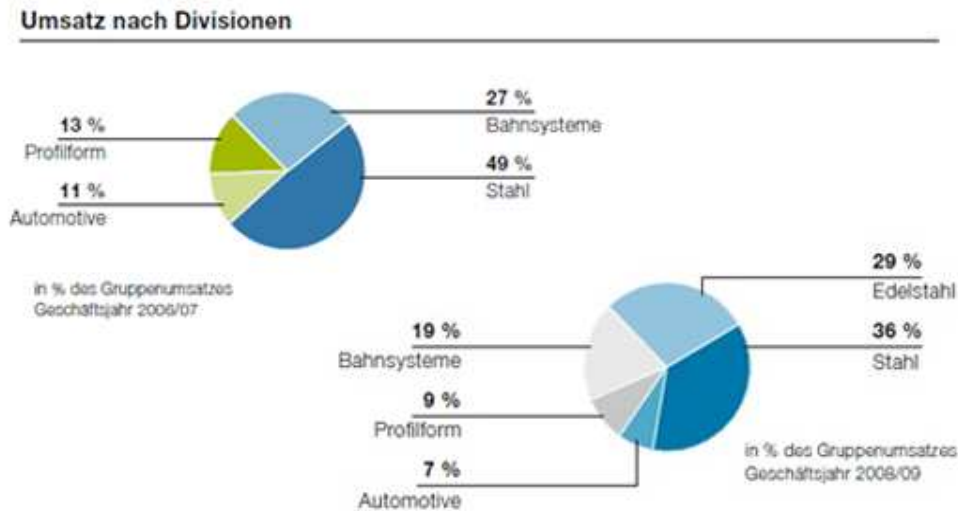


Illustration 10. Divisions' earnings. Voestalpine, 2007/08 annual report, p32, 22.

### 5.3.2 Ownership structure and corporate governance

#### 5.3.2.1 Large shareholders

With a percentage of 44% the voestalpine group is largely owned by Austrian investors. Ranked second, North American investors own a stake of 14%. The strong national ties are doubtlessly also justifiable with the historical background and the government still having a considerable amount of interest in the company.

The biggest single shareholders are the banks Raiffeisenlandesbank Oberösterreich Invest GmbH&Co OG (15%) and Oberbank (5%) as well as the voestalpine employee involvement foundation (10%, voestalpine, 2008/09 annual report, p 15).

This finding goes in line with research by Shleifer and Vishny, who reported that the average holding of large shareholders equals to 15.4%. As theory suggested, large shareholders can raise expected profits and generally improve the performance of firms (2.4.3.1. The free rider problem and monitoring).

Also this provides evidence for the strong bank-company relationship in Austria as a part of a value maximizing strategy. Based on theoretical findings it can therefore be assumed that such a relationship does not only discipline managers from overinvesting, but more generally creates shareholder value and hence may point towards a healthy and stable company (2.4.2. The bank-company relationship | 3.9.2. Banks and M&A)

As already partly mentioned, before the acquisition private Investors held 25.1% of Böhler Uddeholm's shares, which were subsequently sold to voestalpine. This facilitated the M&A process, because voestalpine gained influence and only needed a smaller amount of minority shareholders to tender (2.4.3.2. The free rider problem in a corporate context).

How this aspect influenced the actual takeover process and further implications, shall be summarized under 6.2.4 Summary

### **5.3.2.2 Minority shareholders**

Despite comparatively large holdings by banks and employees accounting for approximately 30%, the remaining shares are in free float. This is however not uncommon, when looking at other companies within the Austrian Traded Index (ATX). According to indices.cc, 18 out of 20 companies have more than 50% of their shares in free float.

One implication might be that a raider could face difficulties, if minority shareholders are to tender their shares.

### **5.3.2.3 The board**

The board consists of six officers, each being responsible for one division and additionally one member destined for the head of finance. The chief executive officer Dr. Wolfgang Eder is thereby also the head of division steel. It is interesting to note that the manager Dkfm. Dr. Klaus Raidl of the target company Böhler Uddeholm is

still head of the implemented stainless steel division (voestalpine, 2008/09 annual report, p 10,11).

The officers are monitored by the board of directors, which comprises 16 members. Among these members are two executive officers of the participating banks, but also notaries, the workers' council and various insurance companies are represented (Ibid, p 8).

### **5.3.3 Divisions and products**

Division Steel is occupied with the manufacturing of flat products, that is mainly sheets and cast products (voestalpine takeover offer, 2007, p 23). Moreover the division possesses a downstream service- and processing section. Among its biggest clients are especially the automobile- (25%), engineering- and steel construction- (25%) as well as the building industry (18%) (voestalpine, 2008/09 annual report, p 52).

Division Stainless Steel (former Böhler Uddeholm). The manufactured products have already been mentioned. The engineering- and steel construction industry replaces the automobile industry as the most important client (Ibid, p 56). However also energy-, household- and space industry count with 18%, 11% and 6% to the most important customers. Apart from tool steel, the division manufactures also forgings for wide-bodied aircrafts, turbine blades, saw band steel and pipelines (Ibid, p 56).

A proper steel production facilitates the production of rails and turnouts of division Railroad Systems (voestalpine takeover offer, 2007, p 23). Additionally the division devotes itself to the manufacture of wire, seamless tubes and semi-finished industrial products (Ibid). The railroad industry is by far the most important purchaser, but also customers in the energy-, automobile-, and construction industry are being supplied (voestalpine, 2008/09 annual report, p 60).

Division Profiles produces shaped tubes and hollow sections (voestalpine takeover offer, 2007, p 23). Furthermore the manufacture encompasses pallets, high racks, various elements for road safety and overhead cable masts (Ibid). A major part of the

production goes to the construction industry (31%), followed by Others (28%), automobile- (20%) and logistics industry (17%) (voestalpine, 2008/09 annual report, p 64).

The fifth Division Automotive processes aluminum and plastic, creating for instance laser-welded circuit boards, bodyworks for automotive vehicles and security-related parts (voestalpine takeover offer, 2007, p 23). With 77% the car industry obtains most of the produced goods prior to the construction industry with 13%. Germany (60%) is without doubt the most important market (voestalpine, 2008/09 annual report, p 68). The division's clients comprise BMW, Audi and Daimler. This is also the reason why it had to shut down production for two weeks in 2008 (OÖ Nachrichten, 2008).

### 5.3.4 Markets and competitors

#### Umsatz nach Regionen

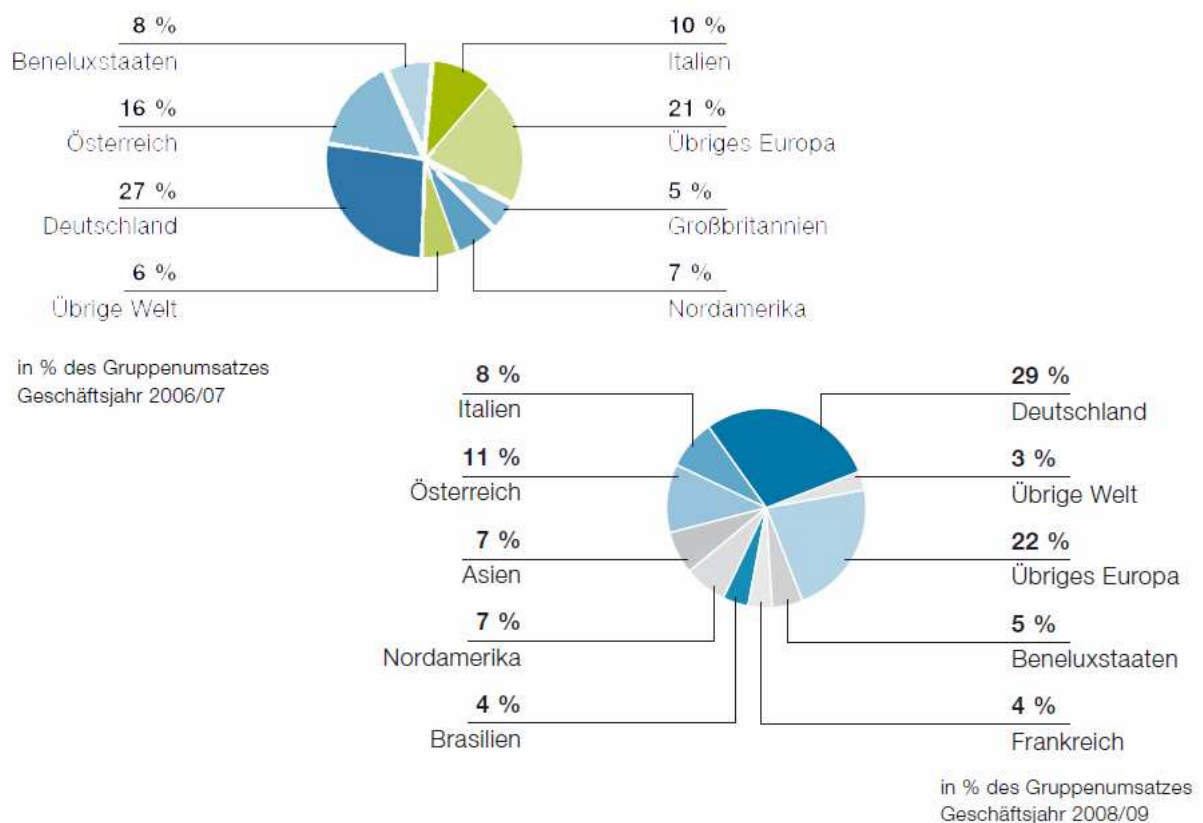


Illustration 11. Earnings by regions. Voestalpine, 2006/07 annual report, p 33 and 2008/09, p 22.

The acquisition of Böhler Uddeholm has lead to slight changes in supplied markets, as shown in Illustration 11. While Austria, Italy and the Benelux countries marginally forfeit some of their weight, Germany gains importance, thus residing in the position of the most important market.

The fact that suddenly Asia appears as an entire market is partly ascribable to the acquisition itself (Böhler Uddeholm, 2007/08 annual report, p 21) and partly to voestalpine's increasing commitment to participate on the Asian market. At any rate, in the year 2007/08 Böhler Uddeholm generated 12% of its total revenue in Asia (Ibid).

Since Europe is the most important market for the voestalpine group, three main competitors can be identified (Nachrichten.at, 2010).

#### **5.3.4.1      Salzgitter and Thyssenkrupp**

Both companies are based in Germany. In the year 2009, Salzgitter disclosed sales of close to € 7.81 billion, a production output of 4.9 million tons and an operating loss of € 387 million (Salzgitter-ag.de, 2010).

Thyssenkrupp also registered negative results, due to the world economic crisis, despite being a bigger player. With annual sales plunging by €12 billion compared to 2007/08, Thyssenkrupp still reported € 40.5 billion of which € 25.2 billion (62%) have been generated in Europe (Thyssenkrupp, 2010b). The operating loss equaled to € 1.87 billion (Thyssenkrupp, 2010).

#### **5.3.4.2      Arcelormittal**

Annual sales of the steel giant, based in Luxemburg, were down 48% at \$ 65 billion with a total output of 71 million tons. 47% of total shipments were made to Europe (Arcelormittal, Fact book 2009, p 4)..

This resulted in an operating loss of \$1.68 billion compared to the operating income of \$12.3 billion in the previous year 2008 (Ibid).

These figures coincide with the numbers presented under 3.5.2, suggesting that voestalpine was able to present the best Europe-wide results. This fact is also substantiated by Nachrichten.at (2010), underlining the strong market position of this Austrian company.

### **5.3.5 Innovation**

In dynamic industries, innovation should be an important component of a company's strategy, since it can substantially contribute to its success. As a consequence I would like to shed more light on voestalpine's commitment to innovation.

In the year 2008/09 the company shows slightly lower investments with respect to environmental technologies than in previous years. Nevertheless, expenditures on existing technologies reach a new all-time high amounting to € 225 million (voestalpine, 2008/09 annual report, p 38).

Constant investment is largely targeted to increase energy- and resource efficiency even further (voestalpine, 2008/09 annual report, p 37). New developments have for instance helped to decrease CO<sub>2</sub> emissions of the site in Linz by 500.000 tons per year (Ibid, p 38). So called Ultra-Super-Critical-Power-Plants (USC) which promise higher degrees of efficiency have accounted apart from other attainments to the EMAS environment award which has been granted in 2008 (Ibid, p 39).

Furthermore high expenditures in research and development have lead to innovative products (Ibid, p 43). The company did not only design unique, high resistant alloys and steels such as the Vancron 40, which won the EPMA Award 2007, but was also able to attain prestigious projects: the manufacture of the world's biggest steam turbine housing (Ibid, p 44).

### **5.3.6 Summary and interpretation**

Voestalpine is embedded into a quite dynamic environment: the steel industry.

As a producer and therefore primary link in the value chain, the company is prone to fluctuations in commodity prices.

Furthermore the fact that the company generates almost one third of its profits in Germany, where the crisis lead to massive retracements, is likely to put additional weight on voestalpine's performance.

The assumption, the crisis of the automobile industry might not strike the enterprise as hard since its automotive division solely contributes 7% to total sales, could not be validated. The contrary is however the case: all divisions adduce products to car manufacturing industries. Hence, the shortfall of this entire branch presumably induces further difficulties.

As a consequence, voestalpine must be highly responsive to changes in its environment, in order to be competitive in the future.

This shall be assured with 70 years of experience in the field of steel production but also through innovative products and efficient manufacturing processes.

Moreover voestalpine endeavors to generate value for shareholders by growth through acquisitions. Whether this strategy creates value in practice shall be analyzed in the subsequent section.

## **6.1 Method and assumptions**

The empirical analysis is conducted with the use of an event study. This method requires the definition of various terms, which will be applied during the course of the following section.

### **6.1.1 Defining an event**

An event is defined as a piece of information about the state of a company, which is new to the market and has not yet been priced (McWilliams and Siegel, 1997). Based on the assumption of capital market efficiency, old information may hence not be defined as such, since it has already been considered in the calculation of the present market price. Also, arbitrage shall not be possible. Thereby the stock price of a company is dependent on the provision of information and reacts accordingly.

In this context it is vital to state that anticipated information can hinder observations (Campbell, Lo and MacKinlay, 1997). It is a type of information, which is only known to a particular group of market participants and is sometimes also referred to as leakage. Anticipated information consequently leads to delayed market reactions, because the signal is not perceived by all market participants simultaneously. This is also the reason, why the time frame around which an event is often observed, has to be stretched accordingly in order to allow for such imperfect happening.

### **6.1.2 Setting the time frame**

There are two time frames upon which the observation is conducted. On the one hand, a time frame for the estimation of the market model needs to be set.

According to previous studies, this window shall be one year, thus accounting for seasonal variations.



The second time frame is linked to the event itself. Due to the existence of leakages resulting from anticipated information, it would be negligent to base the analysis on the assumption of efficient capital markets. A time frame is therefore wrapped around the event, capturing also delayed market reactions.

### **6.1.3 Choosing a benchmark**

The aim of an event study is to isolate an event and test for reaction on the value of the company by observing stock price responses.

This is the reason, why a benchmark has to be configured to account for returns the overall market makes. This benchmark has to be big enough to be unaffected by a certain event, since otherwise both benchmark and returns of the company would react, leading to zero abnormal returns. This phenomenon is called problem of endogeneity. The event would therefore falsely be held to not have a significant impact (Goerke, 2008).

### **6.1.4 The chronology**

The chronology of the acquisition of Böhler Uddeholm by voestalpine was as follows: On Friday, March 16<sup>th</sup> 2007, stock prices of Böhler Uddeholm rose unexpectedly by 26.57% (log return to price). The buyer of the equity package remained unknown, the Financial Market Authority (FMA) started however to trace the irregular market movements.

After the weekend, on March 19<sup>th</sup> the British fund CVC announced that talks with the Fries group, which held almost 21%, had been made. Moreover CVC declared the intention to submit a tender offer. From the theory previously introduced, the proposal can be considered as a friendly bid, since CVC asked for the board's consent beforehand.

On March 28<sup>th</sup> however, CEO Dkfm. Dr. Klaus Raidl of Böhler Uddeholm pronounced himself against the bid.

One day later, on March 29<sup>th</sup> 2007, Böhler Uddeholm and voestalpine held a joint press conference. In so doing, voestalpine stated to take over 21% of the Fries investor Group and at the same time made a bid for at least 50% of the stock held by minority shareholders at a price of €69 per share. After this announcement rumors increased, saying that a hostile counterbid appeared to be likely.

By April 11<sup>th</sup>, the acquisition of the pre-determined 21% was completed. Furthermore voestalpine CEO Dr. Eder notifies the public that an increase of equity is not necessary. It might not have been a good idea to raise equity on the market, as theory by Wurgler (see 2.9 The Pecking-Order theory) suggests. Furthermore I believe that voestalpine wanted to send positive signals to the market, when it announced the acquisition was possible with debt financing. This indicated that cash flows and future expectations were high and that the company was confident to repay obligations.

The initial bid was composed as follows: 40.313.660 stocks should be purchased at a price of €69, resulting in an obligation of €2.781 million. Thereby voestalpine gained 79% of the 51.000.000 stocks outstanding. Together with the 21% of the Fries group, voestalpine owned Böhler Uddeholm to 100%. In October 2007, voestalpine decided to issue debt in the form of a hybrid bond. The volume was € 1 billion. In June 2008 another bond with €500 million and a club deal of €1.5 billion was signed. Finally in November 2008 the last bond with €333 million was issued (voestalpine, 2008/09 annual report, p 29). Total debt obligations hence equaled €3.500 million.

On May 18<sup>th</sup>, the bid was raised to €73 per share. The deal was finalized on June 4<sup>th</sup>.

As a conclusion, the announcement day was on March 29<sup>th</sup>, when the deal was first announced. Information might however already have been anticipated before this date. To allow for possible leakages, the event window is set to +/- 10 days.

### 6.1.5 Further procedures

The data set for subsequent analysis comprised three basic figures.

- o Stock prices of the companies Böhler Uddeholm and voestalpine were provided by wienerboerse.at and have been adjusted for dividend payments and splits. For the underlying event study closing prices were used, as commonly accepted.
- o The ATX was defined as the market, because it is considered to be big enough to avoid previously mentioned endogeneity problems associated with benchmarks.
- o Information, which can be defined as an event were supplied by Sirca and Thomson Reuters.

Before abnormal returns can be calculated,  $\alpha$  and  $\beta$  have to be approximated, using the estimation window.

$$(1) \quad R_{it} = \alpha_I + \beta_I R_{mt}$$

$R_{it}$  is the log return of the stock on a specified date t

$R_{mt}$  is the log return of the market portfolio on a specified date t

$\alpha_I$  can be considered as the autonomous return

$\beta_I$  indicates to which extent the company moves with the underlying index.

Then, the values for alpha and beta are inserted into the formula (2), in order to receive the expected return.

$$(2) \quad E(R_{it}) = \alpha_I + \beta_I$$

Finally the expected return is subtracted from the actual log return, yielding the abnormal return for the given date.

## **6.2 Discussion. Results and interpretation**

### **6.2.1 Performance in the announcement window**

The alpha, which is an indication of how much better the company performs compared to the index, equals to 0.00417 for voestalpine and 0.00129 for Böhler Uddeholm (Appendix 1.1). Owing to the fact that calculations were based on pre-announcement data, this is a sign that voestalpine already had a good performance before the acquisition. Nevertheless, the sample size is relatively low (50 observations only) and shall hence not be overrated.

Furthermore the following observations were made: voestalpine's beta of 1.41 shows that the company's stock is more volatile than the market portfolio, whereas the beta of 0.77 for Böhler Uddeholm indicates less volatility.

Cumulative abnormal returns for the period, which included 10 trading days pre-, post- and the announcement date are displayed in Illustration 12.

The main appreciation in abnormal returns of Böhler Uddeholm took place on March 16<sup>th</sup>. At the same time abnormal returns of the late acquirer voestalpine dropped. Theory explains this reaction stating that an acquisition itself does not necessarily have to be beneficial to acquiring shareholders. Only when obstacles associated to acquisitions (see Section 3) are overcome, this type of shareholder is likely to profit.

The question remains however, why voestalpine's returns reacted at all. At this point in time, the circumstances were quite unknown and no one was officially handled as a buyer.

Thus, the market appeared to expect that voestalpine might be a potential buyer. As a matter of fact, Austrian politics is not very fond of international buyers, who lay their hands on domestic companies (see 3.4 The proper climate). Also the fact that voestalpine and Böhler Uddeholm had a joint history made it probable that voestalpine would help out and act as a white knight, in case another foreign company would signal interest.

| Date       | Abnormal V | Abnormal B | CAR voest | CAR Böhler |
|------------|------------|------------|-----------|------------|
| 15.03.2007 | -1,84%     | 4,75%      | -5,72%    | 8,30%      |
| 16.03.2007 | -4,79%     | 26,32%     | -10,51%   | 34,62%     |
| 19.03.2007 | 1,11%      | -15,99%    | -9,40%    | 18,63%     |
| 20.03.2007 | 3,86%      | -4,93%     | -5,53%    | 13,70%     |
| 21.03.2007 | 2,49%      | 1,94%      | -3,04%    | 15,64%     |
| 22.03.2007 | -2,10%     | -2,12%     | -5,14%    | 13,51%     |
| 23.03.2007 | -2,07%     | 1,97%      | -7,21%    | 15,48%     |
| 26.03.2007 | -1,98%     | -0,46%     | -9,19%    | 15,02%     |
| 27.03.2007 | -0,10%     | 2,79%      | -9,30%    | 17,81%     |
| 28.03.2007 | 2,08%      | 0,56%      | -7,21%    | 18,38%     |
| 29.03.2007 | -1,86%     | 0,01%      | -9,08%    | 18,39%     |
| 30.03.2007 | 2,32%      | -0,87%     | -6,76%    | 17,52%     |
| 02.04.2007 | -3,33%     | 0,94%      | -10,09%   | 18,46%     |
| 03.04.2007 | 0,23%      | -0,55%     | -9,86%    | 17,91%     |
| 04.04.2007 | -3,41%     | 1,14%      | -13,28%   | 19,05%     |
| 05.04.2007 | -0,45%     | 0,06%      | -13,73%   | 19,11%     |
| 10.04.2007 | 1,68%      | -0,27%     | -12,05%   | 18,84%     |
| 11.04.2007 | -3,03%     | -2,84%     | -15,08%   | 16,00%     |
| 12.04.2007 | 0,25%      | 1,20%      | -14,83%   | 17,20%     |
| 13.04.2007 | -0,93%     | -0,87%     | -15,76%   | 16,34%     |
| 16.04.2007 | -0,39%     | -0,60%     | -16,15%   | 15,74%     |

Table 1. Abnormal returns +/-10 days around the announcement date.

Nevertheless, the increase in abnormal returns might as well be a sign for a leakage, exploited of by insiders. The scenario might have been that managers of the voestalpine unofficially declared interest before the overall market learned about the changed market conditions.

The announcement of CVC to acquire Böhler Uddeholm on March 19<sup>th</sup> lead to a decline in the target company's stock price. This might be explainable with the fact that in such a setting, shareholders would not be paid a premium, but only the Fries group selling 21% of the company's stock would benefit from the deal. The market anticipated the changing environment and adapted returns accordingly.

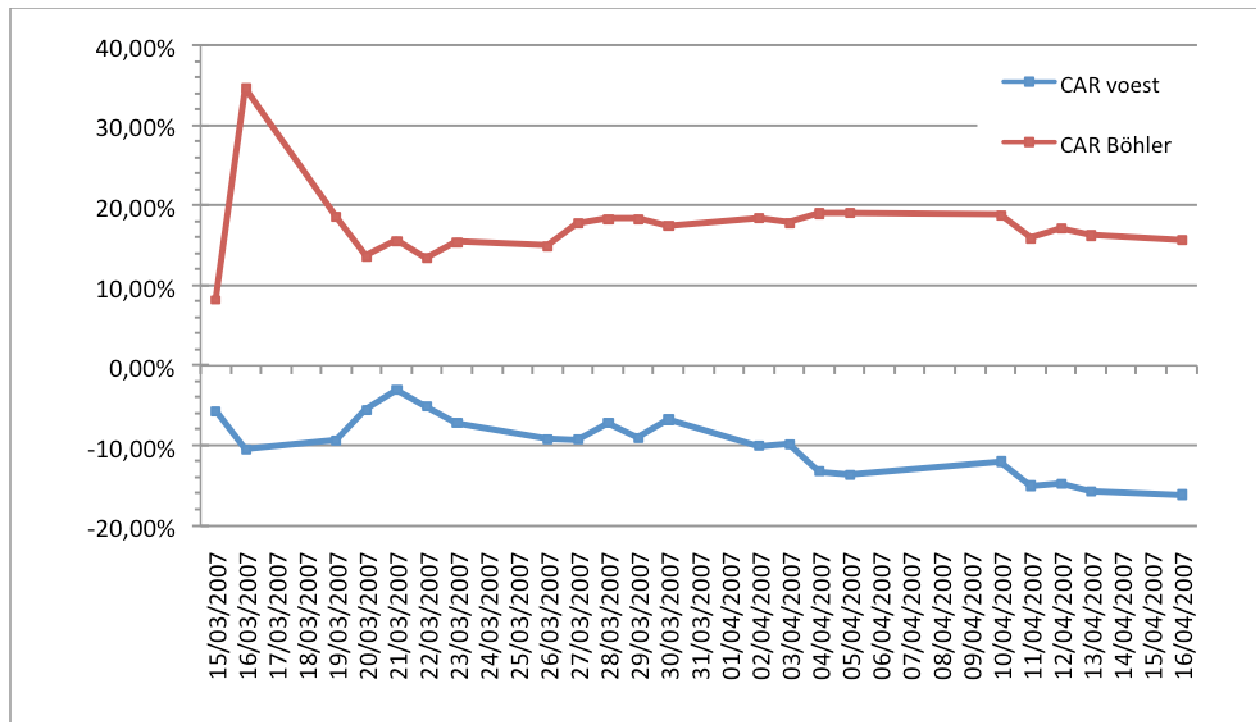


Illustration 12. Cumulative abnormal returns pre-, post- and on announcement date

Voestalpine's augmenting returns might be explainable with either one of the following scenarios. On the one hand, investors might have believed that an acquisition of Böhler by voestalpine now seemed less likely, since CVC came out as the buyer. Therefore the negative effects associated with acquiring companies were undone and stock prices rose.

On the other hand however, having in mind Austrian politics and its aversion against foreign buyers, investors could have believed that an acquisition was still likely, and that such a purchase would be beneficial for voestalpine, leading to the increase in price.

On the announcement date, the happenings already appear to have been greatly considered in current stock prices, since there were little movements. Largely, the stock price of Böhler Uddeholm had already appreciated on March 16<sup>th</sup>, thereby taking out potential volume. Also it appears very likely that information had been anticipated earlier in the process, leaking into the returns of the announcement date.

### 6.2.2 Target-firm shareholder wealth

The results are consistent with the theory introduced earlier, suggesting that target firm shareholders benefit from high premia being paid (see 3.6.1 Target-firm shareholder wealth). This evidently holds true for the underlying acquisition. As can be seen in illustration 13, the premium for stockholders who possessed shares for three months equaled 12.6% (see illustration 13). This premium already included the stock appreciation of March 16<sup>th</sup>.

Therefore it becomes apparent that target-firm shareholders are able to capture the gains of an acquisition over proportionally, as so often observed also in papers by Jensen and Ruback. Moreover illustration 14 demonstrates that abnormal long-term returns for the target were significant.

| <b>Nach Handelsvolumina gewichtete Durchschnittskurse</b> | <b>3 Monate</b> | <b>6 Monate</b> | <b>12 Monate</b> | <b>24 Monate</b> |
|-----------------------------------------------------------|-----------------|-----------------|------------------|------------------|
| EUR                                                       | 61,25           | 57,33           | 50,02            | 42,45            |
| Höhe der Prämie in Prozent                                | 12,6%           | 20,4%           | 37,9%            | 62,6 %           |

Quelle: Wiener Börse, Basis Tagesdurchschnittskurse

Illustration 13. Premia being paid, based on average stock prices in EUR. voestalpine takeover offer, 2007.

### 6.2.3 Acquiring-firm shareholder wealth

The question is whether the acquisition was in the interest of acquiring-firm shareholders as far as value creation is concerned.

When looking at the takeover offer, voestalpine justified the acquisition by stating that Böhler's strategy was easy to align with its own strategy of quality leadership (voestalpine takeover offer, 2007). Despite not being mentioned separately, it can be assumed that the main goal of the acquisition was a reduction of costs, also by eliminating double marginalization.

A closer look at the post-acquisition performance shall shed more light on whether voestalpine shareholders benefitted from the acquisition strategy pursued by the management.

The vertical integration of Böhler Uddeholm occurred before the financial crisis, which hit during the summer of 2007. When the acquisition took place, market conditions in the steel sector were favorable (see 4.2. 2007: the world steel production reaches the highest output ever measured) and also, Western Europe had the highest-value deals in the world (see 3.8). From this point of view, the acquirer was willing to take an additional debt burden. Nonetheless, the financial crisis soon gained momentum and hit other industries, amongst others, the steel industry. From September 2008 onwards, the markets faced decreasing demand and credit restraints. In spite of isolating the performance of the companies from the index, it is hard to say whether a failed acquisition, a general downward trend in the economy, or a combination of both led to decreasing returns.

| <b>Date</b> | <b>Abnormal V</b> | <b>Abnormal B</b> |
|-------------|-------------------|-------------------|
| 02.01.2007  | -3,40%            | -2,79%            |
| 01.06.2007  | 17,28%            | 20,06%            |
| 03.12.2007  | 12,86%            | 25,94%            |
| 02.01.2008  | 14,69%            | 21,78%            |
| 02.06.2008  | 24,32%            | 29,85%            |
| 01.12.2008  | -13,34%           |                   |
| 02.01.2009  | -7,07%            |                   |
| 02.06.2009  | 5,55%             |                   |
| 01.12.2009  | 3,51%             |                   |
| 04.01.2010  | 9,03%             |                   |
| 01.06.2010  | -0,50%            |                   |

Table 2. Abnormal returns in the long run, relative to the ATX



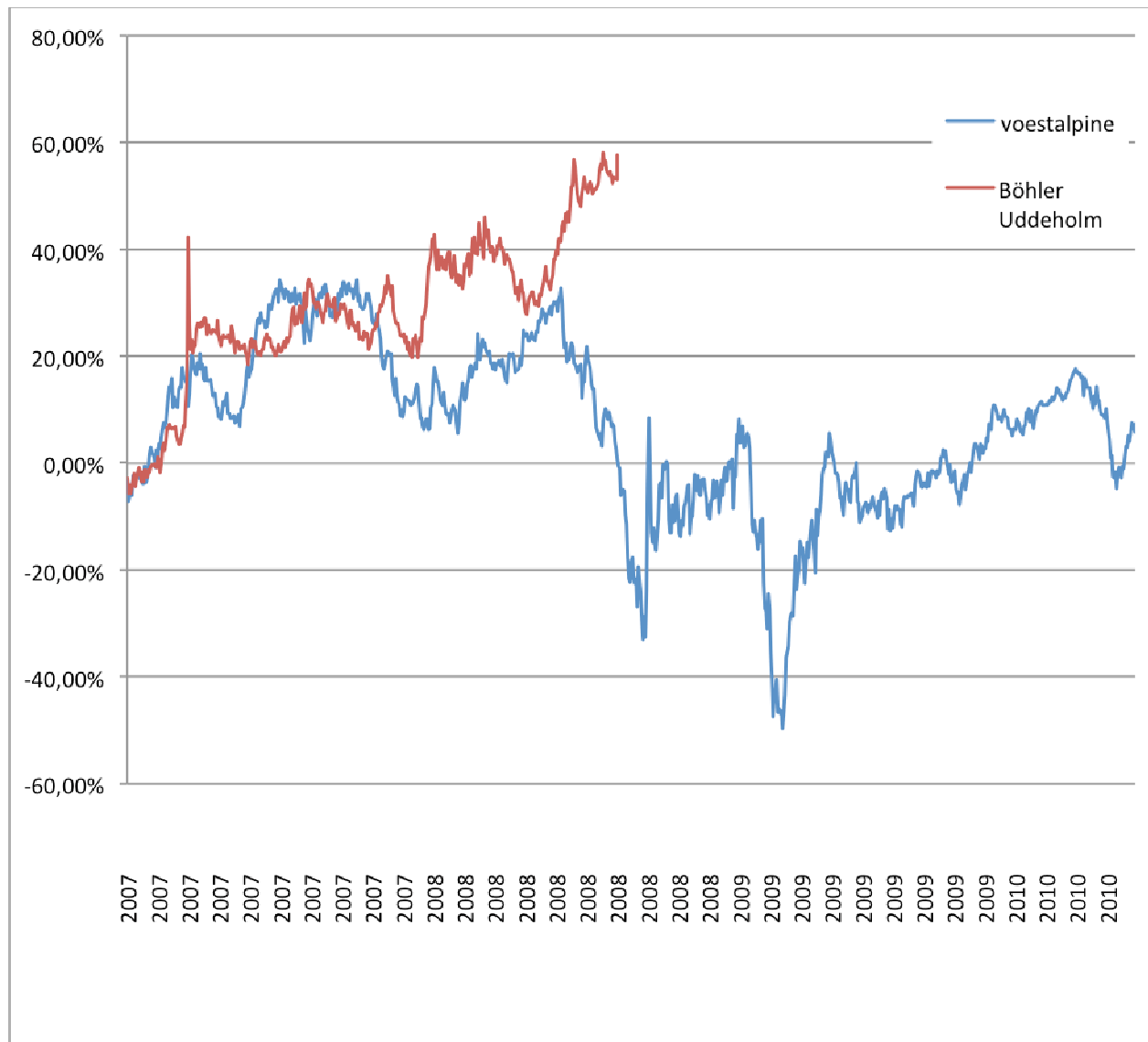


Illustration 14. Abnormal returns relative to the ATX, voestalpine and Böhler Uddeholm 2007-2010.

One main factor, which has to be criticized when looking at the findings, is the short window during which the alphas and betas for the market had been approximated. The time span was solely 49 trading days and might therefore not be optimal.

Moreover, a clear abstraction of confounding events has not been considered, mainly due to reasons of complexity.

#### **6.2.4 Summary**

To sum up, the findings are as expected and mainly consistent with theoretical frameworks.

Theory introduced in Chapter 2, namely the importance of capitals structure decisions, could also be found in the practical examination of voestalpine. The company was very well aware that these decisions can transport vital information to the market. By issuing debt, agents shall be kept from investing free cash flows in size- rather than value maximizing strategies.

Furthermore, it appears that market conditions in the course of the takeover were favorable. Global M&A activity was elevated, and the steel producing industry was seeing increasing returns and a high demand for its products. If management would still have issued equity in these premises, the market would soon have anticipated that stock is overvalued, selling shares and thereby reducing value.

Thus, both dynamic and also static principles of capital structure could be identified. I believe that in practice many factors play a vital role when deciding on the issuance of either equity or debt.

Monitoring and the importance of minority- and large shareholders was also a central aspect in the takeover process. On the one hand, it was crucial to make a fair offer to minority shareholders, who would consequently sell their shares and abstract from free riding.

On the other hand, large shareholders represented by the Fries group, were not only a part in monitoring management, but also lead to a fast acquisition process, since the voestalpine gained more than a foothold (almost 21%) at once.

Subsequently, theory introduced in Chapter 3 gave a hint of why two companies decide to merge. In the underlying acquisition, both strategic drivers, and also synergistic gains due to the reduction of double marginalization and consolidation of operating processes played a role.

To my mind, the acquisition took place at the end of a merger wave, since liquidity within the markets and the readiness to participate in M&A activity was high.

Once more it became obvious that target shareholders benefit to a larger extent than acquiring firm shareholders, still leaving the most important question unanswered. Why do firms even decide to take over another company, if synergies do not bring expected reductions in cost?

The performance on the announcement date indicated that leakages might have occurred, mainly because expected movements in value did not take place. The Austrian market is small and therefore moves of the various players are easier to anticipate and to predict. Still, findings are not consistent with literature, which is mainly based on the assumption of efficient capital markets and thus does not allow for leakages as such.

The post-acquisition success was hard to interpret, because the overall market did not perform well, therefore the performance might have been dragged down, not owing to the acquisition itself, but due to largely low demand.

Valuation and associated issues such as hubris and the winner's curse could not be identified in the underlying acquisition. This might be due to the fact that voestalpine was the only bidder, and also because Böhler Uddeholm did not resist the bid. Generally it can be said, that an overpayment of the target appears unlikely. This should result in a better performance.

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## APPENDIX

### ZUSAMMENFASSUNG

Diese Diplomarbeit behandelt nicht nur die Theorie, die sich mit Unternehmenskäufen und –zusammenschlüssen auseinandersetzt, sondern versucht eine Brücke in die Praxis zu schlagen.

Am Beispiel der Akquisition der Böhler Uddeholm durch den ebenfalls österreichischen Stahlkonzern voestalpine AG soll untersucht werden, ob und inwiefern die Transaktion als erfolgreich einzustufen ist.

Um diese Frage beantworten zu können, wurde eine Event Study durchgeführt. Sie zeigte wie sich der Wert während des *announcements* und auch in der *post-acquisition* entwickelt hat. Die Ergebnisse lassen leakages vermuten, da es zum Zeitpunkt des events zu vergleichbar geringen Auswirkungen auf den Kurs der jeweiligen Unternehmen kam. Außerdem hatte die weltweite Krise signifikante Auswirkungen auf die *post-acquisition* performance.

### ABSTRACT

The underlying thesis deals with the topic of mergers and acquisitions. The main idea was to examine whether the acquisition of Böhler Uddeholm by the voestalpine AG can be considered to be successful. The results show that leakages occurred during the course of the transaction. Furthermore the post-acquisition performance was greatly influenced by slow economic growth owing to the world economic crisis.

Key words: M&A, mergers and acquisitions, voestalpine, Böhler Uddeholm, event study, leakage, economic success, announcement, post-acquisition performance.

# Lebenslauf

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Unterrichtssprache. Abschluss mit Matura und  
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Economics, Biology, Language (Französisch,  
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**Bank Gutmann****Jan – Feb 2007**

Verantwortlich für die Versendung von Konto- und Depotinformationen an die  
jeweiligen Kunden.

**Brandverhütungsstelle (BVS), Linz****Sept 2004**

Einblicke in die Funktionen der Institution. Zuständig für die Montage von  
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**Brandverhütungsstelle (BVS), Linz****Sept 2003**

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Normen-Datenbank.

**Brand- Wasser- Sturmschadensanierung (BWS), Linz.****Juli 2002**

Montage, handwerkliche Tätigkeiten.

**Brand- Wasser- Sturmschadensanierung (BWS), Linz.****August 2001**

Handwerkliche Tätigkeiten, darunter Trockenlegungen und Reinigungsaufgaben.

## **Zusätzliche Qualifikationen**

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### **Tradingenerfahrung**

Durch das Managen meines eigenen Portfolios (Intraday bis long-term Positionen), kenne ich die praktische Bedeutung des Aktienhandels.

### **Sehr gute Computerkenntnisse (Office, SQL, HTML, JavaScript)**

Hauptsächlich durch privates Interesse. Zusätzliche Absolvierung zahlreicher Universitätskurse.

### **Sehr gute Grafiktoolkenntnisse (Photoshop, RawShooter, Lightroom)**

Fundierte Kenntnisse von Photoshop (CS 5).

## **Fremd sprachen**

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### **Deutsch**

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### **Englisch**

8 Jahre Gymnasium. 1 Jahr Universitätskurs. Fließend in Wort und Schrift

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6 Jahre Gymnasium. Fließend in Wort und Schrift.

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4 Jahre Gymnasium. ½ Jahr Universitätskurs. Gut

## **Freizeit**

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Ich interessiere mich sehr für Wertpapiere und das erfolgreiche Management eines Portfolios. Seit etwa 5 Jahren führe ich mein eigenes Portfolio mit Blue Chip Unternehmen sowie mit zahlreichen Hebelprodukten, Rohstoffen und Small Caps.

Ansonsten verwende ich meine Freizeit, um meiner Passion, dem Fotografieren, nachzukommen, Bücher zu lesen oder mich anderwärtig fortzubilden. Außerdem betreibe ich meine eigene Homepage ([www.petergrillmair.com](http://www.petergrillmair.com)) die stets ausgebaut wird und in Zukunft erweitert werden soll. Zur Zeit arbeite ich an diversen Fotoprojekten und schreibe an einem eigenen Buch.