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How Do Successful LBOs in Germany Create Value?

A Case Study on the Buyout of WMF by KKR

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- Yannick and Timon -

ABSTRACT OF THE RESEARCH PAPER

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This paper examines value creation by PE funds in LBOs at the example of the 2012 purchase of German company WMF by KKR. We illuminate how PE funds generate high returns by increasing the EV of portfolio companies. While previous research has shown that returns can be generated by efficiency improvements, mainly through alignment of interests between shareholders and managers, the literature is still not comprehensive on the exact mechanisms and channels. We apply the findings of the previous research to and test them against our case study of the LBO of WMF by KKR. This transaction has been deemed highly successful for both the company and the fund. This paper contributes by drawing together the strands of the literature at the concrete example of a successful buyout, in the context of the German PE market. Additionally, it provides insights into the tools used by funds to implement operational improvements and the way value is created, focusing specifically on the factors contributing to multiple expansion.

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BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BoD	Board of Directors
CapEx	Capital Expenditures
Capvis	Capvis Equity Partners AG
CEO	Chief Executive Officer
EBITDA	Earnings before Interest, Tax, Depreciation and Amortization
EV	Enterprise Value
FIBA	FIBA Beteiligungs- und Anlage GmbH
Finedining Capital	Finedining Capital GmbH
FCF	Free Cash Flow
GP	General Partner
HR	Human Resources
IPO	Initial Public Offering
IT	Information Technology
KPI	Key Performance Indicator
KKR	Kohlberg Kravis Roberts & Co. L.P.
LBO	Leveraged Buyout
LP	Limited Partner
LTI	Long-Term Incentive Program
M&A	Mergers & Acquisitions
MBO	Management Buyout
NPV	Net Present Value
PE	Private Equity
PC	Public Corporation
PP&E	Property, Plant and Equipment
R&D	Research and Development
ROCE	Return on Capital Employed
ROE	Return on Equity
U.K.	United Kingdom
U.S.	United States of America
WMF AG	Württembergische Metallwarenfabrik AG

II. Introduction

The private equity (PE) industry is far from being a financial novelty – the first leveraged buyout (LBO) occurred more than half a century ago (Rezaee, 2011).[1] Accordingly, research on private equity is established as a subject of analyses in finance and accounting departments worldwide. Nevertheless, there are still areas that are not fully understood and the constantly changing industry landscape forces researchers to continuously update and reevaluate previous findings.

According to the latest global private equity report by Bain & Company[2], the very raison d'être of the business model of PE funds is on the line, as the gap between the returns achieved by these funds and the public market continues to narrow (Bain & Company, 2017).[3] This situation is exacerbated by the combination of record-high amounts of uninvested capital, so called dry powder, which creates pressure to buy companies, and high prices for attractive assets, limiting the opportunities to create the historical returns on new investments (Bain & Company, 2017).[4] One way in which PE firms address this challenge is to invest in yet underpenetrated geographies that still offer suitable targets and decent returns. According to Bain & Company, many U.S. firms increasingly invest in Western Europe, due to past returns being above those achieved in the U.S., despite the challenging economic environment.[5] Germany in particular has drawn the attention of investors and is considered the most attractive market for private equity, resulting in 98% of the PE funds interviewed in PwC's survey (2017) wanting to invest in Germany within the next five years, especially because of its robust economy and strong middle-market, which offers a multitude of interesting targets.[6]

A second observable trend is that holding periods are becoming longer because PE funds need more time to implement improvements in their assets (Bain & Company, 2017).[7] However, this also implies that funds need to create more value in their portfolio companies in order to maintain the same returns despite a longer holding period. Doing so necessitates larger operational improvements, which are already considered the most important factor influencing the investment rationale for PE funds (PwC Trend Report, 2017).[8] Many PE firms have therefore developed so called "playbooks" with measures, tools and a roadmap to achieve and

[1] Rezaee (2011), p. 159
[2] Bain & Company: "Global Private Equity Report 2017"
[3] Bain & Company (2017), p. 22
[4] Bain & Company (2017), p. 18
[5] Bain & Company (2017), p. 31f
[6] PwC Trend Report (2017), p. 67
[7] Bain & Company (2017), p. 4
[8] PwC Trend Report (2017), p. 44

replicate operational improvements and thus value creation (Bain & Company, 2017).[9] Despite this, Bain & Company (2017) reports that many funds were not able to meet expectations in this domain, especially on margin improvements, which are considered to be the main source of value creation by funds. Margin improvements, however, are difficult to implement without compromising other value drivers, such as growth and long-term competitiveness. In the past, satisfying returns were nevertheless achieved as the market was characterized by increasing multiples, obviating the need for higher margins in the creation of returns.[10] However, this trend is not expected to continue indefinitely. Funds thus need to find successful strategies to implement operational improvements within their portfolio companies to create value for their investors. This paper aims at analyzing the different measures and tools that can be used to foster a single value driver, such as efficiency improvements, without negatively affecting others, like future sales growth, and thus the paper will also look at the interrelation of these drivers.

Asking the question "How do successful LBOs in Germany create value?", the analysis has four major goals. Firstly, this paper intends to shed light on the German private equity market, which is constantly growing in importance for the industry, yet has received little attention by researchers. Secondly, it shall help understand which tools PE funds have and use to create value, and thus potentially identify replicable strategies which can help to cope with today's challenges in value creation. An additional objective is to investigate how these different measures affect the distinct value drivers as well as how these factors interrelate and translate into a higher enterprise value (EV). Thirdly, this paper aims at gaining insights into areas of value creation which have not yet been fully understood by academics such as multiple expansion. Multiple expansion has been researched before but there is no clear analysis framework in the academic literature which would help determine the sources and factors contributing to multiple expansion. Fourthly and finally, in connection to this, it shall be examined whether the findings of the research during early 2000s and before are still applicable in the new environment that PE funds are facing in the aftermath of the financial crisis.

In order to address these objectives, the first part of the paper will consist of a comprehensive overview of the current status of the literature and research on value creation in LBOs. This part starts with a short introduction into the PE industry, its development and an explanation of the attractiveness of the business model. In that context, a closer look is given to the German

[9] Bain & Company (2017), p. 55
[10] Bain & Company (2017), p. 44f

private equity market and its specifics. The subsequent chapter will review the literature and findings on value creation. Firstly, value creation on the level of the portfolio company is analyzed in order to capture the current knowledge on how PE funds are able to increase the EV of these companies. This begins with a section on how PE funds affect the corporate governance and strategy, which is central to understanding their ability to perform superiorly to their public counterparts. Subsequently, the known value drivers, i.e. sales, operating efficiency and capital efficiency, are reviewed separately, providing insight into the toolkit available to PE funds to create value. The second part of this chapter is dedicated to value creation on a fund level, introducing measures PE funds implement to increase the return on their investments, which do not necessarily impact the value of the portfolio company as such. This part is complemented with a short review of historical returns achieved by the PE industry. To conclude the chapter, an analysis of the relation of the different value drivers is undertaken and their relative importance is evaluated by reviewing the latest empirical findings.

The second part of the paper consists of a case study on the buyout of WMF by KKR. Three main reasons led to choosing a case study as a tool to approach the topic. First of all, it allows for a detailed analysis of a buyout, thereby helping to better identify causalities and actual measures implemented to achieve the observed value creation. This enables the reader to identify the tools which are most likely replicable and applicable in future LBOs to cope with the aforementioned challenges. Secondly, a case study offers a comprehensive view of a buyout as all aspects of the LBO can be analyzed, instead of focusing on one specific aspect of value creation in a multitude of transactions. This, in turn, facilitates the interpretation of interrelations of the different aspects of these transactions and the connections of the value drivers. Thirdly, this approach can reveal new drivers and areas of interest that have not been considered so far, potentially identifying new fields for future research.

After explaining the methodology, the choice of the case study and the used data, the paper will proceed with an introduction to the company WMF and the primary and secondary buyout by Capvis and KKR respectively. Afterwards, the structure of the literature review is mirrored by starting with an analysis of the value creation on company level, along the drivers sales, margin, and valuation multiple, while evaluating the measures which led to the respective changes during the holding period. Eventually, the value creation on a fund level is analyzed briefly by determining the IRR and money multiple of the transaction and the factors contributing to the result.

There is a vast amount of research on the topic of value creation in LBOs. Academics support the existence of substantial efficiency improvements that PE funds are able to achieve within portfolio companies. Overall, research points towards the better alignment of interests between managers and owners of companies under LBOs being a main cause for firms to perform better. While the exact changes implemented during the holding period are not to be generalized, greater productivity through more effective use of capital and cuts in wasteful spending are often mentioned in empirical studies as the underlying factors. These improvements lead to increases in the EV of portfolio companies and consequentially yield high returns for the PE funds, as evidenced by a multitude of studies. Nevertheless, it also becomes apparent that research has a better grasp on some areas than on others. While the studies on value creation on a fund level and on returns of PE investments seem to be exhaustive, value creation on a company level is not yet fully transparent. Although margins have been investigated extensively, other areas such as sales growth have yet to be understood in detail and there also remains considerable potential for findings within margin improvements, given the relatively early time frames analyzed by most studies. Finally, the contribution of the distinct value drivers to overall value creation is analyzed by recent studies, but there exists little current research on how these improvements are achieved.

The case study on the buyout of WMF by KKR offers some insights into this topic by revealing a multitude of measures resulting in sales growth, margin increase and multiple expansion, and thus in a higher enterprise value. Accordingly, this paper finds that the buyout was a success on both a company and fund level, as value was indeed created and high returns on the initial investment were achieved. The case study further reveals that leverage was important for these returns, but operational improvements still contributed the largest part of value creation. By analyzing the buyout, the case study confirms past findings of empirical research while contradicting others. Interestingly, the majority of operational improvement is caused by an expansion of multiples which KKR likely achieved by increasing WMF's attractiveness for strategic buyers. Therefore, the paper will shed some light on the still insufficiently understood factor of multiple expansion. The analysis provides two financial indicators which could have an effect on the exit multiple, while also discussing additional factors which are not apparent in the financial statements but manifest in a higher valuation of the company.

All in all, the paper reveals areas of future research and questions which could be addressed, while at the same time providing insights into these topics and first solutions for the uncovered

issues. Additionally, the diversity and nature of tools for value creation indicate that the PE industry will be able to achieve attractive returns despite a challenging environment.

III. Overview of PE Industry

III.1 Definitions

Private equity can be defined as investments into private companies that are not traded on public exchanges and instead held privately by PE firms (Kaserer et al., 2007).[11] A further distinction can be made between typically minority investments into early-stage companies and majority positions in established firms. The former is called venture or growth capital while the latter comprises the classical meaning of private equity (Kaserer et al., 2007)[12], which will be the focus of this research paper.

The firms taking these majority equity stakes are incorporated as partnerships or limited liability companies with few layers of management and a lean, decentralized corporate structure. A relatively small number of investment professionals, from now on called general partners (GP), oversee the company and identify the targets to invest in. Limited partners (LP) provide most of the capital through specialized investment vehicles, called PE funds, while the GPs decide on the investments as well as manage them and only contribute a small amount of equity to the funds. Typically, the LPs comprise mostly institutional investors like insurances, pension funds, endowments, or wealthy individuals committing a certain amount of capital up-front which is callable at any time by the GPs if an investment opportunity arises (Kaplan and Strömberg, 2008).[13] The funds have a limited life time, over which the capital cannot be withdrawn by the LPs. After this fixed time period has ended and the investments have been resold, the PE fund's capital is distributed to its investors. The GPs receive a flat management fee (based on the committed capital) over the life of the fund while taking a share in the profits of the investments executed. This profit-sharing mechanism is called "carried interest" and is supposed to make up most of the compensation for GPs. It only applies if the investments yield a certain return on the invested capital ("hurdle rate)", thus incentivizing the managers to identify attractive target companies and to execute these deals as successfully as possible (Kaplan and Strömberg, 2008).[14]

These transactions are typically not structured as simple equity investments. Instead, PE funds mostly use leveraged buyouts to purchase the target companies. Rosenbaum and Pearl (2009)

[11] Kaserer, Achleitner, von Einem, and Schiereck (2007), p.14
[12] Kaserer, Achleitner, von Einem, and Schiereck (2007), p.15
[13] Kaplan and Strömberg (2008), p. 3
[14] Kaplan and Strömberg (2008), p. 4

define LBOs as "the acquisition of a company, division, business, or collection of assets ("target") using debt to finance a large portion of the purchase price" while the remaining portion is provided in form of equity by the PE fund.[15] This acquisition form has several advantages which will be explained in later sections in more detail. After having acquired the company, the GPs enact strategic and organizational initiatives aimed at improving the operational efficiency of the company while paying back as much debt as possible over the holding period. After around three to five years, the PE fund typically initiates a sales process to exit its investment, preferably at a high return on its initial equity contribution.

III.2 Development of PE Industry

PE firms and LBOs have been known since the 1970s in the United States. They were developed during times of weak stock markets and few mergers and acquisitions (M&A) or initial public offerings (IPO) as alternative investment opportunities for investors. Venture capitalists began to concentrate on established companies which they perceived to be undervalued or mismanaged (Kaiser and Westarp, 2010).[16] The focus was on poorly diversified conglomerates that these investors could acquire via leveraged buyouts. Over the holding period, they sold off assets and divisions to sharpen the corporate focus, improved the management of the remaining businesses and generally increased the valuation of the company to sell them with high returns at a later point of time. The success of these initial investments led to the emergence of the PE industry with the establishment of several renowned PE firms that still exist today, e.g. the foundation of KKR in 1976 or Cinven in 1977.

The 1980s saw the PE industry growing tremendously as more investors, such as pension funds, provided capital to PE funds as well as more geographies, like the United Kingdom and Continental Europe, began to experience growth in PE investments. The number of funds committed from 1980 to 1982 almost tripled compared to all investments in the 1970s. Several factors contributed to the boom of the PE industry. Firstly, pension funds were no longer prevented from investing into PE funds by regulation. Secondly, capital gains taxes were reduced drastically increasing the attractiveness of investments in PE funds. Finally, the high-yield "junk bond" market was developed in the 1980s in the United States (U.S.), further increasing the available risky debt capital necessary for LBOs (Kaiser and Westarp, 2010).[17]

[15] Rosenbaum and Pearl (2009), p. 161
[16] Kaiser and Westarp (2010), p. 7
[17] Kaiser and Westarp (2010), p. 8

The PE industry saw its first retraction during the 1990s due to the recession in the economy and the subsequent decrease in funds provided by institutional investors and the junk bond market. Additionally, PE firms increasingly got under public criticism for their aggressive management of acquired companies, the extensive amounts of leverage that crumbled certain companies and drove them into bankruptcy as well as the overall riskiness of their investments. These PE failures were particularly scrutinized in the press. Accordingly, the early 1990s were relatively calm for PE firms with little activity. Due to extensive investments into internet-based business, a revitalized economy, and consequently more available funds, the PE industry resumed its growth in the late 1990s.

The bursting of the dot.com bubble in 2001 and the associated crash of stock markets provoked the first downward reassessment of the PE industry in the 2000s, in which capital provided by institutional investors was scarce. The industry, though, relatively quickly recovered when it received support from low interest rates and the introduction of structured finance products, such as collateralized loan obligations. The subsequent inflow of new capital over the 2000s and a strong world economy allowed the PE industry to thrive again, not just in the traditional PE markets, the U.S. and United Kingdom (U.K.), but rather on a global scale in Continental Europe and Asia where investments grew heavily. Additionally, the mid-2000s saw PE firms itself become institutional-sized firms, e.g. the Carlyle Group and Blackstone. The financial crisis in 2008 and subsequent slowdown of the world economy impacted the PE industry in similar fashion as the dot.com bubble. The industry saw its investments initially being reduced drastically in 2008 and 2009, before again growing since 2010 due to the low-interest rate environments around the globe which has been created by central banks and still exists today (Kaiser and Westarp, 2010).[18]

From its history, one can clearly see that the PE industry is cyclical and heavily dependent on external factors, such as the availability of funds, interest rates or the world economy but has expanded massively over time. Figure 1 displays historical data on global fundraising by private

[18] Kaiser and Westarp (2010), pp. 8-10

equity in the past 20 years.

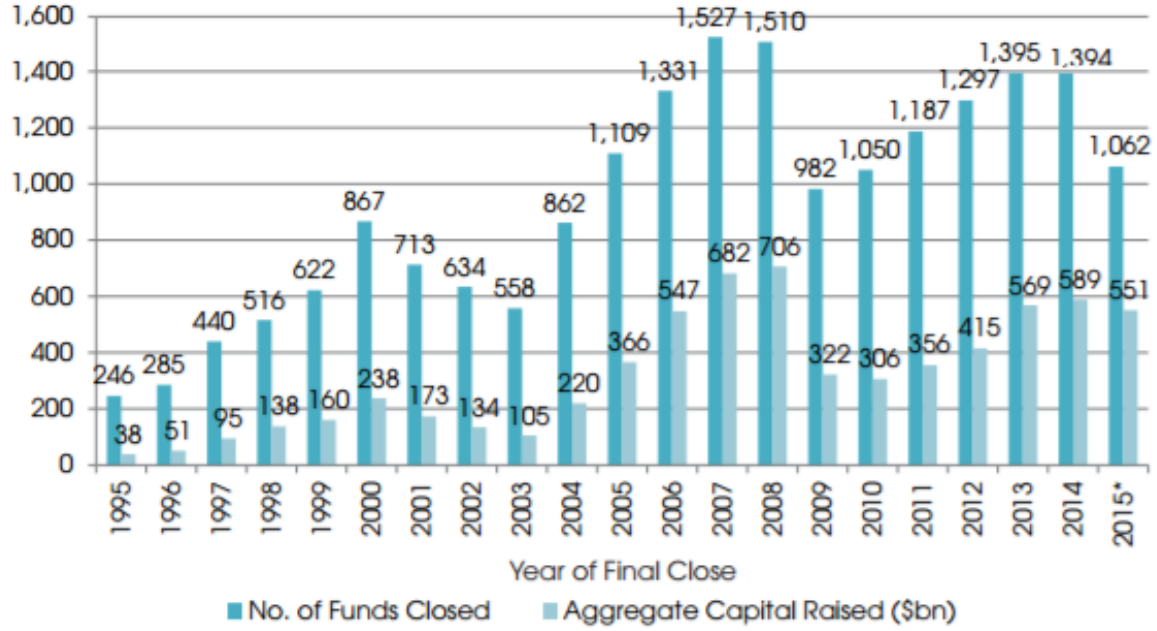

Figure 1 Annual Global Private Capital Fundraising, 1995 to 2015[19]

III.3 PE Industry in Germany

Compared to the U.K. and the U.S., Europe and especially Germany were slow in the development of PE markets in the 80s and 90s. During the early 2000s, though, the PE activity in Germany picked up and the German market overtook the French one as the biggest in Continental Europe. Up to the financial crisis, investments were focused on splitting up unsuccessful conglomerates, similar to the classical buyout targets of PE funds in the U.K. and the U.S. in the 70s and 80s (Sudarsanam, 2003).[20]

While PE firms endured a mixed public image for the better part of two decades, the German PE market was characterized by exceptionally heavy outrage from the press, population and politicians during the mid-2000s. In 2005, then leader of the main social-democratic party SPD in Germany Franz Müntefering coined the term "Heuschrecken" (=locusts) for PE investors and criticized them heavily for their practices and behavior, with KKR being specifically named in interviews (Stern, 2005).[21] "Some financial investors do not spare a thought on the people, whose workplaces they destroy – they remain anonymous, have no face, attack companies like locusts, graze them and move on. We are fighting against this type of capitalism."[22] This quote

[19] Preqin (2016a), p. 19
[20] Sudarsanam (2003), p. 290
[21] Stern (2005): "Die Namen der 'Heuschrecken'"
[22] Translated from interview in German with Franz Müntefering in *Bild am Sonntag, 17.04.2005*

by Müntefering is exemplary for the public opinion on PE funds in Germany during that time and several newspapers picked up on the theme. Various journals blamed PE funds for corporate failures as some of their deals went south because of the immense debt payments (Stern, 2008)[23]. Others heavily condemned financial sponsors for being too greedy and the newspapers presumed that the PE funds exploited their acquired companies for short-term gains at the expense of the long-term healthiness and viability of the business (Welt, 2008).[24] Accordingly, this public sentiment towards the private equity industry led to actions by politicians, such as the implementation of the "Risikooberbegrenzungsgesetz" (=law to cap the risk) requiring more transparency during transactions from financial investors in 2008.

Nonetheless, after the depths of the financial crisis were over, both the image of PE funds in Germany as well as their investments improved gradually between 2012 and today (Spiegel, 2012).[25] The financial investors provided capital via buyouts to companies and more examples of successful transactions being beneficial for all involved parties, i.e. for the company, employees, and investors, were publicized by the press (Süddeutsche, 2013).[26] The year 2015 marked the highest amount of funds invested in German companies by PE funds since pre-crisis years, although still below the record year of 2007 (FAZ, 2016).[27] This upward trend continued in 2016, with strong fundraising figures (Preqin, 2016c).[28]

Figure 2 shows the development of the German PE market over the past 15 years illustrating that it mimics the one of the global market with an overall increase, a peak in 2007, followed by the crash and subsequent recovery.

[23] Article by Peters (2008): "Kaufen, plündern, wegwerfen", *Stern*
[24] Article by Dierig, Frühbrodt, and Jost (2008): "Heuschrecken plündern bei Boss die Firmenkasse", *Welt*
[25] Spiegel (2012): "Private Equity – Finanzinvestoren kaufen Dutzende deutsche Firmen"
[26] Article by Büschemann (2013): "Heuschrecken sind herzlich willkommen", *Süddeutsche*
[27] Article by Smolka (2016): "Finanzinvestoren kaufen Deutschland auf", *FAZ*
[28] Preqin (2016c), p. 7

Figure 2 Annual Germany-Focused Private Equity Fundraising 2003 to H1 2016[29]

III.4 Attractiveness of PE Firms' Business Model

In his paper from 1989, Michael Jensen foresaw the eclipse of the public corporation (PC) to make room for a new organizational form: the privately held company. He assessed that the increase in PE activity in the 70s and 80s in the U.S. was caused by the mismanagement of senior executives of PCs and the subsequent value destruction at the expense of shareholders. This corporate structure, according to him, had "outlived its usefulness" (Jensen, 1989)[30] due to the classical principal-agent conflict arising from the separation of ownership and management of the company. Managers (i.e. agents) were no longer acting in the best interest of shareholders (i.e. principals), but instead engaged in practices benefitting themselves. This included, for example, empire building, i.e. growing the business beyond its optimal size, leniency with processes within the business, and squandering of resources that could either be used for investments or distributed to shareholders. Many researchers conclude that these issues are caused by the informational asymmetries between managers and owners. If owners of PCs had perfect information on the behavior and actions of managers, such conflicts would not persist. As the checks and balances executed directly or indirectly by the board of directors, the capital and product markets as well as the shareholders themselves were not sufficient and informative enough during this time, though, the incentives of managers and owners were not

[29] Preqin (2016b), p. 3
[30] Jensen (1989), p. 1

aligned (Jensen, 1989).[31]

PE funds, through leveraged takeovers and going private transactions, replace the PCs with a new organizational form of private companies in which many principal-agent conflicts are reduced or even resolved. Firstly, the governance of the company is improved. By concentrating the ownership in the hands of one or a few shareholders that have the incentive to supervise the managers more closely, executives are immediately better monitored and informational asymmetries lessened. Moreover, the board of directors is generally more active in controlling the management with PE investors on it. Secondly, PE funds use considerable amounts of debt as a key item to reduce the available cash for managers in each period through regular interest payments. Consequentially the mangers' opportunities to waste the company's funds for negative NPV investments or private pleasure are limited and they must make more efficient capital decisions to ensure the survival of the corporation and their jobs. The interest payments, in a sense, act as regular dividends that the company must pay out. Finally, proper incentivization of the management through a considerable share in equity, stock-options or carried interest align the goals of the managers and the main shareholder, i.e. the PE fund, more closely than in a PC (Jensen, 1989).[32] Overall, these mechanisms generally lead to a more efficient usage of resources by PE-owned companies than by public ones, better management decisions and ultimately greater free cash flows. Effects on the business include above-industry level growth rates of sales, enhanced margins in addition to better cash generation through leaner net working capital management and consolidation of capital expenditures which will all be explained in detail and supported with empirical results in section 0 of this paper. Thus, the portfolio company tends to increase in value enabling the PE firm to earn a high yield on its investment when the asset is sold again. While the PC has not been eclipsed and Jensen's speculation thus has not proved to be fully correct, private equity has indeed expanded dramatically over the past decades and there is no end in sight for its ascension (Jensen, 2007).[33] Nonetheless, PE firms face challenges themselves that are characteristic for large corporations. Issues include going public, as Blackstone and Fortress did, and thus moving closer to the organizational form that PE firms have aimed to replace in the past, or the again deteriorating public image of PE firms caused by the publication of massive paychecks received by PE firm managers (Jensen, 2007).[34]

[31] Jensen (1989), p. 6
[32] Jensen (1989), pp. 9-11
[33] Jensen (2007), p. 3f
[34] Jensen (2007), pp. 24-31

Besides the solution to principal-agent issues, other researchers have proposed additional rationales for the emergence of PE firms or highlighted other aspects of the PE firm business model, such as informational asymmetries or parenting services:

Informational asymmetries between the pre-buyout shareholders and managers can be used by the management to gain on a sale of the business to a PE firm. If the managers perceive the company to be currently undervalued, they can engage in a management buyout (MBO) in which the current management, possibly with the help of a financial sponsor (a PE firm), buys-out the shareholders and implements its envisioned changes and actions to earn a high return on the eventual sale or re-IPO of the business. The PE firm, in that regard, provides the necessary capital to the managers as well as helps in improving the business and is rewarded with high returns on their investments (DeAngelo et al., 1984).[35] However, it is probable that any such informational asymmetries between the management and the current shareholders have diminished over time, compared to the boom years of PE markets in the 70s and 80s in the U.S. and the U.K., as shareholders have become more professionalized and transparent sales processes such as auctions are increasingly used (Hannus, 2015).[36] Therefore, while informational asymmetries were boosting PE activity in earlier years, nowadays they are unlikely to be a major factor in explaining the attractiveness of the industry.

Besides exploiting insider knowledge of managers, the increase in PE activity could be based in PE firms performing "parenting services". These occur when the corporate PE parent achieves greater returns by combining unrelated businesses than holding them separately, i.e. the benefits of parenting outweigh the costs of greater complexity of conglomerates (Campbell et al., 1995[37] and Goold et al., 1998[38]). Parenting services include "vertical synergies" between businesses, i.e. transferable skills and resources associated with the PE parent, such as strategic guidance for the portfolio companies (Bowman & Helfat, 2001)[39], mentoring of the managers and executing strategic planning and control (Chandler, 1991)[40], or the implementation of central resources accessible by all owned companies (Magowan, 1989).[41] In addition, the PE firm could also aim to achieve classical lateral synergies between the business but this seems to be less frequently pursued by PE firms than vertical synergies, probably due to the

[35] DeAngelo, DeAngelo, and Rice (1984), p. 367f
[36] Hannus (2015), p. 22f
[37] Campbell, Goold, and Alexander (1995), p. 80
[38] Goold, Campbell, & Alexander (1998), pp. 308-310
[39] Bowman and Helfat (2001), p. 3f
[40] Chandler (1991), p. 40f
[41] Magowan (1989), p. 15f

distinctiveness of the portfolio companies and subsequent lack of obvious overlaps (Goold et al., 1998).[42] Each of the proposed rationales has merit in itself and research as well as the success of leveraged buyouts suggest that PE firms take advantage in some form of the informational asymmetries and perform parenting services that are greater than the holding costs of unrelated portfolio companies (Hannus, 2015).[43] The focus in this paper, however, will be placed on the classical principal-agent reasoning of Jensen for the attractiveness of PE firms' business and investment model as it is the more frequently cited explanation.

[42] Goold, Campbell, and Alexander (1998), p. 310f
[43] Hannus (2015), p. 23f

IV. Value Creation in Private Equity

IV.1 Comparison of Value Creation on a Company Level and Fund Level

A differentiation needs to be made concerning the "level of value creation" which will be used throughout this paper. On a company level, the PE firm can create a more valuable entity, i.e. increase the enterprise value through better governance structures (section IV.2) and consequently a more efficiently-run company with improved metrics (section IV.3). In addition, the PE firm can also create value, on a fund level, for the shareholders of the firm's specific investment funds, i.e. the LPs, which can be measured through the achieved internal rate of return (IRR) on invested capital. Measures aimed at improving the IRR for investors include negotiation techniques in sales processes, timing abilities as well as multiple expansion and/or arbitrage and will be discussed in section IV.4. The focus of this research paper will be placed on the direct value creation on a company level.

IV.2 Corporate Governance and Strategy

As mentioned above, PE-owned companies experience reduced agency conflicts between owners and managers of the company and consequentially tend to perform with higher efficiency than PCs. In this section, the specificities of how PE firms achieve these improvements will be detailed. The basis according to Michael Jensen is the enhanced governance and realignment of incentives between agents and principals. Besides the debt and interest payments, PE-firms also enact changes regarding governance structures, incentivization of management and corporate strategy.

The large amount of leverage that PE firms generally take on when acquiring companies tends to act as an immediate reduction in free cash flows available to management. This is an automatic first step towards realigned incentives as managers are required to act with more urgency and accurateness in handling business decisions. Additionally, they have fewer opportunities for corporate waste. Jensen (1989) builds his case for the superiority of the PE ownership model on the mitigation of agency problems with debt playing a central role to achieve this[44] and a multitude of researchers have evidenced the positive impact of debt on operational performance. For example, Grossman and Hart (1982) reason that the high levels of debt make the managers aware of the personal costs of bankruptcy as their jobs are endangered if they are careless. Therefore, it motivates them to reduce or eliminate private

[44] Jensen (1989), p. 11

perks and to give their best effort at work.[45] In this regard, leverage has been compared to a "stick" for managers disciplining them in their actions (Peck, 2004).[46] In combination with increased equity ownership, they are encouraged even more to perform exceptionally as their risk is not diversified, that is both their wealth is invested in the company and their employment depends on the firm doing well. However, there are also drawbacks associated with large amounts of debt. By tying up substantial amounts of cash flows to regular interest payments, the risk of bankruptcy is increased as external shocks, such as drastic market changes, demand decreases or lost political support can be devastating for the company (Palepu, 1990[47] and Gifford, 2001[48]). Moreover, risk-averse managers fearing for their own equity investment and jobs might abstain from risky but highly positive NPV projects (Holthausen and Larcker, 1996)[49] while restrictive debt covenants can potentially limit the flexibility of management leading to underinvestment (Stulz, 1990)[50]. Overall, debt certainly allows PE firms to both discipline managers and encourage them to work in the best interest of shareholders, nonetheless PE firms need to strike the right balance between the advantages and disadvantages of debt when acquiring a company. Connected to this, studies have shown that bankruptcy risk increases with leverage, but firstly not linearly and secondly not to a greater extent for PE-owned companies than for PCs. Hotchkiss et al. (2014) do not find evidence for an increase in probability of bankruptcy when one controls for leverage, meaning that PE-owned companies do not take greater risks than similar non-PE owned companies. Even as bankruptcy increases in likelihood, it does not in a linear way with leverage as the institutions providing debt funding generally have no interest in an insolvent company. Instead, a flexible bilateral negotiation process usually replaces a rigid bankruptcy proceeding which efficiently handles the financial distress of the company.[51] These aspects of levered portfolio companies evidence that generally the advantages of debt outweigh its costs.

While shareholders of PCs have the ultimate decision as well as control function of management's actions, they generally transfer large parts of the monitoring and supervision responsibilities to the board of directors (BoD). In theory, the BoD should recognize any mismanagement or wasteful behavior and prevent the executives from engaging in it. In reality,

[45] Grossman and Hart (1982), p. 130f
[46] Peck (2004), p. 2
[47] Palepu (1990), p. 260f
[48] Gifford (2001), p. 18
[49] Holthausen and Larcker (1996), p. 295f
[50] Stulz (1990), p. 19
[51] Hotchkiss, Smith, and Strömberg (2014), p. 29f

however, BoDs often use a lenient approach when overseeing the management by rarely interfering in the day-to-day firm decisions while only properly investigating central issues like mergers, acquisitions or strategic redirections. In addition, individual owners in a widely-held PC with a diverse and dispersed shareholder base have little incentive to spend time and effort on further controlling the management.

PE ownership facilitates some of these issues by changing the governance processes and ownership structure. To begin with, the concentrated shareholder structure with a single equity holder (or a small number of owners) in PE-owned companies makes supervision more likely and worthwhile to them (Nikoskelainen and Wright, 2007).[52] Furthermore, BoDs in PE-owned companies are more effective in controlling the management and faster to intervene if need be. Peck (2004) shows that BoDs become smaller and more likely to discipline executives by cutting their compensation or altogether firing them. In addition, the number of outside directors, i.e. external supervisors not employed by the company itself in the past, increases with PE-ownership. This, in turn, makes it easier for them to spot flaws and mistakes in the corporate strategy as outside directors are less prone 'to be unable to see the forest for the trees'.[53] Other researchers have confirmed and supported these results or highlighted other aspects of improved supervision by BoDs in PE-owned companies. Acharya et al. (2009) also found that BoDs tend to decrease in size (backed by Cornelli and Karakas, 2008[54]) and the disciplining actions towards managers are used more frequently. Specifically, underperforming chief executive officers (CEO) and board members are fired and replaced with a greater intensity and speed (substantiated by Heel and Kehoe, 2005[55]). Additionally, the researchers highlight the greater frequency with which BoDs in PE-owned companies meet to discuss corporate matters of strategy and the greater importance that is put on value creation for shareholders than on risk management.[56]

Besides the changes in BoD composition and behavior, one can also observe new technical governance structures, such as monitoring and reporting mechanisms in PE-owned companies. Bradford et al. (2006), for instance, explain how the Texas Pacific Group is aware that companies are generally inexperienced with PE-typical amounts of leverage levels and associated high interest payments. Consequentially, the PE firm aims to support its portfolio

[52] Nikoskelainen and Wright (2007), p. 512
[53] Peck (2004), p. 8f
[54] Cornelli and Karakas (2008), p. 3
[55] Heel and Kehoe (2005), p. 26
[56] Acharya, Kehoe, and Reyner (2009), pp. 47-53

companies by providing help in actively managing their cash positions and asking for weekly reports to ensure all business metrics and key performance indicators (KPI) evolve in line with expectations.[57] Cendrowski (2012) concludes that monitoring structures in general improve and become tighter under LBOs as shorter reporting cycles are used in portfolio companies in order to detect mistakes earlier than they would be in PCs.[58]

If leverage is a "stick" and changed governance structures control the management, the incentivization of executives through shareholding stakes and other tools acts as the "carrot" for managers (Peck, 2004).[59] Jensen concludes in his paper from 1989 that the agency problem present in many PCs is mainly resolved in PE-owned companies through the proper implementation of incentive mechanisms. The fundamental reasoning of Jensen is easily grasped: By tying a substantial part of the compensation to the performance of the company, the transaction and the value created for the PE fund, managers are motivated to put in their best efforts to improve both the business' efficiency and overall operations in order to increase its valuation. The mechanisms mainly include substantial share ownerships and stock options as well as warrants thus putting both the managers and owners of the company on the same side of a transaction.

Share ownerships in LBOs are structured in a way that the managers must put up their own money to invest in the company when it is acquired by a PE firm. This acts for the PE fund as a sign whether the executives of the firm itself believe in the business proposition and future of the company. If they are not willing to do so, this should be a red flag for PE firm that some downside information exists, as the managers are not willing to "put their money where their mouths are" (Lazear, 2004).[60] Further, the equity provided can be seen as "pain equity" because the management must invest a substantial part of their own, personal wealth and is therefore especially inclined to push the acquired company forward (Leslie and Oyer, 2009).[61]

Stock options and warrants do not require an upfront investment by the managers. Instead, the compensation is varying with the gain made by the PE firm on the sale of the previously acquired company. Stock options work like regular options in the sense that they allow the managers to purchase the shares of the company at a pre-specified strike price. They have, however, certain characteristics distinguishing them from plain vanilla options. They cannot be

[57] Bradford, Dieckmann, and Rashid (2006), p. 12
[58] Cendrowski (2012), p. 169
[59] Peck (2004), p. 2
[60] Lazear (2004), p. 3
[61] Leslie and Oyer (2009), p. 2f

sold by the managers thus tying up a significant part of their compensation to the company's success. Further, the options are only exercisable when the PE-owned company is sold again and thus no specific maturity is pre-determined (Jensen et al., 2006).[62] The strike price of the shares is equal to the price of the equity at entry of the PE firm. Warrants work similarly, but simply pay out a certain percentage on the gain made by the PE firm on the sale, typically above a certain "hurdle rate" that investment must achieve in order to be deemed a success.

Empirically, almost all studies on PE buyouts highlight the effectiveness of the enacted incentivization of the management on the buyout's performance (Kaiser and Westarp, 2010).[63] For example, Muscarella and Vetsuypens (1990) identified the positive impact of increasing stock ownership and other equity participation tools for top-level executives on the company's profitability by looking at firms that underwent a LBO and an IPO at a later point of time in the 1980s in the U.S.[64] Further, Peck (2004) found a negative relationship between probability of financial distress in an LBO and the stock options owned by the CEO supporting the motivation hypothesis put forward by Jensen.[65]

While chief executives in PCs also receive ownership stakes and option plans, Jensen already observed in 1989 that the relative magnitude in PE-owned companies was far greater, at about 10 to 20 times compared to chief executives' equity stakes in PCs (Jensen, 1989).[66] Because equity and stock options are simple tools to be implemented and PCs have observed the success of LBOs, PCs have become more sophisticated in terms of their compensation packages; it is therefore likely that the edge of PE firms in incentivizing the managers of acquired companies has diminished over time. Nonetheless, the gap in stock ownership between private and public companies is still a huge one by the factor 10. Furthermore, PCs generally prefer stock options over direct stock ownership which do not fully give managers the motivation of owners (Cendrowski, 2012).[67]

Besides the improved governance structure and a revamped compensation design for managers, PE firms regularly enact changes to the overall strategy of the acquired company that they perceive to be more promising and value enhancing. By actively participating in the decision-making process, either through the newly hired CEO or the board positions, a strategic

[62] Jensen, Kaplan, Ferenbach, and Feldberg (2006), p. 16
[63] Kaiser and Westarp (2010), p. 35f
[64] Muscarella and Vetsuypens (1990), pp. 1393-1396
[65] Peck (2004), pp. 5-7
[66] Jensen (1989), p. 16
[67] Cendrowksi (2012), p. 173

redirection and refocusing process is initiated by the PE firm that comprises a variety of different activities to create value. Such activities include, for instance, the choice of target geographies or market niches covered, the appropriate product and customer mix as well as the pricing and distribution strategy or overall the future direction of the firm (Muscarella and Vetsuypens, 1990).[68]

The most prominent example is the wave of split-ups of conglomerates in the 70s and 80s in the U.S. which was the first boom in PE activity. PE firms perceived the diversified, multi-business companies as undervalued and mismanaged. Via an acquisition of the company, a subsequent break-up of the group and the sale of the individual assets and divisions, the sum of the respective parts is worth more than the bought-out conglomerate. In essence, the PE firms applied a new strategy for the acquired assets to increase their valuation and the PE funds' returns. It is commonly accepted that the PE firms were able to improve the conglomerate's efficiency and operational performance (for instance, Bull, 1989[69] and Opler, 1992[70]). According to Easterwood et al. (1989), split-ups of conglomerates were so successful in achieving performance enhancements because the overall business complexity and corporate bureaucracy were reduced and managers were able to focus on core business segments in which the company had an actual competitive advantage.[71] Correspondingly, one could observe an increase in divestiture activities of unrelated businesses post-buyout. Specifically, such divestitures are perceived by the financial markets as firm value enhancing if they are actively planned and part of an overall strategy, which was the case for the split-up of conglomerates in the 70s and 80s, instead of being reactionary (Montgomery et al., 1984).[72]

However, as diversified conglomerates decreased in number after the buyout wave and strategic buyers became more sophisticated and aggressive in acquiring undervalued targets, PE firms had to focus on different assets to acquire and take private. Thus, as the target companies and the market sentiment changed in nature, so did the overall strategic approach of the PE funds for portfolio companies. With the goal of achieving growth in firm valuation, the buy-and-build strategy was regularly pursued by PE funds. This method involves acquiring a nucleus firm that is generally operating in a fragmented market. By buying up several competitors, not necessarily at the same size, the nucleus firm gains market share quicker than organically and

[68] Muscarella and Vetsuypens (1990), pp. 1396-1398
[69] Bull (1989), p. 276f
[70] Opler (1992), pp. 31-33
[71] Easterwood, Seth, and Singer (1989), p. 41f
[72] Montgomery, Thomas, and Kamath (1984), pp. 835-838

can consolidate the market if the industry allows for it. Ultimately, the PE firm tries to achieve economies of scale as well as synergies between the acquisitions and a leadership position. This enables the PE fund to regularly demand a higher multiple at exit than it paid at entry and for the add-on acquisitions and hence, its return on investment is drastically improved (Allen, 1996[73] and Wright et al., 2001[74]). In general, PE firms aim at improving the strategy pursued by the acquired company and frequently try to expand its market reach, either through organic international growth or inorganic acquisitions. Researchers have stressed the importance of hiring the proper executives that are able to pursue the company's strategy and identify the right opportunities to grow. This seems to be more important than retaining managers that are adapt at monitoring and supervising the business as the PE firm already takes on this responsibility (Meuleman et al., 2009).[75] In addition to recruiting the right executives, installing a general sense of entrepreneurship has been shown to be another substantial reason for performance improvements in portfolio companies (Bull, 1989).[76]

In summary, PE firms lay the groundwork for value creation by implementing a series of changes regarding the governance process, compensation structure of executives and corporate strategy with all being aimed, at least partially, at solving the agency conflict between managers and owners.

IV.3 Value Creation on Company Level

IV.3.1 Sales Growth

Despite a negative public perception, changing market environments and acquisition approaches over time, among researchers, there is "a general consensus that across different methodologies, measures, and time periods, regarding a key stylized fact: LBOs and especially, MBOs enhance performance and have a salient effect on work practices" (Cumming et al., 2007).[77] In the following section, the different effects on operational metrics such as sales figures, efficiency measures and capital intensity on a company level will be discussed.

Over the holding period, a PE firm will attempt to increase the free cash flow (FCF) available which in turn will be the basis for the company's valuation at exit. The top-line growth is one of the most important ways to achieve this goal. Under the assumption of cash requirements

[73] Allen (1996), p. 27
[74] Wright, Hoskisson, and Busenitz (2001), p. 117
[75] Meuleman, Amess, Wright, and Scholes (2009), p. 221f
[76] Bull (1989), p. 276f
[77] Cumming, Siegel, and Wright (2007), p. 449

and operating efficiency remaining constant in relative terms, the FCF will directly increase with expanding revenue figures. Besides the aforementioned buy-and-build strategy, which inorganically bolsters revenue figures, organic market expansion is the most relevant approach. The PE firm, together with the management of the acquired company, determines either the geographies that have not yet been penetrated and represent attractive growth markets or the product markets that can be further targeted. Furthermore, it is important for the success of the sale at exit that the company performs favorably compared to its industry peers. Consequentially, the PE firm will aim at increasing sales above the market average and thus outperform the portfolio company's public and private competitors. Several researchers have examined whether PE firms can accomplish this goal. Singh (1990) investigated 55 MBOs in the U.S. between 1979 and 1988 that returned via IPOs to the public market and concluded that there is a positive effect of going private transactions on revenues in comparison to industry rivals during the three years before the re-IPO. Specifically, the privatization of single divisions tends to be extremely successful in improving sales numbers over the holding period. Singh attributes this enhancement to the changed governance structure because the difference in incentivization of managers will be most drastic for divisions. Prior to the buyout, the compensation of managers of a single division of a large PC is unlikely to be strongly tied to the performance of the specific division. Therefore, if the managers are properly incentivized after the MBO, there is substantial potential for performance improvement and sales outperformance.[78]

Two more recent studies are highly relevant in that regard, namely Boucly et al. (2011) and Chung (2011). The former performed an analysis of French LBOs and how the operating performance changed over the holding period compared to the industry average while the latter replicated the study on buyouts of private companies in the U.K.

Boucly et al. investigated a large sample of 839 deals with the involvement of leverage and financial sponsors taking place in France between 1994 and 2004 and compared these transactions to carefully crafted control groups to determine whether the companies under LBOs grew statistically significant faster than their counterparties. Indeed, sales, assets as well as the number of jobs expand substantially within the LBO group and at a faster pace than in the public control group.[79] This further supports the findings of other previous researchers like Singh (1990) on the positive impact of PE acquisitions on firm growth. Boucly et al., however,

[78] Singh (1990), pp. 122-125

[79] Boucly, Sraer, and Thesmar (2011), p. 433

suggest a different reasoning for the significant outperformance of companies taken private by PE firms than Singh. As the capital markets in France are less strong and efficient than in the U.S. and U.K., capital constraints are more likely to occur for companies. LBOs represent a way to alleviate these constraints as the required capital is provided through the debt financing as part of the deal. They propose two analyses that give merit to their suggestion: Firstly, companies in industries in which internal funds are generally inadequate to pay for necessary investments expand the most when taken private by PE firms compared to companies in other industries. Secondly, buyouts of single divisions of large PCs perform less well in terms of sales growth than private-to-private deals with the former being unlikely to suffer from capital constraints while the latter will be financially more restricted.[80] Chung (2011) repeated, with a similar design, the study of Boucly et al. but examined more than 800 private-to-private deals in the U.K. from 1997 to 2006. The results are comparable to the ones of the research on French deals but suggest that, even for countries with highly efficient capital markets, private companies suffer from capital constraints that can be alleviated by PE firms and the respective transactions, thus supporting Boucly et al.[81]

This reasoning is diverging from the explanation of Singh and highlights again that there are stark differences between the diverse geographies around the world, in this case the PE markets in the U.S. and France. Accordingly, the reasons for PE deals and LBOs as well as the way value is created in buyouts can drastically differ.

IV.3.2 Operating Efficiency

While a significant sales increase is a common way to bolster a company's valuation, PE firms are primarily known for improving the operating efficiency of portfolio companies. In this regard, efficiency can be understood as the cash conversion ability, measured in cash flow per dollar sales. If this figure or similar ones are not readily available, researchers often use measures such as the EBITDA (Earnings before Interest, Tax, Depreciation and Amortization) margin or operating income per dollar of sales as proxies. These are accounting figures depicting the financial performance of the portfolio companies. Further, there are research papers that take a closer look at the "real effects" of buyouts on efficiency like total factor productivity or research and development (R&D) spending that might have sparked the improvement in cash flow figures or EBITDA margins.

[80] Boucly, Sraer, and Thesmar (2011), pp. 443-452
[81] Chung (2011), p. 6

Kaplan (1989), Bull (1989), and Smith (1990) all conclude that cash flows or their proxy improve significantly when the company is acquired by a PE firm.[82] The three studies focus on deals for U.S. companies in the 70s and 80s comparing the performance of U.S. companies prior to the buyout with the years after the transaction took place. While Kaplan (1989) and Bull (1989) used proxies for cash, Smith (1990) took actual cash flows to analyze the changes caused by the buyout. Their results are similar in that cash flows expanded, however, differed with respect to the reasons for this improvement. For Kaplan and Smith, the increase in cash flow was achieved without a compromise in R&D spending, maintenance or advertising expenses and this transformation continued beyond the ownership by the PE firm.[83,84] Still, capital expenditures (CapEx) decreased over the holding period which Kaplan assumes to be a reduction in wasteful investment in negative net present value (NPV) projects and not an omission of promising opportunities.[85] Kaplan's work receives support from Smart and Waldfogel (1994) as they confirmed Kaplan's results even when being controlled for operating efficiency gains that were expected to materialize regardless of the takeover by the financial sponsor.[86] The study by Smith (1990) found that improved net working capital management was the cause for increased cash flows. Specifically, a shorter collection period for accounts receivable combined with a streamlined inventory management enabled the PE firms to receive cash faster than it was previously the case.[87] Another option to decrease net working capital is to increase the number of days of accounts payable. PE firms generally use, among others, the following actions to achieve this: "enforcing payment terms, expediting distribution of invoices, shortening the payment period, prolonging the terms for supplier payment, and renegotiating prices" (Hannus, 2015).[88] Foremost, PE firms are likely to concentrate on inventory streamlining and prolonging the accounts payable period as these measures are controllable by the company itself and less dependent on outside parties. Other researchers add merit to Smith's reasoning as similar trends are found in their research or in case studies, such as Singh (1990)[89] or Baker and Wruck (1989)[90]. Finally, Bull (1989) determined the increased efficiency in using corporate assets in buyouts as a way to expand cash flows through the previously mentioned

[82] Kaiser and Westarp (2009), p. 35f
[83] Kaplan (1989), pp. 226-231
[84] Smith (1990), pp. 148-156
[85] Kaplan (1989), p. 228
[86] Smart and Waldfogel (1994), pp. 508-511
[87] Smith (1990), pp. 151-154
[88] Hannus (2015), p. 42
[89] Singh (1990), pp. 122-124
[90] Baker and Wruck (1989), pp. 184-187

entrepreneurial style of thinking that PE firms implement in portfolio companies.[91] Overall, these papers suggest that PE firms are more adapt at increasing the asset's utilization and efficiency.

The findings of this early work on PE firm's ownership show the promising characteristics of targets taken private: their performance is improved while their outlook after the exit is not worsened. Investments in the business' future are not compromised for the sake of better immediate cash flows, i.e. the company does not engage in drastic cost cutting measures threatening the quality of its products or the future business' viability. This makes sense because a strategic or financial buyer would not be willing to pay a high price for a target that has little chance to continue performing well as the asset base has been eroded. Accordingly, concerns voiced by researchers that PE firms forfeit future cash flows for the sake of current ones have not been supported by empirical studies (Cao and Lerner, 2009).[92] This also contradicts worries issued by politicians, for instance in Germany, that see PE investors as "locusts" exploiting their portfolio company's future and its employees for their own short-term gain. More recent research on the LBOs in the past 20 years has rather confirmed the findings of Kaplan and others, as well as expanded it to other regions and geographies. For instance, Bergström et al. (2007) researched deals taking place between 1998 and 2006 in Sweden and identifies the positive impact of PE firms on a company's EBITDA margin (which is taken as proxy for cash conversion).[93] Further, Hahn (2009) found an abnormal improvement in EBITDA margin as well as greater growth in EBITDA multiple for PE-owned companies compared to publicly listed competitors for 110 PE transactions in Western Europe over the period from 1995 to 2005. Specifically, portfolio companies with an organic approach, i.e. that do not engage in acquisitions during the holding period, generally concentrate on improving margins while the multiple growth is more relevant for targets that are managed with an "inorganic" strategy of M&A deals under PE ownership.[94]

Guo et al. (2011) fall out of that frame to a certain extent. While they still found an increase in industry-adjusted operating margins, this improvement is significantly smaller than the one observed in previous studies on LBOs and MBOs. The researchers attribute this to their sample of later buyouts from the 1990s compared to the previously researched deals in 70s and 80s and thus conclude that the potential for value creation has changed over time. Further, they stress

[91] Bull (1989), pp. 271-276
[92] Cao and Lerner (2009), p. 139f
[93] Bergström, Grubb, and Jonsson (2007), p. 31f
[94] Hahn (2009), pp. 23-27

the importance of other value creation aspects such as tax benefits or changing valuation multiples as factors for the returns realized by PE firms.[95] The work from Guo et al., however, has been criticized by researchers, such as Hannus (2015), as it only covers very large buyouts which typically perform the worst and overall seem to be rather the exception than the norm. Nonetheless, PE firms do have to continuously search for new ways to create value within portfolio companies, making them perform superiorly compared to public competitors, which has become more difficult with the growing sophistication of professional managers of PCs and of small-to medium-sized enterprises.

Besides the aforementioned studies on cash flows, there is a number of researchers that have concentrated on the impacts on productivity measures. Lichtenberg and Siegel's paper (1990) was one of the first that examined single plant productivity under LBOs in the U.S. during the 80s. By measuring total factor productivity, i.e. "output per unit of total input" (Lichtenberg and Siegel, 1990)[96] (e.g. of capital, labor, and materials) and comparing this figure for plants under PE ownership with non-buyout plants, the researchers suggest a positive impact on productivity. Further, this was not achieved by closing inefficient plants, reducing wages of production workers or capital investments, or altogether firing employees. Instead, the efficiency with which production inputs were used was heightened mainly by lowering wages and employment for non-production workers. In essence, the PE owners rather placed an emphasis on incentivizing their employees and not supervising them and thus decreased the need for middle-managers. [97] One should treat the findings of Lichtenberg and Siegel carefully as not all results were fully significant in every regard. However, they are supported by several other studies. Harris et al. (2005) examined the total factor productivity in U.K. plants pre-MBO and post-MBO and compared these figures with public peers. While the plants under MBOs were characterized with a lower pre-buyout efficiency, they were subsequently improved heavily during the holding period of the PE firm. This was achieved via a relatively higher decrease in employment levels than in output levels and thus a lower capital consumption. Similar to the findings of Lichtenberg and Siegel, though, the major part of this employment reduction was not within the production workforce, but rather, intermediate goods and services were outsourced and thus performed with more efficiency in an external venue.[98] Amess (2003) again investigated U.K. based buyouts and comes to similar conclusions on improved

[95] Guo, Hotchkiss, and Song (2011), pp. 493-503
[96] Lichtenberg and Siegel (1990), p. 166
[97] Lichtenberg and Siegel (1990), pp. 191-193
[98] Harris, Siegel, and Wright (2005), pp. 150-153

productivity.[99]

The findings on productivity changes within portfolio companies and the links to employment levels beg the question how PE firms handle the workforce when taking over a company. This is highly relevant given the public outcry, especially in Germany, when a company is acquired by a financial sponsor. Employees fear for their jobs and newspapers depict the PE firms as ruthless investors cutting personnel cost without considering the lives of the workers they just fired. While this might have been true for the first LBOs in the 70s and 80s on mismanaged conglomerates, today's empirical evidence is not fully conclusive concerning the impact of PE ownership on the labor force.

One the one hand, the study by Harris et al. observed a reduction of employment through outsourcing of steps along the production process in U.K. buyouts. Boucly et al. (2011) found, on the other hand, an excess in job growth over the holding period for firms under LBOs in France compared to the control groups of public companies. As stated, the researchers assume that the buyout alleviates certain capital constraints and allows the company to pursue positive investment opportunities which in turn creates the need for additional workers.[100]

Other researchers have a more ambiguous view on the development of employment levels. Kaplan (1989) recognized a growing number of workers for PE-owned companies. However, this increase is below the industry average, i.e. the portfolio company is expanding the workforce more slowly.[101] While Amess and Wright (2007) did not discover a substantial difference between portfolio companies and public ones in terms of employment trends (with jobs being cut in the beginning of the holding period and then created over the later parts), the researchers did observe a slower increase of wages for the former.[102] Davis et al. (2008) explored job growth on a firm level in the U.S. and were able to distinguish between established and/or shrinking factories and newly created production spots. According to the researchers, the PE firm accelerated the job destruction at the former while this decrease in employment was almost fully balanced out by the significant excess workforce growth at the latter facilities. In total, the portfolio companies basically had the same employment development as the control group of companies not under PE-ownership.[103] It is unlikely that PE firms are able to reduce the labor force while simultaneously drastically increasing sales as well as improving

[99] Amess (2003), p. 42f
[100] Boucly, Sraer, and Thesmar (2011), pp. 432-434
[101] Kaplan (1989), p. 219
[102] Amess and Wright (2007), p. 191f
[103] Davis, Haltiwanger, Jarmin, Lerner, and Miranda (2008), pp. 4-6

efficiency. Consequentially, it is probable that PE firms are able to grow the workforce or wages in their portfolio companies at a slower pace than public competitors but still need more manpower to achieve expanding sales. Overall, this should result in improving total factor productivity as observed by most researchers.

Another aspect of PE ownership that has found recognition within research is the effect on work practices. Bruining et al. (2005) observed a generally positive influence on human resources (HR) practices within the bought-out firms in the U.K. and Netherlands, with the less institutionalized U.K. starting at a lower level, but then taking bigger steps. Employee and employer relations are enhanced over the holding period including more training and responsibility for the workers as well as greater flexibility and self-determination of job related issues.[104] These results are in line with the ones of Amess et al. (2007) who show the greater discretion with which employees can handle their everyday work in portfolio companies, overall resulting in a flatter organization: the layers within the organizational structure are decreased, i.e. the number of middle managers lessened and bureaucratic processes simplified[105] (supported by Easterwood et al., 1989[106]). Such a work environment is more likely to foster innovation by the employees. Zahra (1995) indeed found a heightened commitment to entrepreneurship by managers of portfolio companies. This includes a greater focus on commercialization of innovations and R&D related activities. This might come as a surprise as the increased debt and associated interest payments could potentially limit the opportunities of managers and employees to pursue investment opportunities. At the same time, however, the high debt amount also forces the portfolio company to think 'outside of the box' in order to find creative ways to generate cash.[107] Other studies support the positive impact of PE ownership on innovation within the company. For instance, patent originality or generality, measures of innovativeness of companies, do not decline over the holding period. Instead, patents become cited more often and center around a firm's field of competitive advantage (Lerner et al., 2008).[108] This means that, even if people are hired more slowly at PE-owned companies than at PCs, the ones employed are more likely to receive better working conditions and more freedom to pursue opportunities in an entrepreneurial way. Moreover, this again directly contradicts the claim of many critics of PE investments, that financial sponsors are focused on

[104] Bruining, Boselie, Wright, and Bacon (2005), pp. 352-356
[105] Amess, Brown, and Thompson (2007), pp. 458-466
[106] Easterwood, Seth, and Singer (1989), p. 41f
[107] Zahra (1995), pp. 241-243
[108] Lerner, Sorensen, and Stromberg (2008), pp. 460-474

short-term gains at the expense of the long-term healthiness of the company.

Within this section, it has been shown that there is substantial evidence for productivity improvements within factories under PE ownership. This is not solely the result of drastic cost cutting or employment reductions within the plant workforce as politicians or the press often assume. Instead, incentivization is favored over supervision and the organization is flattened by reducing white-collar employment to achieve faster decision making at lower costs. While there is mixed empirical evidence, wages and employment levels still generally grow in portfolio companies, but at lower paces than in public ones. Combined with expanding sales and improved organizational structures, the PE firms are likely able to improve efficiency within their portfolio companies.

IV.3.3 Capital Intensity

When PE firms enter a target company, they have their own returns in mind and reflect upon possibilities to increase it. As mentioned above, value is created along the way as new markets are entered, organizational processes improved and the efficiency heightened. Further, PE firms often try to decrease the capital intensity of their portfolio companies in order to achieve a better asset turnover which is another aspect of efficiency.

The first way to do so has been already mentioned, namely divestitures. PE firms aim at selling divisions that are under-performing or under-utilized compared to the other business activities. While these transactions reduce sales in absolute terms, assets decrease more drastically, overall improving asset utilization. Moreover, the strategic focus of the corporation can be sharpened. Employees have a better grasp of the firm's strategy and managers can track operations more easily, making cross-subsidization less likely to occur as results from well-performing divisions are not used to support the badly-performing ones. Asset divestitures could further allow funds previously devoted to negative NPV projects within underperforming divisions to be cut and either saved (and thus improve the capital intensity) or to be redeployed to new investments in opportunities that are actually worthwhile. Finally, companies under LBOs must repay the leverage taken on in the transactions. Accordingly, "to generate cash flows, GPs will divest unprofitable business lines, sell non-core assets" which will then be used to lessen the debt burden (Cendrowski, 2012).[109] The case study by Magowan (1989) is such an example in which KKR took over the food retailer Safeway and over the holding period created a "smaller but

[109] Cendrowski (2012), p. 170

stronger" version of the business by selling more than 1000 underperforming stores.[110]

Besides divestitures, so-called 'sale and leaseback' transactions are a common way to improve the capital intensity while maintaining access to necessary corporate resources, such as real estate. In these financial undertakings, "the firm sells an asset but simultaneously enters into a lease for its continued use" (Fisher, 2004).[111] This allows to decrease the asset base while being able to use the resource, i.e. revenues do not take a hit by the sale. Besides a possibly advantageous tax treatment for the firm, a 'sale and leaseback' agreement can also be in the best interest of shareholders from a value creation perspective. When a company is being founded and does not have any real expertise in handling, e.g. housing facilities, it is best to rent such buildings. However, if the PE firm enters the company and the asset is already owned, it can replicate the decision of renting the facilities by entering a 'sale and leaseback' agreement which will increase the return expected on the LBO. Additionally, it will yield large cash sums that can be seen as off-balance sheet financing, which can be used to either, similarly to divestitures, pay down debt or fund new profitable investments (Bressler and Willibrand, 2011).[112] While this financial transaction is generally done for portfolio companies owning real estate (Bergsman, 2002)[113], financial sponsors can also take this approach for patents and other assets in possession of the portfolio company.

Besides divestitures and 'sale and leaseback' agreements which will bring in cash to the company and shrink the asset base directly, PE firms can also try to reduce the cash need of running the business. Cuts in R&D spending or CapEx for new projects, equipment and facilities will free up funds and slow the pace with which the asset base grows. This has already been touched upon while discussing other effects of PE ownership on operations. As mentioned earlier, Kaplan (1989) does not find any reductions in R&D expenditures but observes a concentration of CapEx on the most promising investment opportunities. According to the researcher, this is rather the result of cuts in "wasteful" CapEx into negative NPV projects than short-termism. While Long and Ravenscraft (1993) actually find a reduction in R&D spending, this does not damage the future profitability of the company as the cut is again into "wasteful" or non-essential R&D. Moreover, the bought-out firms were generally in non-R&D heavy businesses making the expenses less integral to the company's success than in innovation-rich

[110] Magowan (1989), p. 12f
[111] Fisher (2004), p. 619
[112] Bressler and Willibrand (2011), p. 3
[113] Bergsman (2002), p. 1

industries.[114] In line with those findings, Zahra (1995) observes a more focused R&D spending under LBOs as the expenditures are put to use in order to commercialize innovations and overall improve the quality, size and capabilities of R&D functions within portfolio companies.[115] To sum up, LBOs certainly aim to benefit from an enhanced capital efficiency as evidenced by divestiture efforts as well 'sale and leaseback' agreements in combination with a cut in wasteful CapEx and R&D spending. These measures, however, do not seem to hurt the portfolio company's future healthiness and business viability. This further supports the findings presented in section IV.3.2 on operational efficiency and how it is achieved in portfolio companies.

IV.4 Value Creation on Fund Level

IV.4.1 Leverage

In this section, measures that are not directly linked to increases in the EV of portfolio companies will be discussed which mainly comprise the determination of the appropriate amount of leverage as well as the optimal structuring and execution of transactions by GPs on a fund level. Leverage is an integral part in aligning incentives of managers and owners in a buyout and thus a source of value creation on a company level as the business will be run more efficiently. This has already been discussed in section IV.2. Leverage has, however, also a technical impact on the returns earned by all investors. If a PE firm acquires a target company, it must fund the purchase price generally with a mix of debt and equity. By using debt, it lowers the amount of equity it has to come up with to finance the acquisition. This leverage therefore will then amplify any returns made by the financial sponsor which is generally known as the "gearing" or "leverage" effect and calculated with the following formula (with return on equity (ROE) and return on capital employed (ROCE)):

$$ROE = ROCE + (ROCE - Cost\ of\ Debt) * \frac{Debt}{Equity}$$

As long as the return on the total capital employed is above the cost of debt, return on equity will be inflated using leverage. Accordingly, Valkama et al. (2010) have found in a recent study that this leverage effect indeed occurs and equity returns can be increased through the use of debt.[116] The major drawback of leverage, though, is that not just gains, but also the losses

[114] Long and Ravenscraft (1993), p. 132f
[115] Zahra (1995), pp. 239-241
[116] Valkama, Maula, Nikoskelainen, and Wright (2013), p. 2387

suffered by the equity owners are amplified. As previously mentioned, one must strike the right balance when using leverage.

Another effect of debt financing is the free cash flow effect. Over the holding period, the company is generally required or chooses to repay certain tranches of the debt, depending on their seniority and maturity. When the company is then sold at the exit of the PE firm, even if the firm value has not changed over the holding period, the percentage of debt of total enterprise value will have gone down and consequently the share of equity value up. Accordingly, the financial sponsor will "own" more of the overall EV and receive a larger part of the sale price at exit. This, in turn, will allow the PE firm to earn a positive return on his capital investment even if no operational or governance improvements have succeeded. It can be estimated as the decrease in net debt while the portfolio company is owned by the financial sponsor (Puche et al., 2015).[117]

Besides the leverage taken on during the acquisition, there are other financial engineering and optimization activities that PE firms generally perform over the holding period. Examples include establishing better access to financial institutions, using creative financial tools, or providing financial expertise (Hannus, 2015).[118] Except for the tax impact of leverage, however, this research paper will not go into detail into these aspects of PE ownership.

IV.4.2 Tax Savings

Besides the leverage effect on equity returns, PE firms are also interested in optimizing the portfolio's capital structure. In this regard, the beneficial tax treatment of debt compared to equity financing comes into play. In almost all major economies, the associated interest payments are tax-deductible which will in turn lower the cost of capital for the portfolio company. While there are certain limits to the amount of interest that can be counted against revenues, debt nonetheless generates a considerable tax shield which in turn can be used to pay down debt, fund investment or be given out as dividends, overall increasing equity returns for financial sponsors. On the downside, the increased leverage financing will simultaneously also drive up the cost of capital as the financial risk is amplified. Overall, the PE firm will aim to balance out the positive impact of debt financing with its negative effects in order to minimize the cost of capital. This is, though, less a form of value creation but rather "value capture" as the returns generated through the tax shield and lowered financing costs are directly taken away

[117] Puche, Braun, and Achleitner (2015), p. 105
[118] Hannus (2015), pp. 34-40

from the government and on a societal basis, it is a zero-sum game. Therefore, the PE firm does not generate value by using leverage as a tax shield. Instead, it shifts some of the wealth of the government into the hands of the equity investors (Hannus, 2015).[119]

IV.4.3 Changes to Valuation

IV.4.3.1 Multiple Expansion

While the amount of debt taken on during the acquisition is chosen by the PE firm, its value creation and capture effects are not further influenced by the fund and instead work "automatically". GPs of funds can, however, heavily influence the success of their buyouts and the returns to the LPs (and themselves) by optimally structuring the acquisition processes. This includes, among others, multiple expansion, timing the sale and negotiating a better price as well as choosing the appropriate exit route. These activities are all based on the skills of GPs and their specialist knowledge of financial transactions and the industries they invest in.

Multiple expansion aims at buying a target at a certain EBITDA multiple and then selling it at a higher one. The first way to achieve this, the buy-and-build strategy has already been mentioned in section IV.2. By buying a nucleus firm and then acquiring other, often smaller add-on companies at lower multiples, the market is consolidated and the portfolio company increases in size. This has two effects: Firstly, the whole firm will be sold at least for the entry multiple the PE firm paid for the nucleus company implying that the fund will have made gain on the purchase and sale of the smaller add-on firms (Hannus, 2015).[120] Secondly, firm size and market share concentration positively influence valuation through greater exit multiples resulting in a higher exit than entry multiple. This relation holds for small-to medium-sized businesses (Gustavsson and Stjernswärd, 2009).[121] There is evidence that PE firms actively aim to achieve this as they try to increase companies in size and consequentially move them into higher multiples classes (Achleitner et al., 2011).[122]

Another way to expand exit multiples is to improve the business outlook of the company by achieving higher efficiency levels and/or better future perspectives (Hannus, 2015).[123] This will automatically be obtained through the value creation mechanisms on a company level as aligned incentives between managers and owners lead to a better-run company, but certain measures

[119] Hannus (2015), p. 34
[120] Hannus (2015), p. 62f
[121] Gustavsson and Stjernswärd (2009), p. 2f
[122] Achleitner, Braun, and Engel (2011) p. 161
[123] Hannus (2015), p. 62

do not manifest concretely in EBITDA or sales figures. Instead, the overall attractiveness of the business for potential acquirers, its corporate profile and positioning within the industry will be significantly influenced by the ownership and associated implementations of PE funds and rather increase the valuation multiple than the actual margins or revenues.

While firm efficiency and size have a large impact on valuation, industry growth and outlook are often as relevant for the development of multiples. GPs can benefit from expanding multiples by identifying those industries that they perceive as undervalued or bound to increase in attractiveness due to changing macro-economics, adapting customer preferences or technological breakthroughs. The GPs necessarily need to have superior knowledge to be able to determine future market trends and the right industry to invest in. Achleitner et al. (2011) stress the importance of multiple expansion to PE funds' returns and state that this is caused by the activities of GPs.[124]

IV.4.3.2 Timing Abilities

Another skill closely related to detecting market trends and achieving multiple expansion is timing the business cycle. Business cycles are basically on a microeconomic level the equivalent of economic cycles in which valuations fluctuate over time according to the demand in the industry by acquirers. Even if GPs identify a promising industry and target company, they must make sure to enter the acquisition process before other buyers have bid up the prices. Moreover, choosing the right time to exit is integral to successful transactions as an exit that is too early leaves further value creation potential on the table or an exit that is too late will be harder to achieve or, in the worst case, even be impossible. The GPs therefore need to time the business cycle to enter cheaply and exit at high valuations (Hannus, 2015) [125] (see Figure 3).

While good timing skills could provide PE firms with substantial value creation potential, empirical studies suggest that GPs do not spend enough effort on correctly forecasting the business cycle. Schmidt et al. (2004) examined PE and VC funds from 1971 to 1998 and their investments and only identify timing abilities as a relevant driver of returns for VC funds and not for PE funds.[126] There are indicators provided by research suggesting that, for instance, currently markets are extremely hot and valuations high which would make an exit profitable but an acquisition less promising. Examples include the amounts of funds raised and allocated

[124] Achleitner, Braun, and Engel (2011) p. 161
[125] Hannus (2015), p. 63f
[126] Schmidt, Nowak, and Knigge (2004), p. 19

by PE firms (Chew, 2009).[127] GPs should use these indicators to a greater extent to benefit more from fluctuating multiples. Therefore, this is an area in which GPs could further capture value potential.

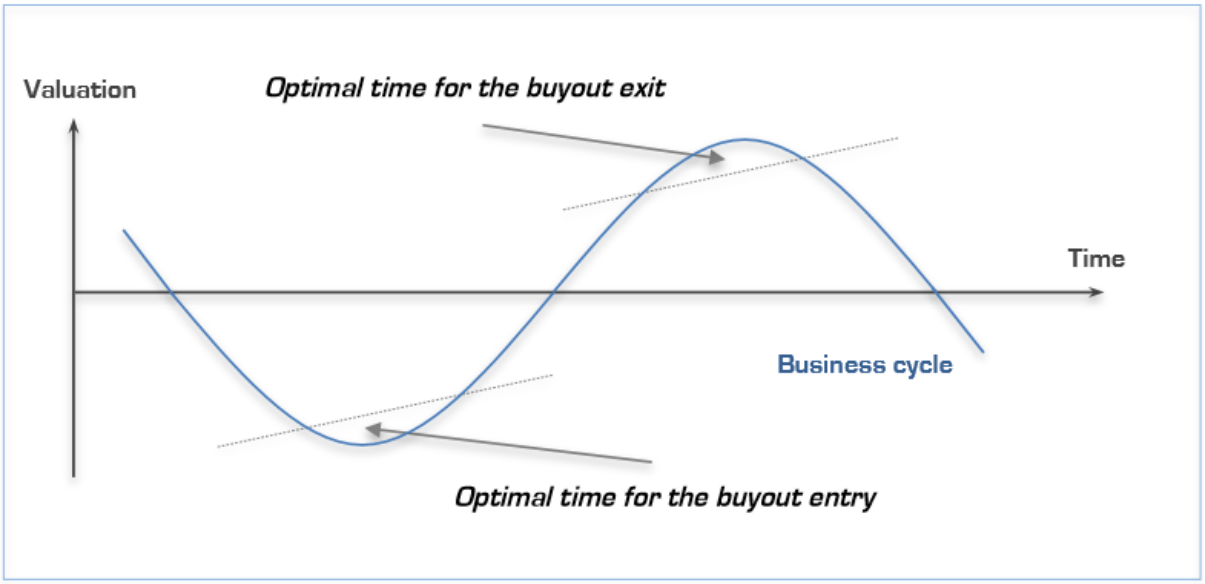

Figure 3 Timing the Business Cycle[128]

IV.4.3.3 Negotiation Skills

Except for riding the wave of rising multiples and timing the entry as well as the exit correctly, GPs also influence funds' returns by negotiating with potential transaction partners. Many researchers suggest that managers of PE funds are skilled deal makers that can push down prices in purchase discussions with their negotiation techniques. As an example, PE firms normally try to enter an acquisition process as early as possible to get the upper hand in negotiations or even proactively contact attractive acquisition targets to preempt other competitors (Wright et al., 1996).[129] Another way to get a better deal is achieving sole-bidder status in an auction by presenting a high initial offer and then using the strong negotiation position to decrease the price as flaws in the business proposition are uncovered during the due diligence process (Butler, 2001).[130] It makes sense that PE firms have this expertise given their experience of executing transactions on a regular basis. Their counterparties, on the other hand, are unlikely to have the appropriate know-how or background in M&A matters, especially if they are running a family business and thus are at a disadvantage vis-à-vis PE buyers. Similarly, other potential buyers such as strategic ones are in a weaker negotiation position compared to

[127] Chew (2009), p. 10
[128] Hannus (2015), p. 64
[129] Wright, Wilson, Robbie, and Ennew (1996), p. 62f
[130] Butler (2001), p. 147

financial sponsors as corporates typically have only a limited number of potential acquisition targets and additionally, like the seller team, have less deal flow than PE firms. The evidence suggests that at least one of the above explanations is correct given the consistently lower prices PE firms have to pay (Butler, 2001).[131] In a study by Bargeron et al. (2008), the premiums paid to pre-buyout shareholders by private buyers compared to the ones paid by public acquirers for deals executed between 1990 and 2005 are at 28.5% and 40.9%, respectively, which can be considered a drastic difference.[132]

Besides the negotiation skills explanation, researchers have also shown that PE firms generally purchase "underperforming" companies which could further explain the lower prices paid by them. This underperformance manifests as, for example, management favoring personal perks or wasting cash on negative NPV projects as well as strategic mistakes and inflexible organizations limiting the business' success. Nikoskelainen (2006) finds support for this hypothesis as the acquired companies in his study consistently executed worse pre-buyout than industry peers when looking at business performance indicators.[133] These "underperforming" assets, in turn, will then also offer the greatest value creation potential through improved corporate governance and incentivization, leading to large returns for PE investors. Their skill lies in the ability to identify those companies that are essentially mismanaged and therefore rather "undervalued" instead of being profoundly worse than industry peers because of bad products, human resources or lagging technologies. Extensive due diligence allows the PE firms to analyze their potential targets to both assess the downside risks as well as upside potential that other acquirers might not be able identify and ultimately determine whether they are "undervalued" (Hannus, 2015).[134]

In summary, Kaplan and Strömberg (2008) state that the price differences observed between private equity and corporate buyers make it highly likely that either the skilled-negotiators, or the underperformance explanation, or both simultaneously are correct.[135]

IV.4.3.4 Target Company Characteristics

GPs regularly target underperforming companies to gain on a cheap acquisition and subsequent value creation potential. But besides identifying such assets, GPs also generally need to choose the companies that are suitable for a LBO, given the immense interest payments and particular

[131] Butler (2001), p. 145
[132] Bargeron, Schlingemann, Stulz, and Zutter (2008), p. 376f
[133] Nikoskelainen (2006), p. 331f
[134] Hannus (2015), p. 60f
[135] Kaplan and Strömberg (2008), p. 16

pressure the portfolio company will face while being owned by a PE fund. Research has identified company characteristics that GPs look for in targets as they are integral to the success of buyouts. First and foremost, a potential company must have stable financial criteria, such as predictable cash flows, non-cyclicality of the business as well as strong margins as they will reduce financial risk and enable the PE fund to obtain large amounts of leverage at cheap rates for the acquisition. Additionally, limited capital requirements, i.e. low CapEx needs, are seen favorably by GPs. But also business criteria are highly relevant as they determine the available value creation potential and include, among others, a strong market position, expansion opportunities or cost cutting capacity. Finally, cultural aspects such as an experienced management team are searched for because the stress of leverage can cause incompetent managers to perform badly. Hannus (2015) gives a comprehensive overview on criteria in Figure 4:[136]

	Business Criteria		Financial Criteria
1.	Business opportunity; buy & build, focus	1.	Steady and predictable cash flow
2.	Market leadership/defensible position	2.	Non-cyclical industry
3.	Strong or replaceable management team	3.	Flexible, low-cost financing
4.	Experienced board of directors	4.	Strong margins and profitability
5.	Stable competitive environment	5.	Divestible assets and units
6.	Diversified customer base	6.	Clean balance sheet with minimal debt
7.	Highly skilled workforce	7.	Cost reduction potential
8.	Viable exit strategy	8.	Heavy asset base for loan collateral
9.	High brand recognition	9.	Well-invested/minimal future CAPEX
10.	Broad prospective supplier base	10.	Non-fixed price contracts
11.	Large portfolio of patents and licenses	11.	Limited working capital requirements

Figure 4 Target Company Characteristics[137]

Obviously, however, it is unlikely that all criteria are present in a target. If this was the case, the company would not be mismanaged or underperforming and therefore extremely expensive. The PE fund would have to achieve tremendous further operational improvements or obtain extremely high amounts of debt to receive a rewarding return on its investment. Therefore, GPs

[136] Hannus (2015), p. 59f
[137] Hannus (2015), p. 60

need to be skilled enough to identify those targets that have some downsides but still perform sufficiently to make the case for a successful LBO.

IV.4.3.5 Exit Routes

The final decision GPs must make for their investments is the exit route: the funds' managers can either choose to sell in a structured auction or enter private negotiations with a small number of potential acquirers. In addition, they can re-IPO the company to go public again on the stock market. These different sales processes all have individual advantages. For instance, an auction should theoretically yield the highest price as the competition of multiple potential buyers for the company should drive up the valuation whereas private negotiations allow for a closer relationship between the contracting parties in which dormant synergies can be analyzed in more detail and a better price could be achieved. Finally, an IPO could yield strong returns if the market sentiment is positive enough. On the other hand, for example, going public does not offer a control premium such as auctions or private negotiations. In addition to the sale channel, the literature differentiates between the nature of the buyer, i.e. whether it is a strategic one (then the exit is called "trade sale") or a financial one (then the exit is called "secondary buyout"). Dependent on the company's characteristics as well as the market condition, the PE fund should therefore choose the correct exit route that suits the portfolio company and will yield the highest price. Empirically, IPOs have generally outperformed other exit channels in terms of achieved IRR for equity investors (Nikoskelainen and Wright, 2007)[138] as well as regarding multiples paid, which are close to 12 times EBITDA for re-listings while trade sales and secondary buyouts yield multiples around 7 (Chapman and Klein, 2009).[139] These results, however, have to be taken cautiously, given the likely bias as PE will choose an IPO for the most successful portfolio companies (Schwienbacher, 2002)[140] which in turn explains the higher returns obtained through the public listing exits. Ultimately, the GPs need to individually determine which mode of exit best suits the company and then drive the chosen process in an optimal way.

As a side note, there have been discussions in the literature whether secondary buyouts are indeed able to achieve an adequate purchase price. The reasoning is that financial sponsors will not have enough value creation potential to pay for a high valuation if another PE fund has already optimized the business and captured all value. In addition, other exit routes such as a trade sale could result in a better price, since strategic buyers should be able reap synergies

[138] Nikoskelainen and Wright (2007), p. 513
[139] Chapman and Klein (2009), p. 18
[140] Schwienbacher (2002), p. 2f

which financial sponsors cannot do. Empirically, though, these concerns have not been proven to be fully true. In their study, Achleitner and Figge (2014) conclude that targets bought from PE investors still offer sufficient potential for substantial operational improvements and consequentially also value creation and strong returns during the secondary buyout. The portfolio companies are even bought at a higher price and with more leverage than in the primary buyout, which suggests that the PE firms are able to obtain more debt from investors. This could be due to the better information that the bank or other debt providers receive in the sale process. Alternatively, they could perceive the success of the first PE firm to pay back the debt as a promising sign for future debt contracts and thus are willing to fund the acquisition with more leverage. Overall, this results in similar fund returns for primary and secondary buyouts.[141] Degeorge et al. (2016), in a more recent study, come to a comparable conclusion, but with certain restrictions. According to the researchers, secondary buyouts only perform on par with primary ones if the financial sponsor does not face buying pressure, i.e. the PE firm does not have to spend the allocated capital in its fund immediately. There is even evidence for an outperformance of secondary buyouts if the two financial sponsors have complementing skill sets. This can manifest as a different focus on value creation aspects, i.e. either concentrating on growing sales or improving margins, or as distinct educational backgrounds of the GPs managing the funds. If those conditions, however, are not met, the purchase of a target from a PE fund will generally result in lower returns for the investors of the second PE fund.[142] In sum, the literature agrees that secondary buyouts are still a viable and equally promising exit route compared to trade sales or IPOs. Additionally, the second PE fund can earn a fair return on its investment, especially if there is no buying pressure and primary and secondary financial sponsors are complimentary in their skill sets.

IV.4.4 Shareholder Returns

While the mechanisms of value creation in portfolio companies as well as the abilities of the GPs to generate value on a fund level are highly relevant, investors are ultimately interested in one aspect of transactions: the return on their invested capital. The attractiveness of the PE industry has long been explained by the excellent returns earned by PE funds, and while there is a large disparity between studies on exact figures, researchers generally agree that successful PE deals are able to generate large profits. The differences, however, are considerable within different regions, time frames, and industries as well as between PE firms. Söffge (2015)

[141] Achleitner and Figge (2014), p. 430f
[142] Degeorge, Martin, and Phalippou (2016), p. 139f

summarizes the results of various researchers on the IRR of PE investments in his dissertation (see Figure 5). According to him, studies provide a range between 26% and 58% for median IRRs.[143] For instance, Groh and Gottschalg (2009) find a median IRR gross of all fees of 36% for a sample of U.S. deals[144] while Acharya et al. (2013) arrive at a median gross IRR of 43% for their analysis of European transactions[145].

Value Creation and Performance on Deal Level - Main results

Author(s)	*Year*	*Result*
Puche and Braun	2014	Median IRR of 35% and money multiple of 2.5x. Value creation drivers: 30% leverage effect and 70% operational with 37% EBITDA growth, 13% FCF effect, 15% multiple expansion and 6% combination effect (mix)
Achleitner and Figge	2014	Median IRR of 29% and cash multiple of 2.7x for realised transactions; EBITDA growth between financial and other buyouts not significantly different, but financial buyouts show higher sales growth and lower margin improvements
Acharya et al.	2013	Median IRR of 43%; cash multiple of 3.0x; 15.4% median outperformance; EBITDA and multiple growth of deals outperform sector and are significant drivers of abnormal deal performance
Achleitner, Braun and Engel	2011	Median IRR of 26% and cash multiple of 2.5x for realised transactions; sales growth, margin improvement, multiple expansion, deal size and leverage drive equity returns; positive relation between sales growth and pricing at exit
Guo, Hotchkiss and Song	2011	Comparable performance or slighlty outperformance of PE deals compared to benchmarks firms
Achleitner et al.	2010	Median IRR of 33%; money multiple of 2.8x; value drivers are 32% Leverage, 31% EBITDA growth: 79% sales growth and 21% margin improvement, 15% FCF effect, 18% multiple expansion; 4% mix
Groh and Gottschalg	2009	Median IRR of 36%; Opportunity cost of capital of buyouts are on average 3.3% below S&P 500 returns
Brigl et al.	2008	Average IRR of 48% is driven by 46% sales growth, 10% margin improvements, 21% multiple expansion and 23% de-leverage
Nikoskelainen and Wright	2007	Average equity IRR of 71%; Larger deals show higher returns; For large buyouts leverage negatively impacts equity returns; IPO exits perform better compared to trade sales and secondaries
Pindur	2007	Median IRR of 58%; outperformance of 50% (median) compared to DJ Stoxx; Value drivers: EBITDA growth 45%, FCF 22%, multiple expansion 28% and mix 5%
Loos	2006	Average IRR of 78%; Value drivers: 83% leverage effect and multiple expansion, 25% sales growth and -8% negative margin effect

Figure 5 Summary of Findings on PE Funds' Returns[146]

One study by Lopez-de-Silanes et al. (2015) has recently been cited particularly often as it uses a very comprehensive data sample with close to 7,500 deals. This information was obtained from institutional investors that were evaluating PE funds in order to allocate capital, and thus received data on past transaction in the process. It comprises deals from 254 PE firms in 81 countries over the period from 1971 to 2005. According to the researchers, the overall IRR for these investments was at 26% with returns decreasing in the size of the funds.[147]

While the returns vary between studies, most of them point out the large absolute gains earned

[143] Söffge (2015), p. 25
[144] Groh and Gottschalg (2009), p. 9
[145] Acharya, Gottschalg, Hahn, and Kehoe (2013), p. 370
[146] Söffge (2015), p. 25
[147] Lopez-de-Silanes, Phalippou, and Gottschalg (2015), p. 379f

by PE investors. However, one must consider the riskiness of PE investments as well as the fees charged by funds compared to other investment opportunities, such as the stock market, to determine whether financial sponsors are actually able to outperform other options. Studies are inconclusive about the risk-adjusted net-of-fees return of PE firms compared to a diversified stock market portfolio. This is due to the unavailability of broad data on PE investments that would enable a clear analysis of the risk-return profile. Kaplan and Schoar (2005) investigated PE returns net of fees, but could not adjusted for risk due to missing information. The researchers remark that PE returns are, on average, below the mean returns of the S&P when one controls for financing and fees[148]. In a later research paper, Groh and Gottschalg (2009) were able to account for the systematic risk of PE investments as they could access a highly informative and complete data set. They compare every single buyout with a public market equivalent that is similar in terms of risk and timing. The study concludes that LBOs underperformed their equivalents on a risk-adjusted basis.[149] The inconclusiveness of past studies shows that this is an aspect of the PE markets in which there is certainly further room for research as the past studies cannot give a definite answer to the question whether PE firms are able to, when accounting for risk, outperform other investment opportunities.

IV.5 Relative Importance of Drivers for Value Creation

In section IV.3 the operational improvements enacted by PE firms over the holding period of portfolio companies have been described and supported with empirical evidence while the value creation on a fund level has been covered in section IV.4. However, the majority of studies only focus on a specific kind of buyout, such as a distinct geography, timeframe or value creation aspect. Moreover, most of the mentioned studies do not determine the relative importance of different drivers for the overall value creation. There are researchers that have looked into this issue and the respective roles operational improvements, multiple expansion, leverage, and reductions in net debt play in the value creation process. Their results, however, are significantly different from each other, which might be a consequence of the different data sets analyzed. For instance, Guo et al. (2011) investigated rather the second wave of LBOs between 1990 and 2006 and found that operational improvements only account for 23% of equity returns while the tax advantages of leverage contribute roughly 29%.[150] In contrast, Loos (2006) looked at both U.S. and European buyouts and attributed around 83% to leverage and multiple

[148] Kaplan and Schoar (2005), p. 1791f
[149] Groh and Gottschalg (2009), p. 2
[150] Guo, Hotchkiss, and Song (2011), p. 481

expansion and only a small part to operational improvements for his whole deal sample.[151]

Puche et al. (2015)'s study stands out from the field regarding its completeness and informational richness. The researchers constructed a proprietary sample of over 2000 deals that cover 45 countries with transaction and exit dates between 1984 and 2013. Additionally, financial information concerning the target as well as cash flows from and to the PE fund over the entire holding period was available to the researchers. Given the data, the researchers were able to thoroughly study the way value was created by financial sponsors on a company and fund level, split into four categories: Firstly leverage, secondly operational improvements, thirdly growth in transaction multiples paid, and fourthly the reduction of net debt over the holding period.[152] Value creation in this context was defined as the "net capital gain to investors in the company", i.e. not solely the difference of exit and entry value but rather the total cash flows over the holding period to all equity investors expressed as a multiple of the total invested capital at acquisition time.[153] They obtained raw sample data of over 13,000 deals from three institutional investors that act as LPs in PE funds and narrowed the sample down to information-rich transactions. The LPs received the data from GPs while being on the search for new funds to invest in. These LPs provided the information anonymously and without disclosure of individual transactions to the researchers. This detailed and unique sample can be considered highly realistic. Investors during due diligence, i.e. the LPs, will be the ones getting the most complete information from GPs, although even this data sample will be prone to some sort of selection bias. Within their study, the researchers again grouped their results by four specific segments, namely by region of investment (to analyze the differences between the Anglo-Saxon PE markets, the Asian and the Continental Europe ones), industry (to identify decisive business features for investment returns), transaction size, and year of exit (to evaluate variances between time periods).[154] In relation to the empirical studies in section IV.3 and IV.4, Puche et al.'s is more general and exhibits better comparability, but obviously lacks in details on single drivers of value creation. Therefore, it can be seen as a summary study differentiating the relative importance of value creation drivers for overall returns with the following conclusions:

Firstly, North America compared to Europe and Asia shows the greatest total value creation, which Puche et al. in large part deem the result of the higher leverage used in those American deals. As operational improvements were, in absolute terms, similar between the regions, they

[151] Loos (2006), p. 209f
[152] Puche, Braun, and Achleitner (2015), p. 105
[153] Puche, Braun, and Achleitner (2015), p. 106
[154] Puche, Braun, and Achleitner (2015), p. 105

drove to a larger extent the returns in Europe and Asia. The latter particularly profited from big increases in sales which makes sense as the developing countries outside of the Western World generally offer the greatest revenue growth potential. Secondly, industrial businesses were more successful than technology-based companies regarding the return earned by the investors. This can again be attributed to a larger share of leverage in total financing as industrials can take on more debt than service firms. For the portfolio companies in the tech industry, value was more prominently created through multiple expansion than through operational improvements which confirms the notion that tech companies are rather valued based on the investor estimates about the future growth than based on current changes in cash flows. Thirdly, value creation was negatively correlated to transaction size as deals involving smaller targets were more profitable for investors than the ones on medium-sized targets, and these in turn yielded a better return than large-cap transactions. According to Puche et al., operational improvements and multiple growth were especially important for small transaction values as there was more potential for enhancements while portfolio companies in the large size bucket were acquired with more debt. Fourthly, the most relevant determinant in predicting the value creation for investors was the exit year. While it has been previously only mentioned and supposed, the returns earned by PE funds and other investors indeed went down over time with the pre-financial crisis years being dramatically more successful than the post-financial crisis time period. The researchers remark that, since all value creation drivers decreased in force, but operational drivers less heavily, they consequently grew in relative importance regarding value creation for PE firms, especially in a high multiple and high purchase price environment.[155]

Overall, the paper however stresses the ability of financial sponsors to achieve exceptional returns as the total invested capital has been, on average, almost quadrupled at an IRR of 34% over the holding period with almost half of the value creation coming from operational improvements (48%). Within operational improvements, the EBITDA effect was significantly larger than the FCF one with sales generating almost two thirds of the business enhancements. Leverage contributed roughly 31% to the returns while multiple expansion and combination effects accounted for 15% and 6%, respectively. The researchers trace the importance of business optimization to the incentive alignment between managers and owners and conclude that PE firms have been successful in achieving superior returns, but need to continuously search for new improvement potential to maintain the past success of the industry.[156]

[155] Puche, Braun, and Achleitner (2015), p. 106
[156] Puche, Braun, and Achleitner (2015), pp. 111-122

V. Methodology, Choice of Case Study and Data Collection

Value creation in LBOs can be analyzed in several ways, among others with an empirical study which covers a broad range of buyouts or with a case study, in which a specific transaction is studied in depth. For this paper, the approach of a case study was chosen, as it offers the advantage to examine the implementation of organizational changes and the value creation in detail, and enables the analysis of particularly complex structures. Furthermore, it allows to test empirical findings along several dimensions on a concrete example, thus giving the reader a comprehensive picture on how a private equity fund can impact a company and generate attractive returns for its investors.

That for, the first step was to identify LBOs in Germany which could serve as a base for a case study. At this stage 129 LBOs in Germany were identified, whereby buyouts below 50 million Euros and in distressed situations were immediately excluded, as they were not considered representative for LBOs in general. In an additional step, this list was shortened and prioritized along several criteria. Firstly, the buyout should have happened post-crisis, in order to reflect the most recent characteristics of companies under PE-ownership. Secondly, the holding period had to be within the usual range, i.e. above three years, to allow drawing conclusions on the work of the PE fund, and below eight years, again to be representative of the majority of buyouts. Additionally, a longer holding period generally indicates that the PE fund had some problems with exiting its investment, which would contradict the purpose of this paper to analyze value creation in successful LBOs. This was also a core criteria in the selection of the buyouts, namely that they were either deemed successful by the fund, the press or by objective criteria, such as the return earned by investors or the company's performance. This screening created a short list with a handful of interesting buyouts, which all had the potential to give insights into the value creation and its implementation. Thus, initial research on these shortlisted buyouts was undertaken to identify the most promising candidates for a case study. Several LBOs had already been investigated in case studies. Therefore, they were ruled out as they would not offer additional insights into the subject, or the value creation and implementation was so apparent and one-dimensional that the insights gained from a further analysis would be limited. Additionally, for some of the buyouts available data was scarce or of insufficient quality, so that a comprehensive analysis was not possible. Eventually, the buyouts of P&I AG by Carlyle, Douglas AG by Advent International, Metabo AG by Chequers Capital and WMF AG by KKR were considered suitable for an insightful case study. In the end, several factors led to the choice of the buyout of WMF AG by KKR. The buyout had a rather complex structure

and the company underwent significant operational changes, thus being promising to offer insights into value creation. Furthermore, it was highly controversial, thus making it even more interesting to analyze whether value was created and how it was implemented. Another reason for choosing this LBO was its representativeness. Firstly, WMF is a very traditional company of average size, with a strong core in Germany but efforts to internationalize. Therefore, it is in a similar situation as lots of companies in Germany from the "Mittelstand", which get more and more attention from PE funds. Additionally, being a secondary buyout, it is not only representative for the increasing share of buyouts which are either secondary or even tertiary, but it also allows to compare different ways to create value between the primary and secondary buyout, promising more precise conclusions and an even broader set of means of how PE funds can influence their portfolio companies. Despite the controversies around this LBO, no profound analysis existed to the knowledge of the authors, thus offering a good balance between potential new insights and available data.

As WMF was listed, audited annual reports for the years until 2013 existed which served as the primary source of accounting data and information on the company. Although WMF was not delisted until the beginning 2015, no annual report was published for 2014. However, due to the fact that companies with certain criteria have to publish their results on the Bundesanzeiger, it was possible to obtain comprehensive and audited financial reports for the years 2014 and 2015. Moreover, financial reports for the German holding companies and investment vehicles of KKR were obtained from the Bundesanzeiger, which served as a primary source for the financing structure, dividends to shareholders and information on the acquisition of WMF. Hence, all these financial statements are the only source for the financials of the company until 2015, to ensure consistency of the used data. These sources were complemented by offer documents, which were filed with the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) (=Federal Financial Supervisory Authority) due to the public takeover offers in 2006, 2012, 2014 and the amendment made to the offer document in 2014, mainly for the terms of the acquisitions and the transaction structure. Additionally, the database of Thomson Reuters was used for stock price information and the Mergermarket database helped identifying LBOs in the first place. Furthermore, press releases by WMF were used to gain insights into the implementation of value creation and press releases as well as publications by Groupe SEB, the acquirer of WMF in 2016, served as a data source especially on the exit and 2016 financials. Lastly, press articles and interviews of newspapers with WMF executives completed the data required for the analysis of the case study. In some occasions, assumptions had to be made to allow certain calculations, which will, however, be stated in the relevant part of the analysis.

VI. Case Study

VI.1 Company Background

The WMF Group was originally founded in 1853 in Geislingen an der Steige, a city in the German state of Baden-Württemberg which still functions as the headquarter of the company, under the name Straub & Schweizer and was producing cutlery and dishes at that time. In 1868, the company opened its first retail store in Berlin, which served both as a distribution center and shop. After the merger with Esslinger Metallwarenfabrik Ritter & Co. in 1880, the company was eventually renamed Württembergische Metallwarenfabrik AG (WMF AG), and listed on the Stuttgart Stock Exchange seven years later, thus being the oldest listed company in the region. In 1927, the product range was expanded and the production of professional coffee machines and pressure cookers started. During the following decades, WMF got known as a producer of innovative, high quality products, for instance with the development of the stainless steel Cromargan® in 1930, a patented technology which is still core to the cutlery business, and the introduction of the worldwide first fully automatic coffee machine in 1969. Additionally, the company expanded its workforce to 6,000 employees and therefore became the most important local employer. The years 1986 to 2006 were dominated by a rapid expansion through acquisitions such as HEPP, Silit, Kaiser and Schaerer to form the multi-brand WMF Group. In 2006, the group entered the consumer electric business, which was expected to have a strong market growth and in 2010 the production of cutlery was moved to China. As of 2011, the year prior to the acquisition by KKR, the company had achieved revenues of 979.4 million Euros, of which 48% were outside of Germany and still employed around 6,000 people, 70% of which in Germany. WMF continued its path of innovative and high quality products and was thus awarded a “Best Brand” award by an important industry magazine due to its quality, image and service. In 2011, WMF also introduced its new organizational structure with the five business units Consumer Goods, (Professional) Coffee Machines, WMF Retail, Consumer Electric and Professional Hotel Equipment, which hence represented the WMF as KKR acquired it.

The Consumer Goods business unit was the largest one with revenues of 424.6 million Euros in 2011. The products of the segments included cutlery, cookware, kitchen tools, drinking glasses, backing pans and accessories which were marketed under the brands WMF, alfi, Silit, Auerhahn and Kaiser. The distribution of the products occurred through own stores as well as specialist retailers. WMF was market-leading in houseware products in Germany and had a

value share of 11% worldwide, while major competitors included Fissler, Fackelmann and Villeroy & Boch.

The Professional Coffee Machines business unit was the most profitable and promising one, as it was supported by increasing coffee consumption around the globe and a strong position of the WMF group. In this segment, the company developed, produced and distributed fully automatic coffee machines through their brands WMF and Schaerer. Furthermore, the company had the largest service team in the industry, with approximately 500 employees and achieved revenues of 285.8 million Euros. While the customer base was diversified ranging from small bistros, restaurants, to cruise ships, hotels as well as gas stations, it showed some cyclicality due to large projects such as the equipment of the Qatar National Convention Center.

The retail stores of WMF were managed by the WMF Retail unit, which was also responsible for the shops of the Silit brand and the factory outlets. In total, it was thus managing over 220 own stores in Germany, Austria and Switzerland and generated revenues of 142 million Euros in 2011. It also offered third party brands in order to represent a one-stop shop, but 80% of the revenues were made with the own brands WMF, alfi, Auerhahn, Kaiser, petra and Silit. It was core to WMF's strategy, which faced problems with the traditional distribution through specialist retailers as they were deteriorating due to the competition of online retailers. This was partly countered with the own stores, which generated 46€ in sales per purchase, a figure which was well above industry average. A second pillar of WMF's distribution strategy was the development of in-store brand shops, which were established in core international markets, for instance 85 brand shops existed in China in 2011. Furthermore, WMF had more than 40 locations worldwide, which were mostly in Europe but also in China, Singapore, Japan and the U.S.

The fourth business unit, Consumer Electric, was also the newest segment and the most problematic one. WMF entered it due to the promising market growth, however, the business unit was still unprofitable in 2011 despite achieving 95.5 million Euros in revenues. The business unit consisted of the WMF brand, which targeted the premium segment, and the brands Nova, Princess and petra, which were dedicated to the mass market. After the restructuring in 2011, the production and development of the products was assumed by the other segments, in order for the Consumer Electric business unit to be purely responsible for the distribution and trade.

The Professional Hotel Equipment business unit was the most cyclical segment of WMF, as it was purely project based and heavily dependent on hotel constructions and the general

investment appetite. Nevertheless, it showed promising growth and was able to win several projects, for instance, the equipment of the Swissôtel in Mekka, thus reaching revenues of 83.4 million Euros in 2011. The business unit sold a variety of products, including buffet equipment, food carts, cutlery and kitchen equipment from the brands WMF and HEPP, while the brand Boehringer Gastro Profi provided services and entire systems to the customers. WMF targeted four to five star hotels, whereby the distribution differed slightly from the other business units, as it mostly happened through designated local partners and was complemented by own subsidiaries in core markets.

Overall, WMF was profiting from strong market trends in consumer spending for kitchen appliances and increasing out-of-home coffee consumption, while the general consumer spending in Germany started to recover after the financial crisis. Outside of Germany, the economic development was less promising and especially in Europe defined by uncertainty about the Eurocrisis.

The board of directors consisted of four experienced executives who had a long history at WMF. Thorsten Klapproth joined WMF as CEO in 2003 after holding various positions at Siemens AG and Bosch Siemens Household Appliances. Dr. Bernd Flohr was with WMF since 1983 and became part of the board in 2000, being responsible for HR, finance, information technology (IT) and procurement. The third executive was Ulrich Müller, who joined in 2003 as responsible director for the coffee machines and hotel business. Dr. Rudolph Wieser was promoted into the board in 2000 after being with WMF for ten years and oversaw technology and production.

Therefore, at the time of the acquisition by KKR, WMF showed attractive characteristics for a PE fund as it was a well-established company with a long tradition and a reputation for high quality and innovation, which enabled them to achieve market leadership in most of its core markets. On top of that, it was present in major growing geographies and segments, however with additional potential especially outside of Europe, which was supported by industry trends. Furthermore, it had an experienced management team, which showed a successful track record in the recent years. Although WMF benefited from some market trends, it was also strongly exposed to the challenging economic environment, which is not a typical trait for a LBO candidate.

VI.2 Transaction Backgrounds

VI.2.1 The Buyout of WMF by Capvis

WMF has always been in the hands of large institutional or individual investors who controlled a significant stake in the company. Starting in 1880, when the company was founded, the Württembergische Vereinsbank had a majority stake, which they sold to the industrialist Gustav Siegle in 1882. The family Siegle stayed majority shareholder of WMF until 1980, when the German industrial company Rheinmetall became majority shareholder while Deutsche Bank also acquired a significant stake. Due to antitrust issues, however, Rheinmetall was forced to sell their stake in WMF to Wolfgang Schuppli, a German lawyer who then held 78% of WMF's ordinary shares. In 1994, he reduced his stake in the company by selling 17% to each Deutsche Bank, Münchener Rück and Württembergische Versicherung, who held their shares until 2006 (Börsen Zeitung, 2011).[157]

In April 2006, Thorsten Klapproth, the CEO of WMF, was cited that various private equity funds were interested in the company and shortly after, the Swiss private equity fund Capvis Equity Partners AG (Capvis) was specifically mentioned as one of those funds. On 21st of April, FIBA Beteiligungs-und Anlage GmbH (FIBA), an investment company controlled by the Austrian entrepreneur Andreas Weißenbacher, acquired 20% of WMF's ordinary shares (Crystal Capital GmbH, 2006).[158] Nevertheless, Capvis announced on 7th of June 2006 that they had acquired the ordinary shares totaling more than 50% from former shareholders Deutsche Bank (17.56%), Münchener Rück (17%) and Württembergische Lebensversicherung AG (17%) through their investment vehicle Crystal Capital GmbH for 19.05 Euros per share, which represented a total purchase price of more than 92 million Euros, which implied an total equity value of 251 million Euros and valued WMF at 359 million Euros, including net debt and pension liabilities of 109 million Euros[159]. Consequently, Capvis had to make a public takeover offer to the remaining shareholders for 19.05 Euros per ordinary share and 15.60 Euros per preferred share, which was below the current market price for both types of shares (Handelsblatt, 2006).[160] The offer period thus ended on 21st of September with only a few shares tendered leaving Capvis with 51.81% in ordinary shares[161]. Another 36.93% of ordinary shares were held by FIBA, who had acquired additional shares from Helvetic Grundbesitz Verwaltung

[157] Article by Weippert-Stemmer (2011): "WMF – die älteste Aktiengesellschaft in Baden-Württemberg", *Börsen Zeitung*
[158] Crystal Capital GmbH (2006): "Offer document Crystal Capital GmbH", p. 13
[159] Based on the offer price and the Net Debt on the WMF Balance Sheet as of 31.06.2006
[160] Handelsblatt (2006): "Schweizer Finanzinvestor übernimmt WMF"
[161] Representing slightly above 34% in share capital, while Capvis bought additional shares prior to their exit

GmbH, a company controlled by the family of Wolfgang Schuppli. After the first representative of Capvis, Daniel Flaig, was already appointed to the supervisory board on 14th of July 2006, Rolf Friedli followed on 27th of November 2006, effectively giving Capvis from then on control over WMF which the PE fund would keep until its exit in 2012.

Capvis is a PE firm based in Zurich concentrated on leveraged buyouts of mid-sized companies and on the provision of growth capital in the DACH region with no specific industry focus. According to the financial sponsor, at the heart of their investment strategy are global niche market leaders. They invested in WMF through their Capvis II Fund, which had a total size of 340 million Euros and had participations in a total of ten companies, including Orior, Stadler and Benninger.[162]

The PE fund intended to support the growth strategy already pursued by the old shareholders as well as management and declared to abstain from drastic interferences into the current course of action (Wirtschaft Regional, 2006).[163] WMF's strategy was characterized by a focus on internationalizing the business. Nonetheless, Capvis would also purse an improvement in margins to achieve higher efficiency levels over the holding period. Consequentially, in 2007, WMF entered Korea, Taiwan and Eastern Europe with their coffee machines business and implemented first structural projects for cost reductions. This was followed by the acquisition of petra electric for the consumer electric business and an expansion of the factory outlet operations. Furthermore, projects such as EFFEKT were launched, which intended to modernize and improve the production systems. Another focus was placed on the enhancement of logistics, which were spun off in 2008 and bundled in the proLOG subsidiary. In 2009, those projects were continued, while being complemented by further efforts to increase sales. For instance, marketing partnerships with Audi and FC Bayern Munich were entered and the e-commerce activities further developed. 2010 was marked by another acquisition in the consumer electric business, the Princess Group, which was active within the high-volume market as opposed to WMF which was present in the premium segment. Moreover, WMF expanded into further markets, including Ecuador, Vietnam and Indonesia. However, Capvis' strategy for WMF did not pan out without issues along the way as some production lines needed to be closed due to the difficult environment in the hotel business, while parts of the production were moved to China. To cope with those problems and the so far disappointing results in the consumer electric business, Capvis decided to implement a new organizational structure,

[162] Capvis Homepage: http://www.capvis.ch/index.php?id=185&L=1
[163] Article by Schneider (2006): "Kein höheres Angebot", *Wirtschaft Regional*

namely the previously mentioned divisional structure with five separate units: WMF Retail, Consumer Electric, Consumer Goods, Professional Hotel Equipment, and Coffee Machines. This divisional structure was supposed to be able to better deal with differing customer needs and market structures in WMF's penetrated regions and to allow for a sharpened value proposition to each customer group. Nevertheless, in 2011 further production closures followed in the manufacturing plant in Geislingen and the consumer electrics production in Burgau. The coffee machines business stayed the most successful one in these years and was able to win new projects such as the equipment of the Qatar National Convention Center and several gas stations in Denmark. However, the planned acquisition of CMA to enter the business of half-automated coffee machines failed in September 2012, after being announced in April 2012 (Stuttgarter Zeitung, 2012).[164]

In March 2012, WMF eventually announced that Capvis is considering various exit opportunities. While there were some issues with production facilities along the way, the primary buyout of WMF can still be deemed a success given the achievements of Capvis, including becoming market leader for kettles and toasters, considerable growth in the attractive coffee machines business and the modernization of production lines. Capvis initiated a dual track process in which they prepared WMF for a secondary IPO, while simultaneously having an auction in which, among others, KKR, CVC and Blackstone participated. It ended on 6th of July 2012 with the announcement of the acquisition of Capvis' shares by KKR marking the second buyout WMF would undergo.

VI.2.2 The Buyout of WMF by KKR

In July 2012, Kohlberg Kravis Roberts & Co. L.P. (KKR) acquired a total of 4,887,555 ordinary shares at 47 Euros each from Capvis via their investment vehicle Finedining Capital GmbH (Finedining Capital). The parties agreed that Capvis would tender its 256,489 preferred shares in the public takeover offer, in which KKR offered 47 Euros for ordinary shares and 31.8 Euros for preferred shares, compared to a minimum price as defined by the BaFin of 37.67 Euros and 31.8 Euros, respectively (Finedining Capital GmbH, 2012b).[165] Thus, it is not surprising that during the offer period from 16th of August to 20th of September and the extended offer period from 26th of September to 9th of October a total of 1,791,643 ordinary shares were tendered, but only 27,824 preferred shares, excluding the ones sold by Capvis (Finedining Capital GmbH,

[164] Stuttgarter Zeitung (2012): "WMF-Übernahmen von CMA – Keine Einigung"
[165] Finedining Capital GmbH (2012b): "Offer document Finedining Capital GmbH", p. 8

2012a).[166] In particular, FIBA, the minority shareholder during Capvis' ownership, reduced its number of ordinary shares to 2,340,000, representing 25.12% of voting rights, while KKR held 71.70% of voting rights and 49.90% of the total capital at the end of the acquisition.[167] The purchase price thus totaled 323.41 million Euros[168], which was financed with 29.7 million Euros of equity, a 173.8 million Euro shareholder loan, and a 150 million Euro loan[169] from the Kreissparkasse Göppingen. This transaction valued WMF at an EV of 671.17 million Euros, taking into account 52.7 million Euros of assumed debt, 73.6 million pension liabilities and 41 million in cash (Finedining TopCo GmbH, 2012).[170]

In a second step, KKR ought to increase its ownership of WMF. On 18th of June 2014, the two major shareholders KKR and FIBA joined forces to make a public offer for the preferred shares of WMF through the investment vehicle Finedining Capital. KKR and FIBA further agreed that FIBA would sell its 2,340,000 ordinary shares to Finedining Capital at a price of 49.99 Euros each, while reinvesting most of the proceeds for 49.9% of the voting rights in the Finedining S.à.r.l., a holding company of Finedining Capital (see Figure 6) (Finedining Capital GmbH, 2014b).[171] The public offer was initially 53 Euros per preferred share, which was later increased to 58 Euros (Finedining Capital GmbH, 2014a)[172] and resulted in a total of 3,237,692 tendered shares, leaving Finedining Capital with a share of 91.96% in the WMF capital.[173] This legally qualified the Finedining Capital for a squeeze-out by merging with the WMF AG.[174] The squeeze-out was concluded on 23rd of March 2015, in that WMF AG transferred its assets and liabilities to the Finedining Capital, which was then renamed WMF AG, and the minority shareholders received an indemnity of 58.37 Euros per share in cash.

[166] Finedining Capital GmbH (2012a): "Announcement Finedining Capital GmbH", p. 1f
[167] Taking into account a total of 9,333,400 issued ordinary shares and 4,666,600 issued preferred shares, and deducting 18,504 ordinary and 26,206 preferred treasury shares
[168] Excluding transaction costs
[169] Of which 20 million Euros were held at WMF AG level
[170] Finedining TopCo GmbH (2012): "2012 Annual Report", p. 5
[171] Finedining Capital GmbH (2014b): "Offer document Finedining Capital GmbH", p. 12
[172] Finedining Capital GmbH (2014a): "Amendment to offer document Finedining Capital GmbH", p. 5
[173] Including 21,900 preferred shares bought in 2013, 10,998 preferred shares and 27,106 ordinary shares bought on the market in September 2014, 209,129 preferred shares and 23,187 ordinary shares bought on the market in the end of 2014.
[174] §62 Abs. 5 UmwG

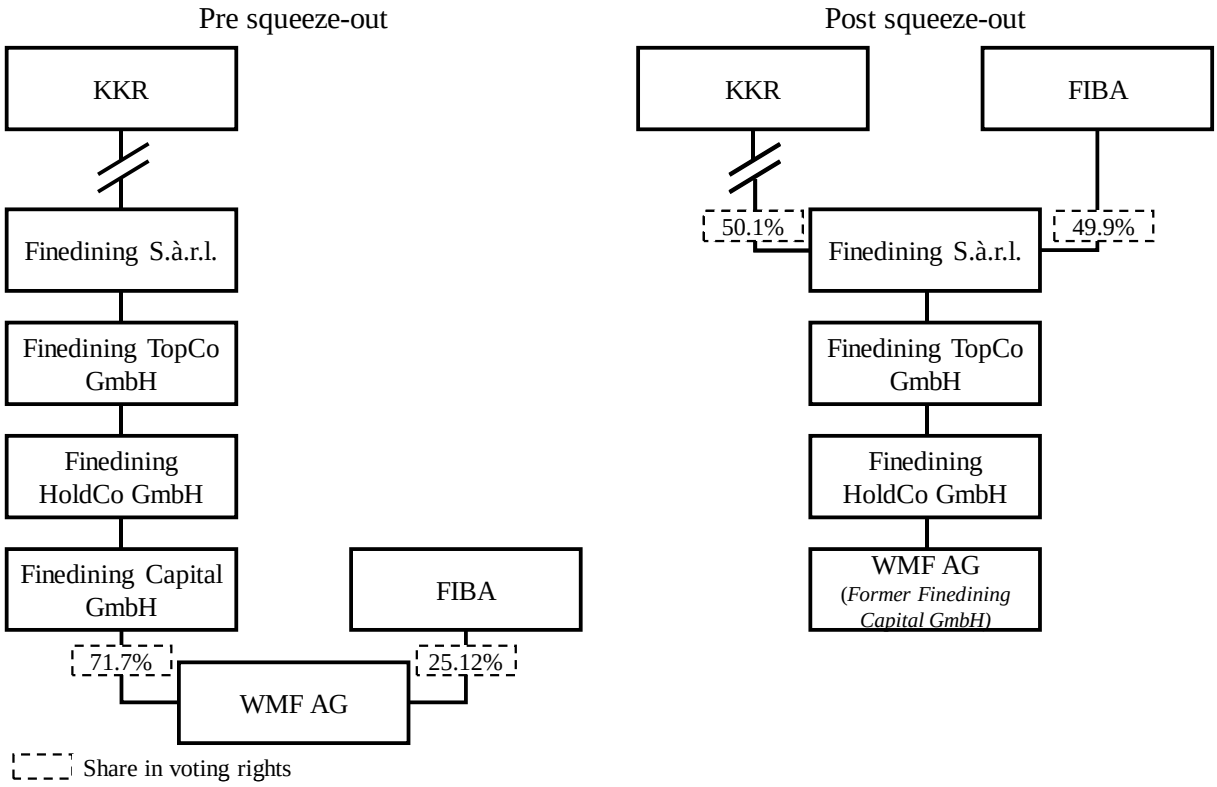

Figure 6 Structure of Holding Companies Prior and After Squeeze-Out

Thus, the total purchase price for the shares bought in 2014 was 320.7 million Euros[175], which was financed with 109.98 million Euros contributed by FIBA and a consortium agreement. This consisted of a Term Facility B1 of 465 million Euros, a Term B2 Facility of 50 million Euros and a Revolving Facility of 100 million Euros, which were also used to refinance the former loan.[176] KKR contributed 116.4 million Euros to the equity capital of the newly formed WMF AG by converting part of their shareholder loan. The consortium agreement was complemented by a 100 million Euro Term Facility B3 in 2015, which helped financing the squeeze-out[177] as well as a 199.7 million Euro dividend to the shareholders, i.e. to KKR and FIBA.

Shortly after the closing of the first transaction on 5th of October 2012, Johannes Huth (later chairman of the board), Christian Ollig and Silke Christina Schreiber from KKR joined the supervisory board of WMF. They were, thus, able to initiate improvements in a company, which, despite experiencing remarkable successes in years leading up to the secondary buyout, had further room to grow. Some business areas, such as the consumer electrics business, remained unsatisfying and the international expansion lagged behind expectations. The

[175] Excluding transaction costs, including the shares purchased from FIBA
[176] The facilities were not fully drawn at the end of 2014
[177] The total indemnity in cash amounted to 65.5 million Euros and the Term Facilities were fully drawn at the end of 2015.

strategic redirection for the upcoming years was hence discussed in a supervisory board meeting in December 2012 and first changes were implemented from 2013 onwards.

In April 2013, the company announced that CEO Thorsten Klapproth, who was with WMF for ten years, would leave the company in May and be replaced by former Beiersdorf director Peter Feld (Handelsblatt, 2013).[178] This announcement was followed by a first major step: the divestiture of the still loss-making Princess Group, including the Princess, petra and Nova brands, in May 2013. This can be considered the start of a large-scale transformation program which was passed in the second half of 2013 and which would define the following years. The initiative evolved around five central topics: customer centricity, profitable growth in Europe, accelerated expansion beyond Europe, operational excellence and high performance organization and team. First measures of this program were already implemented at the end of 2013, such as the closure of non-economic stores and a reduction of the product range, namely the number of products was shrunk from 40,000 to 24,000 to decrease complexity and redundancies. Furthermore, the brand Auerhahn was abandoned, while some of its products were continued under the WMF brand. Another step of the program was to bring the consumer business, including consumer goods, WMF Retail and consumer electric, under joint management to better address customer needs. Additionally, the international expansion was rigorously advanced by creating the position of Regional President for Greater China. Christoph Cheng, a former Levi's and Starbucks manager, assumed the job and was located in Shanghai, in order to strengthen WMF's presence in the yet underpenetrated Chinese market. Besides those strategic and operational measures, the company announced that a long-term incentive program (LTI) was put in place.

In April 2014, WMF revealed further details of the transformation initiative which included the centralization of the logistics function and a general cost cutting program. The previously dispersed logistics locations (in total 33) ought to be bundled within two logistic centers in Germany. This had firstly the purpose of increasing transparency on inventories, improving availability of the products and reducing delivery time. Average availability was only at between 60 and 90 per cent and only 60 per cent of the products could be delivered within two business days, which was below market expectations. Secondly, the company planned on decreasing staff costs by ten per cent, meaning that they set out to cut up to 700 jobs, of which around 250 were within logistics. In total, these measures should have yielded 30 million Euros

[178] Handelsblatt (2013): "Beiersdorf-Vorstand soll WMF-Chef werden"

of savings per year (Stuttgarter Nachrichten, 2014).[179] The brand Silit was in particular affected by the downsizing program while the in-house galvanic department was altogether closed, resulting in job cuts between 100 and 300 jobs at the location in Riedlingen, while up to 300 jobs were affected in Geislingen, the headquarter of the company. Beside the logistic workers, however, also middle managers were affected by the job cuts. Under KKR's ownership WMF wanted to introduce a flatter hierarchy and consequentially consolidated double structures within marketing and administration, which were to be based solely in the headquarters in Geislingen. For instance, the BoD should only consist of two people instead of the then four members. And indeed, Ulrich Müller, who was responsible for the coffee machines and hotel business left in August, while Florian Lehmann took over his responsibilities on the president level. Furthermore, additional retail stores were closed, totaling 40 of the initial 200 locations. In combination with the cost cutting measures, however, the company also initiated growth projects such as the continued focus on expansion in the U.S. and in Asia, where additional personnel was set to help with handling the Asian growth market. Furthermore, a partnership with DKSH, a market expansion service, was concluded, in which WMF would be supported in sales and after-services of coffee machines in China (WMF Group, 2014).[180] Finally, the company emphasized the importance of the continued development of their e-commerce activities (Stuttgarter Nachrichten, 2014).[181]

In 2015, the new logistics center opened and the two factory outlet centers were sold to Mutschler, a company specialized in the investment and development of outlet centers, while one of the factory outlets was leased back for an initial fifteen years. Additional efforts were undertaken to boost international growth, such as the acquisition of the 24.5% non-controlling interest in the U.S. subsidiary of the Schaerer division. In China, the team, which was a pure sales organization in 2013, expanded and then included 23 marketing and digital marketing experts (Südwest Presse Online, 2015b).[182] In India, WMF established a joint venture with Coffee Day[183], the country's largest coffee house chain, in which they collaborated in the production and development of coffee machines for the local market.[184]

In 2016, another partnership was initiated with JD.com, which allowed WMF to have a flagship online store in China. Furthermore, the construction of a new knife production facility in Haying

[179] Article by Flaig (2014): "Das ist ein ganz schwerer Umbau", *Stuttgarter Nachrichten*
[180] WMF Group (2014): "WMF stärkt Chinageschäft durch exklusive Partnerschaft mit DKSH", *Press Release*
[181] Article by Flaig (2014): "Das ist ein ganz schwerer Umbau", *Stuttgarter Nachrichten*
[182] Article by Schneider (2015b): WMF: 'Ein bisschen was abschütteln'", *Südwest Presse Online*
[183] WMF holds 51% in the joint venture, while Coffee Day holds the remaining 49%
[184] The collaboration will be made under the Schaerer brand

was started and the sales activities for professional equipment were bundled in WMF Gastro Profi, while being complemented by third party products, in order to create a one-stop-shop for its customers. Over KKR's holding period, WMF was able to accelerate the international expansion efforts dramatically, especially by securing and extending its strong position within the coffee machine segment, while achieving a more efficient and slimmer organizational structure.

Rumors about a potential exit of KKR had already started in the end of 2015 (Südwest Presse Online, 2015a)[185], but the auction process only began in early 2016 and offers could be placed until the 21st of March, after which KKR wanted to decide on suitable acquirers. A total of 30 strategic buyers were interested in WMF, however only a few of them were considered to be serious (M&A Dialogue, 2016).[186] Among them was Haier, a Chinese household appliance company, which was long considered the presumptive favorite to win the auction process, but also the French Groupe SEB, the Italian company DeLonghi and Middleby from the U.S. However, also private equity funds participated in the auction (Die Presse, 2016).[187] On 23rd of May 2016, Groupe SEB announced that it had signed an agreement with KKR to acquire WMF for an EV of 1.71 billion Euros including 565 million Euros of assumed net debt and 125 million Euros of pension liabilities. Additionally, Groupe SEB paid a consideration of 70 million Euros, in order to keep WMF's 2016 results (Groupe SEB, 2016a[188] and Groupe SEB, 2017b[189]). The transaction eventually closed on the 30th of November 2016. Groupe SEB is a French producer of household goods, cooking appliances, home appliances and personal care items, consisting of brands such as Moulinex, Tefal, Rowenta and Krups. According to the management of Groupe SEB, WMF will help them to strengthen their position in Germany and especially in the highly profitable growth market of professional coffee machines (Groupe SEB, 2016b).[190]

[185] Article by Rahnefeld (2015a): "Spekulation um Verkauf der WMF schlägt Wellen", Südwest Presse Online
[186] M&A Dialogue (2016): "Haier mit besten Chancen auf WMF"
[187] Die Presse (2016): "Bieter für Kaffeemaschinen-Hersteller WMF stehen Schlange"
[188] Groupe SEB (2016a): "Signature of an agreement for the acquisition of WMF – Groupe SEB strengthens its global leadership", *Press Release*
[189] Groupe SEB (2017b): "2016: record performances", *Press Release*
[190] Groupe SEB (2016b): "WMF Acquisition – Strengthening Groupe SEB's leadership and adding a new growth platform", *Financial Presentation*

VI.3 Value Creation on Company Level

VI.3.1 Overview of Underlying Financials and Financial Performance

As seen in the previous section, WMF implemented a multitude of measures aimed at simultaneously increasing sales and improving EBITDA margin during KKR's holding period. In order to get comparable figures and exclude the one-off effects of the restructuring efforts during the years, the analysis will be based on adjusted figures, which will be elaborated in the following paragraph.[191]

WMF AG's income statement is taken as a basis for the analysis of value creation up to 2013. Afterwards, the consolidated statements of the Finedining TopCo are used for 2014 and 2015, as the WMF AG did not report any financials after having merged into the Finedining TopCo (then called WMF Group). For 2016, the figures provided in the annual report of Groupe SEB are taken (Groupe SEB, 2017a).[192] In order to arrive at the adjusted EBITDA, the following adjustment were made: Firstly, interest expenses for pension liabilities are added back to EBITDA and deducted from EBT in 2011 and 2012, as those are included in staff costs until 2012, but in interest expense from 2013 on. Furthermore, the staff costs in 2013 are reduced by 3.5 million Euros, due to one-time expenses in connection with the early retirement of Thorsten Klapproth and the employment of Peter Feld.[193] During the years 2014 and 2015, staff costs were irregularly high due to costs related to the job cuts and the associated social plan. These expenses are added back to the EBITDA, representing 20 million Euros and 4 million Euros for 2014 and 2015, respectively.[194] Furthermore, WMF incurred exceptional costs for consulting services and monetary transactions in the years from 2013 to 2015 due to the restructuring and refinancing, so that all consulting expenses above a threshold of 7 million Euros and all transaction cost above 1.5 million Euros are added back to other expenses.[195] The major additional adjustment for the EBIT line is the increase in depreciation expense. Due to the purchase price allocation, depreciation in the consolidated Finedining TopCo statement is significantly higher than in the WMF AG financial statements. For the year 2013, the depreciation is thus simply taken from the consolidated Finedining TopCo statement. As 2013 is the only year in which both a separate WMF AG and a full consolidated Finedining TopCo

[191] The detailed financial statements used for the analysis can be found in the appendix.
[192] Groupe SEB (2017a): "2016: record performances", *Press Release*
[193] Includes 2,595,000 Euros severance payment to Thorsten Klapproth and a signing bonus of 900,000 Euros for Peter Feld
[194] The annual report states that these costs were more than 20 million Euros and 4 million Euros. Since the exact costs are not specified, these figures are taken as a conservative estimate.
[195] The thresholds are slightly above historical figures in order to have a conservative estimate.

report exists, the difference in depreciation between these statements is taken as an approximation to adjust the years 2011 and 2012, in order to have comparable figures.[196] Additionally, an impairment charge from the consumer electrics business of 7.3 million Euros is added back to the adjusted EBIT in 2012. Finally, to get the adjusted net income, all adjustments are taxed at the prevailing income tax rate in Germany as stated in the annual report, as most of the charges related to the restructuring are connected to the operations in Germany.[197]

In € thousands	2011	2012	2013	2014	2015	2016	CAGR '12-'16
Revenue	**979,411**	**1,027,326**	**1,014,970**	**1,024,310**	**1,061,413**	**1,099,700**	**1.72%**
EBITDA	91,475	100,271	73,500	67,726	106,126	128,000	6.29%
Adjusted EBITDA	**94,794**	**103,981**	**108,958**	**110,408**	**117,264**	**128,000**	**5.33%**
EBIT	64,984	71,436	47,358	20,766	61,019	77,900	2.19%
Adjusted EBIT	**50,680**	**64,823**	**65,193**	**63,448**	**72,157**	**77,900**	**4.70%**
Net Income	44,359	44,847	25,312	30,125	20,066	-	
Adjusted Net Income	**31,988**	**37,600**	**37,832**	**60,088**	**27,885**	-	

Table 1 Abbreviated Income Statement WMF AG 2011 to 2016

Besides the adjustment of net income and depreciation, the cash flow statement is adjusted for interest expense, which is shown in cash flow from financing activities in 2014 and 2015, due to its unusual amount resulting from the buyout debt. Thus, interest expense is added back in the cash flow from operating activities in the years 2011 to 2013 and deducted in the cash flow from financing activities.[198] For the balance sheet, the consolidated statement of Finedining TopCo is taken as a basis as it includes the values adjusted for the purchase price allocation from 2012 onwards (see Appendix 1).[199]

In € thousands	2011	2012	2013	2014	2015
Net Income	44,359	44,847	25,312	30,125	20,066
Adjusted Net Income	**31,988**	**37,600**	**37,832**	**60,088**	**27,885**
Result from Equity Valuation	(573)	290	1,161	(1,086)	(2,735)
D&A	26,491	28,835	26,142	46,960	45,107
Adjusted D&A	**44,114**	**39,158**	**43,765**	**46,960**	**45,107**
Change in Provisions	2,641	20,229	5,372	2,130	6,483
Gain/Loss on Disposal of Assets	38	(2,123)	(872)	142	(4,874)
Change in Working Capital	(33,335)	(2,810)	33,640	3,369	(6,369)
Interest Expense	-	-	-	17,241	30,793
Adjustments	**2,421**	**1,890**	**5,313**	**-**	**-**
Other Non-Cash Items	(1,494)	(20,248)	1,764	(4,324)	(1,944)
CF from Operations	38,127	69,020	92,519	94,557	86,527
Adjusted CF from Operations	**45,800**	**73,986**	**127,975**	**124,520**	**94,346**

Table 2 Cash Flow from Operations WMF AG 2011 to 2015

[196] The depreciation for the years 2011 to 2013 is increased by 17.6 million Euros.
[197] Tax Rate until 2007 is 38%, from 2008 to 2009 29.1%, from 2010 onwards 29.8%
[198] Cash interest expense is approximated with the interest expense shown in the P&L, although this might include non-cash items, which are already considered in another line item. However, this mistake is considered marginal.
[199] For 2011 the balance sheet of Crystal Capital GmbH is taken.

For the primary buyout by Capvis, there were some restructuring costs during the holding period, but there is no indication of their impact on the accounts, so that fewer adjustments are made. Nevertheless, EBITDA is adjusted for extraordinary high consulting costs in the year 2005, which are figured at 3.7 million Euros and in 2009, using the same methodology and threshold as before. Furthermore, EBITDA is not adjusted for interest on pension liabilities during the Capvis period, because the change in accounting happened after the exit and hence, the figures remain comparable throughout the holding period. The impairment in 2012 is the only additional adjustment for EBIT. For the adjusted net income, the methodology remains the same and represents the only change in the cash flow statement. Furthermore, we take the balance sheet of WMF AG as basis for the analysis, as there are no comparability problems due to the purchase price allocation within the holding period.

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
Revenue	**577,679**	**731,774**	**761,528**	**795,806**	**800,020**	**901,575**	**979,411**	**1,027,326**	**5.82%**
EBITDA	31,459	55,099	76,576	63,635	64,405	83,175	91,475	100,271	10.49%
Adjusted EBITDA	**35,159**	**55,099**	**76,576**	**63,635**	**66,632**	**83,175**	**91,475**	**100,271**	**10.49%**
EBIT	11,839	32,419	53,270	41,297	41,599	58,388	64,984	71,436	14.07%
Adjusted EBIT	**15,539**	**32,419**	**53,270**	**41,297**	**43,826**	**58,388**	**64,984**	**78,736**	**15.94%**
Net Income	8,476	19,921	35,140	22,485	25,948	38,668	44,359	44,847	14.48%
Adjusted Net Income	**10,770**	**19,921**	**35,140**	**22,485**	**27,527**	**38,668**	**44,359**	**49,972**	**16.57%**

Table 3 Abbreviated Income Statement WMF AG 2005 to 2012

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012
Net Income	8,476	19,921	35,140	22,485	25,948	38,668	44,359	44,847
Adjusted Net Income	**10,770**	**19,921**	**35,140**	**22,485**	**27,527**	**38,668**	**44,359**	**49,972**
Result from Equity Valuation	(388)	(515)	121	(645)	1,651	(1,383)	(573)	290
D&A	19,620	22,680	23,306	22,338	22,806	24,787	26,491	28,835
Change in Provisions	5,270	2,386	5,373	827	(2,272)	(2,045)	2,641	20,229
Gain/Loss on Disposal of Assets	(655)	(319)	(1,114)	(1,809)	(3,996)	(41)	38	(2,123)
Change in Current Assets	(12,529)	(16,511)	(24,815)	(7,552)	44,213	(42,510)	(43,371)	(15,256)
Change in Current Liabilities	2,862	16,202	2,407	(386)	(3,745)	31,272	10,036	12,446
Other Non-Cash Items	-	-	-	-	(1,591)	7,231	(1,494)	(20,248)
CF from Operations	22,656	43,844	40,418	35,258	83,014	55,979	38,127	69,020
Adjusted CF from Operations	**24,950**	**43,844**	**40,418**	**35,258**	**84,593**	**55,979**	**38,127**	**74,145**

Table 4 Cash Flow from Operations WMF AG 2005 to 2012

Although Capvis acquired WMF in 2006, it is assumed that the accounts in 2006 show no major impact of implementations and changes, also because the supervisory board did not fully change until the end of November 2006. Thus 2006 is taken as baseline for the primary buyout. Similarly, the results in 2012 are attributed to Capvis' holding period and thus taken as a baseline for the secondary buyout, while the results in 2016 are attributed to the implementations during KKR's ownership.

As can be seen in Table 1 WMF managed to both increase sales and EBITDA during the holding period of KKR, whereby EBITDA grew notably faster. Nonetheless, the CAGR of both figures was even higher during the primary buyout (see Table 3), despite the longer holding period and

the financial crisis during Capvis' ownership. In order to better understand these differences and how the secondary buyout of WMF could be a success for KKR, the following sections will analyze the various value drivers and the impact of the implemented initiatives in detail.

VI.3.2 Overview of Value Drivers

Within the section, the focus will be placed on the secondary buyout by KKR, but references will be made to the primary one by Capvis, if appropriate. As described in section IV.2, one of the reasons why the value of companies increases significantly during PE ownership is that PE firms incentivize the management properly to focus their efforts on projects increasing the EV thus resolving the agency conflict often present in PCs between managers and owners. In the case of WMF and KKR, this was achieved through a long-term incentive program, which was announced in 2012, shortly after KKR took control. The LTI is described as follows in the 2013 annual report of WMF:

> *"In addition to the Executive Board service contract, the members of the Executive Board also participate in a long-term incentive (LTI) programme, which has the aim of bringing about an increase in the Company's equity value over several years. As well as in the event of a mandatory offer or a takeover bid by a third party, the bonus is also paid out in particular if the volume-weighted average price of the ordinary and preference shares exceeds the base equity value by at least 35 % for three calendar months, whereby at least 35 % of both the ordinary and the preference shares must be in free float. The base equity value corresponds to the offering price in the takeover bid by Finedining Capital GmbH in 2012 of € 632 million plus interest on this in the amount of 8 % for the first year, plus interest on equity of 8 % p.a. The bonus is paid only if the target equity value exceeds the base equity value by at least 35 %. The bonus increases on a straight-line basis from an individually agreed base value to a cap at the point where the base equity value is exceeded by 60 %." (WMF Group, 2013)*[200]

The terms of the LTI strongly resemble the description of a carried interest mechanism, in particular the fact that the bonus is calculated on the basis of the equity value at entry and includes an 8% hurdle rate, however with a lower and upper cap. Another difference is that the bonus is paid by the operating company and not in form of a participation at the exit of the

[200] WMF Group (2013): "Annual Report WMF Group", p. 47

private equity fund. The annual report further specifies that only two of the executive board members actually participate in the LTI program and that it had a value of 1,278 thousand Euros, when it was granted in April 2013 and was valued at 9 million Euros at the end of 2015. Furthermore, the remuneration of the executive board members increased in 2013 as compared to 2012 (see Table 5), even though performance increased only marginally.[201] This indicates an effort to further incentivize management, in line with the observations by Achleitner et al. (2014), who found that incentivization efforts are expanded in secondary buyouts through increased ownership stakes and a greater pool of managers participating in the remuneration packages.[202]

In € thousands 2012	*Fixed*	*Variable*	*Total*	*Per Month*
Thorsten Klapproth	450	341	791	66
Dr. Bernd Flohr	300	227	527	44
Ulrich Müller	300	227	527	44
Dr Rudolph Wieser (until 30.04.2012)	100	76	176	44
Total	1,150	871	2,021	

In € thousands 2013	*Fixed*	*Variable*	*Total*	*Per Month*
Peter Feld (since 01.08.2013)	313	313	626	125
Thorsten Klapproth (until 31.05.2013)	391	378	769	154
Dr. Bernd Flohr	336	336	672	56
Ulrich Müller	338	336	674	56
Total	1,378	1,363	2,741	

Table 5 Remuneration Executive Board 2012 and 2013

Also in the primary buyout by Capvis, incentive alignment played an important role and remuneration for the executive board increased significantly under the ownership of the PE fund, especially the variable component (see Table 6).

In € thousands	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Remuneration	1,350	1,828	4,440	3,666	3,481	3,604	3,150	2,021
Of which Fixed	780	766	1,350	1,350	1,282	1,350	1,350	1,150
Of which Variable	570	1,062	3,090	2,316	2,199	2,254	1,800	871
% of Total	*42%*	*58%*	*70%*	*63%*	*63%*	*63%*	*57%*	*43%*

Table 6 Remuneration Executive Board 2005 to 2012

Furthermore, the management participated in the buyout by Capvis with a stake of almost 20% in the holding company, which implies a value of approximately 40 million Euros at the exit held by members of the executive board (Stuttgarter Zeitung, 2012b[203] and Stuttgarter Zeitung, 2012a[204]).

Although WMF CEO Peter Feld explicitly stated in an interview that KKR did not impose any return targets or operational changes (Stuttgarter Nachrichten, 2014)[205], in both buyouts the interests of the management were aligned with the ones of the PE funds, and indeed the company managed to increase the EV during each holding period. While the EV increased 1.9

[201] Results actually deteriorated, however EBITDA slightly increased on an adjusted basis and sales increased by 2% adjusted for the sale of Princess group.
[202] Achleitner, Figge, and Lutz (2014), p. 297
[203] Article by Scheffbuch (2012b): "40 Millionen für den WMF-Vorstand", *Stuttgarter Zeitung*
[204] Article by Scheffbuch (2012a): "Capvis bestätigt starke Einbindung der WMF-Chefs", *Stuttgarter Zeitung*
[205] Article by Flaig (2014): "Das ist ein ganz schwerer Umbau", *Stuttgarter Nachrichten*

fold from 358 million Euros to 671.2 million Euros in the primary buyout, it even increased 2.5 fold to 1.71 billion Euros in the secondary buyout.

In order to determine the drivers for this increase in EV, its three components sales, EBITDA margin and transaction multiple are analyzed separately, using the following relationship as a basis:

$$Enterprise\ Value = Sales\ x\ EBITDA\ Margin\ x \frac{EV}{EBITDA}$$

The contribution of each driver is calculated, in that the other components are held constant at their entry value and the increase in EV is determined as if only the analyzed driver had changed:

$$Sales\ Effect = \left(Sales_{Exit} - Sales_{Entry}\right) x\ EBITDA\ Margin_{Entry}\ x\ \frac{EV_{Entry}}{EBITDA_{Entry}}$$

$$Margin\ Effect = Sales_{Entry}\ x\ \left(EBITDA\ Margin_{Exit} - EBITDA\ Margin_{Entry}\right) x \frac{EV_{Entry}}{EBITDA_{Entry}}$$

$$Combination\ Effect\ 1 = \left(Sales_{Exit} - Sales_{Entry}\right) x\ \left(EBITDA\ Margin_{Exit} - EBITDA\ Margin_{Entry}\right) x \frac{EV_{Entry}}{EBITDA_{Entry}}$$

The sum of the sales effect, margin effect and the effect through combination of both is the total impact of EBITDA expansion. The effect of multiple expansion is calculated in a similar way:

$$Multiple\ Effect = Sales_{Entry}\ x\ EBITDA\ Margin_{Entry}\ x\ \left(\frac{EV_{Exit}}{EBITDA_{Exit}} - \frac{EV_{Entry}}{EBITDA_{Entry}}\right)$$

$$Combination\ Effect\ 2 = \left(EBITDA_{Exit} - EBITDA_{Entry}\right) x\ \left(\frac{EV_{Exit}}{EBITDA_{Exit}} - \frac{EV_{Entry}}{EBITDA_{Entry}}\right)$$

In order to calculate these figures, forward looking numbers are taken as a basis. In particular, the revenues and EBITDA in 2012 are taken as entry figures for KKR instead of taking 2011 figures, which were in fact the latest available audited results at that time. It is assumed that the PE fund paid for the future performance of WMF and that current trading at the time of the acquisitions was already giving a reasonable guidance on the full year performance, which allows to draw more precise conclusions on the reasons for changes in multiples.[206]

As can be seen in Figure 7, the increase in EV during KKR's ownership is mainly attributable to multiple expansion, representing 717,951 thousand Euros in value creation or 69.1% of total value creation. The expansion of EBITDA contributed 155,036 thousand Euros (14.9%), of

[206] The adjusted EBITDA figures are taken, assuming that they are close to the budgeted numbers. Indeed, there is no indication that EBITDA in the entry years was significantly higher or lower than expected, except for the items which were adjusted. This methodology allows to better discriminate between negotiation skills and actual improvement of the underlying performance.

which the larger part is attributable to an increase in margin. The combination of multiple expansion and EBITDA increase added another 165,842 thousand Euros (16%), thus resulting in a total value creation of 1,038,830 thousand Euros.

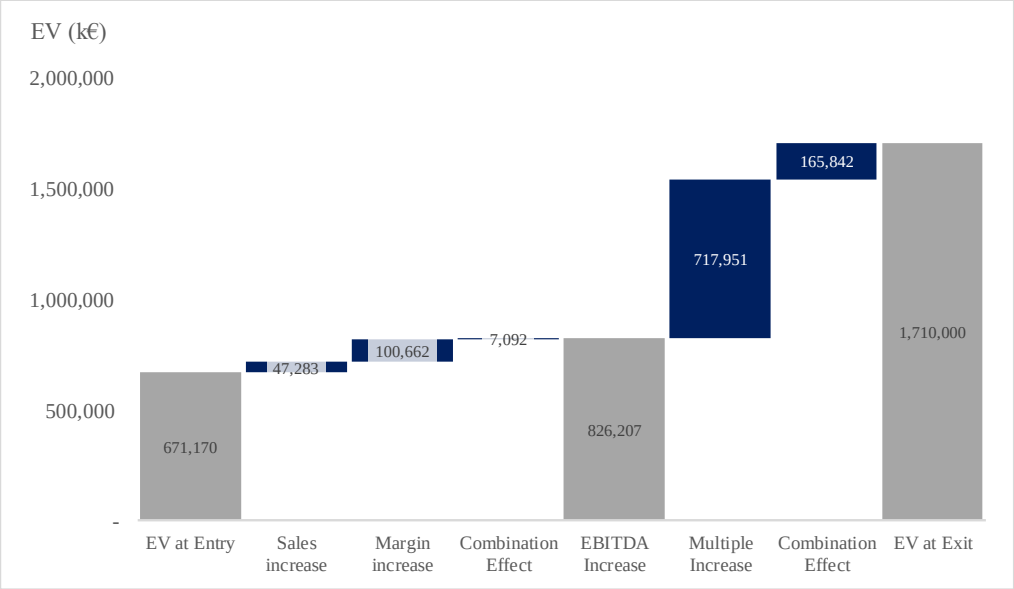

Figure 7 Value Creation Secondary Buyout by KKR

The contribution of the drivers looks remarkably different in the primary buyout (see Figure 8). Here, the increase in EBITDA contributes 294,481 thousand Euros, thus representing 94.4% of total value creation, of which the increase in sales is representing 49.3%, the expansion of the margin 36.1% and the combination of these two 14.6%. As the multiple increased only from 6.52x to 6.69x the effect is considerably low, representing 3.1% of the addition to EV and the second combination effect an additional 2.5%, totalling 311,974 thousand Euros.

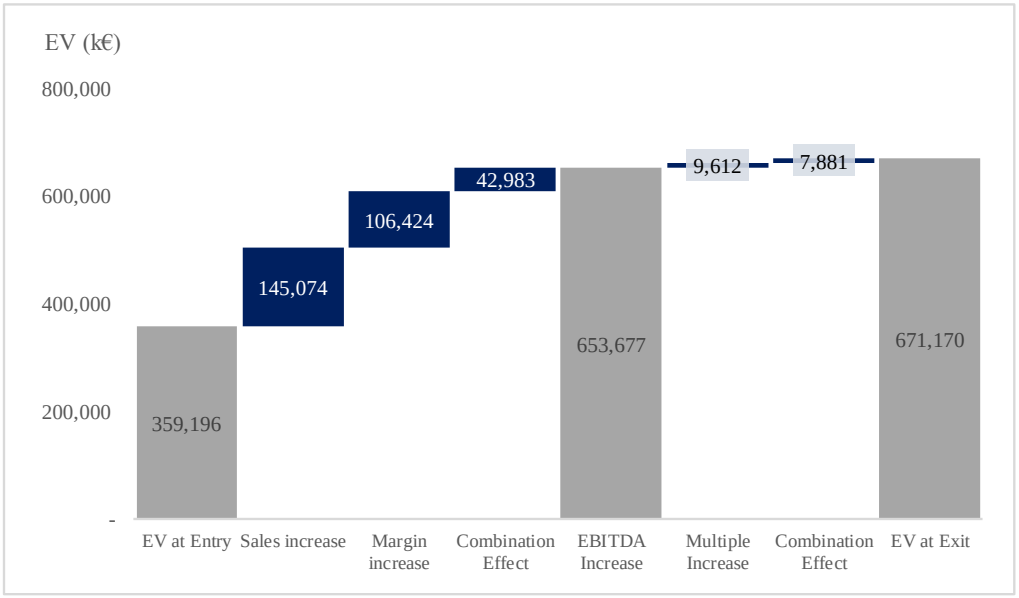

Figure 8 Value Creation Primary Buyout by Capvis

Thus, it can be concluded that in both buyouts value was created, however in different ways. The reasons for this significant shift in contribution of the divers will be analysed in the following sections. This contrasts the findings of Achleitner and Figge (2014), as explained in section IV.4.3.5 on the comparison between primary and secondary buyouts. The researchers did not identify a significant difference in the amount or type operational improvements as both sales increases and margin enhancements could be observed.[207] Moreover, the study attributes the higher price paid for targets owned by PE funds to the timing or negotiation skills of GPs. According to Achleitner and Figge, the primary financial sponsor will only sell the company when it is perceived by the fund's managers to receive a high valuation[208] but in the case of WMF, Capvis actually only benefited by a very slight increase in multiples. Instead, KKR was able to massively expand the multiples as the effect accounted for most of the fund's value creation. The reasons for this peculiarity will be analyzed in detail in section VI.3.5.

VI.3.3 Sales Increase

As seen in the previous section, sales growth had only a small effect on overall value creation in the buyout of WMF by KKR. Nevertheless, a detailed analysis of the sales figures is still worthwhile to understand the reasons for the development, changes in composition and key drivers of sales during the holding period. Overall, sales grew from 1.03 billion Euros in 2012 to 1.1 billion Euros in 2016, representing a CAGR of 1.72%.

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'16
Total Sales	**979,411**	**1,027,326**	**1,014,970**	**1,024,310**	**1,061,413**	**1.72%**
Growth		*4.89%*	*(1.20%)*	*0.92%*	*3.62%*	
Consumer Goods	**609,114**	**630,556**	**611,640**	**593,982**	**590,500**	**(1.19%)**
As of Total	*62.19%*	*61.38%*	*60.26%*	*57.99%*	*55.63%*	
Professional Hotel Equipment	**83,354**	**79,351**	**76,982**	**78,647**	**74,700**	**(0.43%)**
As of Total	*8.51%*	*7.72%*	*7.58%*	*7.68%*	*7.04%*	
Professional Coffee Machines	**285,777**	**315,978**	**323,110**	**347,790**	**394,400**	**7.42%**
As of Total	*29.18%*	*30.76%*	*31.83%*	*33.95%*	*37.16%*	
Others	1,165	1,443	3,238	3,890	1,813	

Table 7 Sales Development WMF Group 2011 to 2016[209]

Sales growth was both affected by company specific factors and the sector development. The market environment during the holding period was characterized by moderate consumer spending and GDP growth, which slightly recovered in the final years, so that the retail sector was down by 2.4% in 2013 in Germany, grew by only 1.4% in 2014 and 2.8% in 2015, and the hospitality sector in Germany was down by 3.4% in 2013, grew 1.1% in 2014 and 1.4% in 2015.

[207] Achleitner and Figge (2014), p. 430f
[208] Achleitner and Figge (2014), p. 431
[209] For 2011 to 2014 consumer goods includes consumer electric, WMF retail and consumer goods from the old reporting structure, which were grouped in 2015.

Thus, WMF expanded slightly faster than the market during that time, while their absolute sales figures were strongly affected by the disposal of business units, such as the Princess Group and alfi as well as the closure of unprofitable retail stores. In particular, the sale of the Princess Group reduced the sales growth over the period, as an adjustment for the 57.2 million Euros of sales in 2012 increases the sales CAGR to 3.2%, a growth rate well above the sector's one. Furthermore, the reduction in the number of products offered was hampering absolute sales growth.

These developments become even more apparent when looking at the segment results. Overall, the consumer goods sales decreased from 631 million Euros to 601 million Euros over the period (CAGR -1.19%), mainly driven by the divestments within the consumer electric business, where sales consequently decreased from 91 million Euros in 2012 to 37 million Euros in 2014.[210] The other businesses within the consumer goods segment consisting of WMF Retail and the former consumer goods part including cutlery, cookware and kitchen appliances indeed grew during the period from 2012 to 2014 at a CAGR of 1.5% and 1.6%, respectively. The professional hotel equipment business experienced a decline in sales as well from 79 million Euros in 2012 to 78 million Euros in 2016, however for different reasons. The professional hotel equipment business is the most cyclical part of the WMF group and exposed to the overall economic development as well as large projects and therefore suffered from the still reserved investment demand within the hospitality sector. The major driver of sales growth was hence the highly attractive business with professional coffee machines, which experiences supporting macro-trends, such as the increased coffee consumption in the Americas and Asia (Groupe SEB, 2016b).[211] Hence, the major projects concerning top-line growth were targeted at exploiting these developments within the segment, such as the partnership with DKHS in China, the joint venture with Coffee Day in India and the acquisition of the remaining shares in the U.S. subsidiary of the Schaerer brand. The CAGR of this business unit was therefore strongly above the one of the other segments with 7.4% between 2012 and 2016. As a consequence, the share of the business unit in total sales increased from less than 31% to more than 38% during the period, thus becoming more and more important for the Group. The focus on this business unit resulted in WMF being the market leader for professional coffee machines with a market share of 28%, more than 200,000 installed machines generating a share of one

[210] Due to the change in the segment structure, the split within the consumer goods business is only available until 2014.
[211] Groupe SEB (2016b): "WMF Acquisition – Strengthening Groupe SEB's leadership and adding a new growth platform", *Financial Presentation*

third in recurring revenues and the largest service network in the industry (Groupe SEB, 2016b).[212]

The second major focus for sales during the holding period and one of the pillars of the transformation program was the expansion outside of Europe.

In € thousands	2011	2012	2013	2014	2015	2016	CAGR '12-'15
Total Sales	**979,411**	**1,027,326**	**1,014,970**	**1,024,310**	**1,061,413**	**1,099,700**	**1.09%**
Germany	513,713	531,825	544,673	554,878	540,205	-	**0.52%**
As of Total	*52.45%*	*51.77%*	*53.66%*	*54.17%*	*50.89%*		
Rest of Europe	317,042	318,816	282,238	284,625	295,371	-	**(2.51%)**
As of Total	*32.37%*	*31.03%*	*27.81%*	*27.79%*	*27.83%*		
Outside Europe	148,656	176,685	188,059	184,807	225,837	-	**8.53%**
As of Total	*15.18%*	*17.20%*	*18.53%*	*18.04%*	*21.28%*		

Table 8 Sales Development by Geography WMF Group 2011 to 2016

While the sales increase in the home market Germany was moderate and the development in the rest of Europe was again marked by the sale of the Princess Group, the initiatives enacted as part of the transformation program manifest in a CAGR of 8.5% on sales outside of Europe. This is, on the one hand, a result of inorganic growth efforts, i.e. the partnerships in China and India as well as the full acquisition of Schaerer U.S., and, on the other hand, further organic initiatives aimed especially at China, such as the establishment of a local management and marketing force in Shanghai and the new online flagship store on JD.com. Indeed, the new CEO Feld stressed the importance of China for WMF in an interview in 2014, when he said that WMF had barely grown internationally in the preceding five years and had underperformed both the expectations and the competitors in the important growth market China (Wirtschaftswoche, 2014).[213] Nevertheless, WMF did not achieve the target of 55% share in sales outside of Germany, which Feld declared in the same interview, but the figure increased from 48% in 2012 to 49% in 2015 with the share in sales outside of Europe growing from 17% to 21%.

When comparing these results to the primary buyout and thus the years 2006 to 2012, the shift in strategy and the focus on certain segments and geographies becomes even more remarkable.

[212] Groupe SEB (2016b): "WMF Acquisition – Strengthening Groupe SEB's leadership and adding a new growth platform", *Financial Presentation*
[213] Article by Eisert (2014): "Wir haben viel Geld verbrannt", *Wirtschaftswoche*

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
Total sales	**577,679**	**731,774**	**761,528**	**795,806**	**800,020**	**901,575**	**979,411**	**1,027,326**	**5.82%**
Consumer Goods	375,993	449,662	448,287	473,993	501,750	572,868	609,114	630,556	5.80%
Institutional Products	201,686	282,112	313,241	321,813	298,270	328,707	369,131	395,329	5.78%
Germany	343,878	396,384	413,284	444,206	489,192	498,618	513,713	531,825	5.02%
Rest of Europe	152,222	202,147	231,583	235,630	205,988	271,030	317,042	318,816	7.89%
Outside Europe	81,579	133,243	116,661	115,970	104,840	131,927	148,656	176,685	4.82%

Table 9 Sales Development WMF Group 2005 to 2012[214]

While the overall sales growth was much stronger in the primary buyout with a CAGR of 5.8% (adjusted for the purchase of the Princess Group at 4.8%), it was similar for both consumer goods and institutional products. Also in terms of geography there is no sign of an accelerated international expansion or a focus on specific countries. However, it is important to keep in mind that first of all, sales in institutional products were extraordinarily high in 2006, due to the world championship in football in Germany and that institutional products suffered proportionally more during the financial crisis, due to the cyclicality of this business. Furthermore, major markets for WMF outside of Europe were hit much harder by the financial crisis than central Europe, explaining the intermediary sales decrease in these regions and thus the delayed international expansion.

Despite these considerations, it can be concluded that the strategies for top-line growth differed significantly between the primary and the secondary buyout. While WMF achieved more sales growth overall, supported by acquisitions, during the primary buyout, the secondary buyout was less defined by absolute growth but more by a shift in targeted segments and geographies, thus sharpening the profile of WMF.

VI.3.4 EBITDA Margin Increase

Besides the sales increase as seen in the previous section, the change in margin has an impact on the EBITDA and thus on the EV. In the case of the WMF buyout by KKR, the margin increase contributed 100,662 thousand Euros in value creation, resulting from an expansion of margin by 152 basis points between 2012 and 2016.

[214] Figures in 2011 and 2012 are the sum of professional hotel equipment and professional coffee machines for institutional products.

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'15
Total Sales	**979,411**	**1,027,326**	**1,014,970**	**1,024,310**	**1,061,413**	**1.09%**
Cost of Material	(395,774)	(410,443)	(405,228)	(388,117)	(401,674)	**(0.72%)**
As % of Sales	*40.41%*	*39.95%*	*39.93%*	*37.89%*	*37.84%*	
Gross Profit	583,637	616,883	609,742	636,193	659,739	**2.26%**
As % of Sales	*59.59%*	*60.05%*	*60.07%*	*62.11%*	*62.16%*	
Adjusted Staff Costs	(300,618)	(309,574)	(318,816)	(334,711)	(332,312)	**2.39%**
As % of Sales	*30.69%*	*30.13%*	*31.41%*	*32.68%*	*31.31%*	
Adjusted Other Operating Expense	(222,250)	(237,854)	(215,086)	(226,751)	(251,237)	**1.84%**
As % of Sales	*22.69%*	*23.15%*	*21.19%*	*22.14%*	*23.67%*	
Adjusted EBITDA	**94,794**	**103,981**	**108,958**	**110,408**	**117,264**	**4.09%**
As % of Sales	*9.68%*	*10.12%*	*10.74%*	*10.78%*	*11.05%*	

Table 10 Margin Development WMF Group 2011 to 2016

As can be seen from Table 10, the shift in EBITDA margin from 10.12% in 2012 to 11.64% in 2016 is mainly due to the increase in gross margin, resulting from lower material costs as a percentage of sales, which decreased from 39.95% to 37.84% between 2012 and 2015. Many factors could have played a role in this development. Firstly, it can be observed that the largest decrease in this cost position happened in 2014 with the implementation of the transformation program. Hereby, mainly the reorganization of logistics and the reduction in the product range are likely to have positively impacted the gross margin. In particular, the latter had a negative effect on material costs in 2013, while having a positive effect in 2014. Secondly, the shift in revenues and segments as described before, i.e. the overproportionate increase in sales coming from the highly profitable coffee machines business, had certainly an impact on the overall margin. Already in 2012 (2011) the professional coffee machines business represented 62% (50%) of the total EBITDA, while representing only 31% (29%) of revenues due to its higher EBITDA margin of 19.7% (17.8%).[215] Thus, it is likely that growth in this segment results in a decrease in material quota and hence, an increase in gross margin. On top of that, the disposal of the loss making Princess Group and petra electric in 2013 both decreased sales in 2014 and had a positive impact on EBITDA, thus having a strong positive impact on margin overall, especially from 2013 to 2014. As the shift in segments does not fully explain the sudden drop in 2014, the latter reason appears to be more material.

A key component of the transformation program announced in 2013 was also the reduction in staff costs. As described before, up to 700 jobs were to be cut, which should translate in 10% savings in this cost position.

[215] Based on unadjusted figures, since there is not sufficient information to assign the restructuring expenses to a segment.

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'15
Adjusted Staff Costs	(300,618)	(309,574)	(318,816)	(334,711)	(332,312)	**2.39%**
As % of Sales	*30.69%*	*30.13%*	*31.41%*	*32.68%*	*31.31%*	
Employees EoY	5,997	6,053	6,133	5,685	5,702	**(1.97%)**
Average Number of Employees	**6,018**	**6,062**	**6,114**	**5,942**	**5,625**	**(2.46%)**
of which Office Employees	4,172	4,310	4,402	4,274	4,126	**(1.44%)**
of which Factory Employees	1,846	1,752	1,712	1,668	1,499	**(5.07%)**
of which Germany	4,148	4,171	4,295	4,157	3,837	**(2.74%)**
of which Outside of Germany	1,870	1,891	1,819	1,785	1,788	**(1.85%)**

Table 11 Number of Employees and Staff Costs 2011 to 2015

Interestingly, staff costs actually increased by more than 7% between 2012 and 2015, representing a CAGR of 2.4%, and thus growing even more than sales. When looking at the number of employees on the other hand, the impact of the transformation program becomes clear. Even though the decrease was lower than the expected 700, it was still significant with a decrease in average number of employees of more than 400 between 2012 and 2015. In contrast to what was found by Lichtenberg and Siegel (1990)[216] most of this decrease came from layoffs in the factory staff which decreased by 14% as compared to a decrease of 4% in the office staff, as a result of the closure of several manufacturing lines, the in-house galvanic department, downsizing in the production and reorganization of the logistics. Since most of these manufacturing operations are in Germany, the number of employees there decreased more than outside of Germany, which was mainly affected by the sale of the Princess Group. Therefore, it is even more surprising that this overall significant reduction in employees has not yet translated in lower staff costs. However, this is partly due to still ongoing restructuring efforts and thus exceptional expenses, which even affect 2016 results. Although staff costs were adjusted for some of these items (see section VI.3.1) especially in 2014 and 2015, some of the costs relating to job cuts and the social plan might still be included as they are not specifically mentioned in the annual reports. Therefore, it is expected that a decrease in staff costs will become noticeable in the future. Furthermore, some of the savings are offset by the increase in the remuneration of the board of directors, which was discussed in section VI.3.2.

In addition, the development of other operating expenses had an overall negative effect on EBITDA margin during the period, with an increase of 52 basis points as a percentage of sales between 2012 and 2015 on an adjusted basis.

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'15
Adjusted Other Operating Expense	(222,250)	(237,854)	(215,086)	(226,751)	(251,237)	**1.84%**
Advertising Costs	(41,555)	(41,305)	(37,362)	(36,128)	(41,403)	**0.08%**
R&D Expenses	(13,800)	(14,900)	(16,100)	(15,400)	(18,600)	**7.67%**

Table 12 Selected Other Operating Expenses 2011 to 2015

[216] Employment reduction was observed to be mainly concentrated on white-collar workers instead of factory employees in PE buyouts (Lichtenberg and Siegel (1990), pp. 191-193)

While the overall development of other operating expenses is highly susceptible to exceptional items including exchange rate losses and other taxes, the development of two specific expenses is particularly interesting in light of the LBO (Table 12). Firstly, one can see that advertising costs were reduced significantly in the years 2013 and 2014, probably due to the transformation program, however were increased in 2015 to increase revenues. Nevertheless, these costs grew below average over the years 2012 to 2015. Secondly, the expenses for research and development grew significantly until 2015.[217] This again contrasts the many concerns that LBOs sacrifice future profitability for current profits. An increase goes even beyond the observations made by researchers, such as Kaplan (1989)[218] or Smith (1990)[219] who did not find a reduction in R&D spending and shows that while enhancing profitability is important in an LBO, innovativeness is not compromised as it is considered crucial for future growth and an attractive exit multiple.

While a lot of initiatives have been undertaken aimed at reducing costs and thus increasing EBITDA margin, especially the reduction in staff has not materialized yet and thus the cost savings are well below the expected 30 million Euros per year in 2015. Consequentially, the EBITDA improvement only contributes moderately to the overall value creation.

In the primary buyout, margin increase played a more crucial role with a contribution of 106,424 thousand Euros or 34% of the total value creation.

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
Total Sales	**577,679**	**731,774**	**761,528**	**795,806**	**800,020**	**901,575**	**979,411**	**1,027,326**	**5.82%**
Cost of Material	(211,807)	(290,157)	(293,249)	(301,088)	(299,642)	(360,334)	(395,774)	(410,443)	5.95%
As % of Sales	*36.67%*	*39.65%*	*38.51%*	*37.83%*	*37.45%*	*39.97%*	*40.41%*	*39.95%*	
Gross Profit	365,872	441,617	468,279	494,718	500,378	541,241	583,637	616,883	5.73%
As % of Sales	*63.33%*	*60.35%*	*61.49%*	*62.17%*	*62.55%*	*60.03%*	*59.59%*	*60.05%*	
Adjusted Staff Costs	(215,674)	(251,648)	(260,603)	(269,935)	(273,171)	(283,911)	(303,937)	(313,284)	3.72%
As % of Sales	*37.33%*	*34.39%*	*34.22%*	*33.92%*	*34.15%*	*31.49%*	*31.03%*	*30.50%*	
Adjusted Other Operating Expense	(139,411)	(164,694)	(171,094)	(186,455)	(186,012)	(211,750)	(222,250)	(237,854)	6.32%
As % of Sales	*24.13%*	*22.51%*	*22.47%*	*23.43%*	*23.25%*	*23.49%*	*22.69%*	*23.15%*	
Adjusted EBITDA	**35,159**	**55,099**	**76,576**	**63,635**	**66,632**	**83,175**	**91,475**	**100,271**	**10.49%**
As % of Sales	*6.09%*	*7.53%*	*10.06%*	*8.00%*	*8.33%*	*9.23%*	*9.34%*	*9.76%*	
Average Number of Employees	5,344	5,636	5,752	5,894	5,882	5,981	6,018	6,062	1.22%
of which Office Employees	3,343	3,594	3,664	3,826	3,916	4,046	4,172	4,310	3.07%
of which Factory Employees	2,001	2,042	2,088	2,068	1,966	1,935	1,846	1,752	(2.52%)

Table 13 Margin Development WMF AG 2005 to 2012

Due to the increase in margin from 7.5% in 2006 to 9.8% in 2012, EBITDA grew at a CAGR of 10.5% as compared to the sales CAGR of 5.8% (see Table 13). While material costs were not a key driver as in the secondary buyout, the major factor for this increase were the staff

[217] According to Goupe SEB's annual report 2016, the R&D expenses of WMF in 2016 were even higher with 20.7 million Euros, thus further supporting the trend.
[218] Kaplan (1989), pp. 226-231
[219] Smith (1990), pp. 148-156

costs. Although they also grew during the period, they decreased as a percentage of sales from 34.4% to 30.5% during the period, thus significantly increasing EBITDA margin. This is also reflected in the number of employees, and again it can be observed that mainly factory jobs were cut. Especially the closure of a manufacturing line in Geislingen and the production site in Burgau as well as the reduction in production for the hotel business in 2011 and 2012 were important factors for this development, while the latter was partially compensated by an increase in production in China. One needs to keep in mind, though, that the margin in 2012 was still affected by the loss-making operations in the consumer electric business.

Although the PE funds were able to increase EBITDA margin during both buyouts, the impact of the actions taken is very different. While the margin development was much stronger in the primary buyout, it was mainly driven by a relative reduction in staff costs. The increase in margin in the secondary buyout was mainly driven by a relative reduction in material costs, which is the consequence of the strategic shift, disposals and potentially optimized logistics. Even though the secondary buyout had a much more severe impact on the number of employees, these measures have not yet materialized in 2015, thus potentially resulting in higher future margins, which is an important factor to keep in mind for the following section.

VI.3.5 Multiple Expansion

As shown in section VI.3.2 the main driver of value creation during KKR's ownership was multiple expansion. In total this contributed 717,951 thousand Euros to the increase in EV, which represents 69.1% of the total increase and results from an expansion of the EBITDA multiple from 6.45x in 2012 to 13.36x in 2016. In comparison, the multiple increased only slightly in the primary buyout from 6.52x in 2006 to 6.69x in 2012, thus contributing 9,612 thousand Euros or 3.1% of total value creation.[220] Therefore, there is a large difference in this aspect of value creation and multiple expansion played an integral role in the success of the secondary buyout. Although main drivers of multiples are known, there is no evidence to the knowledge of the authors on the exact contribution of these drivers to multiple expansion. This section tries to analyze the different factors influencing multiples in order to be able to conclude on how the multiple expansion was achieved and why it differed so significantly between the primary and secondary buyout. This will be done along four categories, starting with the improvement of the company's fundamentals, which are not reflected in the EBITDA and thus

[220] Based on future twelve months adjusted EBITDA. As adjustments slightly differ between the analysis of the primary buyout and the secondary buyout, the entry multiple for KKR in 2012 is different from the exit multiple of Capvis in 2012, as introduced in VI.3.1.

need to be included in the multiple, followed by an analysis of soft factors categorized as the strategic attractiveness and growth perspective. These two categories will be complemented by an analysis of the impact of negotiation capabilities, which are often considered a key skill of PE funds[221], and the section is completed with an evaluation of potential timing advantages.

One fundamental factor influencing the valuation of the company is its ROCE. Therefore, this is the first driver which will be analyzed using a DuPont analysis-style, in order to find the underlying causes of its development and its potential impact on the valuation multiple. That for, sales is divided by capital employed to obtain asset turnover, which is then multiplied by the EBIT margin after tax[222] to arrive at the ROCE.

$$ROCE = \frac{Sales}{Capital\ Employed} * EBIT\ Margin\ after - tax$$

Since the increase in EBIT margin is similar to the increase in EBITDA margin, it is already considered in the EBITDA in the calculation of the EV and thus has not necessarily an impact on the multiple. Asset turnover, an indicator for the capital efficiency of the company, on the other hand, is not reflected in the profitability of the company and thus needs to be considered in the multiple in order to have an effect on the valuation of the company.

In € thousands	2012	2013	2014	2015	CAGR '12-'15
EBIT Margin	6.33%	6.40%	6.30%	7.06%	3.66%
Asset Turnover	1.67x	1.89x	2.12x	2.28x	10.95%
Tax Rate	29.80%	29.80%	29.80%	29.80%	
Return on Capital Employed	**7.44%**	**8.47%**	**9.46%**	**11.48%**	**15.54%**

Table 14 DuPont Analysis 2012 to 2015

From Table 14 it becomes apparent that the ROCE increased significantly during the period from 7.4% to 11.5%, driven by both an increase in EBIT margin and an increase in asset turnover. Furthermore, it can be clearly seen that the latter had the larger impact and grew at a CAGR of almost 11%, thus potentially having a strong effect on the valuation at exit. As seen in the previous sections, sales grew moderately at a CAGR of 1.1% between 2012 and 2015, so that the main factor for the development of asset turnover has to be the second component, the capital employed.

[221] Hannus (2015), p. 58f

[222] EBIT margin includes income from associates and other financial assets, in order to stay consistent with the capital employed calculations.

In € thousands	2012	2013	2014	2015	CAGR '12-'15
Intangible Assets	293,256	274,582	254,880	241,433	(6.28%)
PP&E	136,594	137,906	127,831	118,990	(4.49%)
Investments Carried at Equity	9,702	8,538	10,175	10,457	2.53%
Other Financial Assets	2,423	2,312	2,290	2,309	(1.59%)
Other Assets	1,921	1,446	898	615	(31.59%)
Deferred Tax Asset	19,897	18,275	21,782	25,382	8.45%
Total Non-Current Assets	**463,793**	**443,059**	**417,856**	**399,186**	**(4.88%)**
Inventories	266,471	200,163	211,848	226,659	(5.25%)
Trade Reveivables	174,326	156,961	149,382	155,407	(3.76%)
Current Tax Asset	3,338	13,627	6,781	8,835	38.33%
Other Current Assets	17,436	16,185	21,199	19,198	3.26%
Total Operational Current Assets	**461,571**	**386,936**	**389,210**	**410,099**	**(3.86%)**
Deferred Tax Liability	(86,650)	(70,168)	(61,901)	(54,938)	(14.09%)
Provisions	(19,111)	(16,735)	(16,579)	(15,936)	(5.88%)
Total Operational Non-Current Liabilities	**(105,761)**	**(86,903)**	**(78,480)**	**(70,874)**	**(12.49%)**
Provisions	(14,452)	(22,022)	(24,234)	(33,532)	32.39%
Current Tax Liability	(13,253)	(12,910)	(9,890)	(13,256)	0.01%
Trade Payables	(84,057)	(74,306)	(95,410)	(117,182)	11.71%
Other Liabilities	(75,417)	(79,761)	(95,289)	(90,069)	6.10%
Total Operational Current Liabilities	**(187,179)**	**(188,999)**	**(224,823)**	**(254,039)**	**10.72%**
Total Capital Employed	**632,424**	**554,093**	**503,763**	**484,372**	**(8.51%)**

Table 15 Capital Employed Development 2012 to 2015

Indeed, Table 15 shows that capital employed decreased largely between 2012 and 2015, due to both decreasing non-current and current assets. However, some aspects about the capital employed need to be pointed out, before interpreting this development. Firstly, the reduction in intangible assets due to amortization of patents and licenses decreased the capital employed. However, this is also a consequence of the revaluation of intangibles due to the purchase price allocation, which consequently increased the annual amortization. Secondly, also property, plant and equipment (PP&E) decreased during the period as a result of the various implemented measures, such as the closure of manufacturing sites, uneconomic retail stores and the consolidation of 33 logistics locations into only two centers, thus indeed representing a more efficient use of resources. However, the decrease in PP&E in 2015 is partly due to the sale of the two factory outlet stores, one of which was immediately leased back. WMF qualifies this as an operational lease and therefore, the leased factory outlet does not appear in the capital employed. Adjusting for this would have a slight impact on the capital employed and thus the ROCE, which is overall however not significant since only one of two outlets was leased back and many other measures reduced PP&E. Therefore, it still decreases over the holding period, regardless of this adjustment. Thirdly, the inventory in 2012 is extraordinarily high, again because of the purchase price allocation, an effect which almost entirely vanished in 2013. Thus, the capital employed is artificially increased in 2012 and the following improvement from

that time onwards is consequentially not a result of higher capital efficiency.[223] Keeping these considerations in mind, a decrease in non-current assets can still be observed, mainly resulting from disposals and closures, while the development of net working capital seems to be at least as important and a direct consequence of efforts undertaken to improve this position.

In € thousands	2012	2013	2014	2015	CAGR '12-'15
Inventories	266,471	200,163	211,848	226,659	(5.25%)
Days of Cost of Materials	*237*	*180*	*199*	*206*	
Trade Receivables	174,326	156,961	149,382	155,407	(3.76%)
Days of Sales	*62*	*56*	*53*	*53*	
Trade Payables	(84,057)	(74,306)	(95,410)	(117,182)	11.71%
Days of Cost of Materials	*75*	*67*	*90*	*106*	
Net Working Capital	**356,740**	**282,818**	**265,820**	**264,884**	**(9.45%)**
Days of Sales	*127*	*102*	*95*	*91*	
Current Tax Asset	3,338	13,627	6,781	8,835	
Other Current Assets	17,436	16,185	21,199	19,198	
Provisions	(14,452)	(22,022)	(24,234)	(33,532)	
Current Tax Liability	(13,253)	(12,910)	(9,890)	(13,256)	
Other Liabilities	(75,417)	(79,761)	(95,289)	(90,069)	
Total Net Working Capital	**274,392**	**197,937**	**164,387**	**156,060**	**(17.15%)**
Days of Sales	*97*	*71*	*59*	*54*	

Table 16 Net Working Capital Development 2012 to 2015

Table 16 shows, that inventories, trade receivable and trade payables were all improved and overall decreased the working capital by 26%. As mentioned before, inventories in 2012 are affected by the purchase price allocation, however they also decreased as days of cost of materials when adjusting for this effect. Therefore, this is potentially a success of the reorganization of the logistics centers, which will probably have an even bigger impact in the following years, given that new logistic center was not opened until 2015. Especially in 2013, a large reduction in the days of cost of materials is observable, which however is partially offset in the following years, potentially being a result of inefficiencies during the reorganization, while trade receivables are reduced on a more sustainable basis. The most extreme change can be observed in the trade payables, which increase from 75 days of cost of materials in 2012 to 106 days of cost of materials, thus having a large impact on capital employed. Indeed, the overall development of net working capital is in line with the findings of Singh (1990)[224] as well as Baker and Wruck (1989)[225]. Besides these classical components, two additional operational current assets and liabilities are worth mentioning. Firstly, provisions increase during the period, thus reducing capital employed. These provisions include mainly product warranties and employee benefits other than pensions. The most important reasons for the

[223] Without the purchase price allocation, inventories are valued at 235,789 thousand Euros in 2012.
[224] Singh (1990), pp. 122-124
[225] Baker and Wruck (1989), pp. 184-187

increase in provisions are expected costs related to the job cuts and a provision for the LTI, which was introduced in VI.3.2, being valued at 9 million Euros on 31st of December 2015. Secondly, a significant increase can be seen in other liabilities, which are related to operational costs per the annual report and thus close to trade payables. As a result, there is a large decrease in the net working capital, which however is not solely due to improved efficiency, such as part of the change in inventories. However, efforts are indeed apparent, especially in the postponed payment of suppliers, and might even be more influential in the upcoming years when measures aimed at reducing net working capital take full effect.

During the primary buyout ROCE also increased significantly, however as can be seen in Table 17, mainly driven by the increase in EBIT margin.

In € thousands	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
EBIT Margin	4.65%	7.13%	5.36%	5.33%	6.63%	6.75%	7.69%	8.74%
Asset Turnover	2.33x	2.26x	2.23x	2.54x	2.59x	2.52x	2.57x	1.69%
Tax Rate	29.80%	29.80%	29.80%	29.80%	29.80%	29.80%	29.80%	
Return on Capital Employed	**7.74%**	**11.42%**	**8.52%**	**9.38%**	**12.17%**	**12.00%**	**13.90%**	**10.24%**
Total Non-Current Assets	149,247	149,672	153,131	151,070	160,090	165,202	176,666	2.85%
Total Operational Current Assets	296,170	326,974	352,888	306,640	373,018	418,969	430,880	6.45%
Total Operational Non-Current Liabilities	(24,123)	(27,284)	(27,322)	(24,454)	(24,284)	(24,589)	(21,004)	(2.28%)
Total Operational Current Liabilities	(106,587)	(112,495)	(122,489)	(118,130)	(160,532)	(170,441)	(186,926)	9.81%
Total Capital Employed	**314,707**	**336,867**	**356,208**	**315,126**	**348,292**	**389,141**	**399,616**	**4.06%**

Table 17 DuPont Analysis and Capital Employed 2006 to 2012

Asset turnover increased only slightly from 2.33x to 2.57x during the period, which is a result of the higher sales growth, while non-current assets increased at a lower rate. Furthermore, also in the primary buyout the main improvement in the net working capital was an overproportionate increase in current liabilities.

Hence, it can be concluded that in both buyouts ROCE was increased remarkably, but due to different factors. In the primary buyout, the margin increase had the strongest influence, while in the secondary buyout the improved asset turnover was the main source of expansion as a result of asset disposals and net working capital optimization. Even though the figures overstate the actual improvement of capital efficiency, it would still be significantly higher than in the primary buyout when adjusting for the peculiarities such as the purchase price allocation and operating leases. Additionally, further improvements are to be expected due to the measures undertaken during KKR's ownership, especially the modernization and reorganization of logistics. As described before, although the margin improvement is already considered in the EBITDA when using multiples to value a company, asset turnover or more precisely capital efficiency is not included and thus only influences the valuation multiple. Therefore, the fact that capital efficiency was enhanced more in the secondary buyout by KKR than in the primary

buyout by Capvis can partly explain the difference in relative importance of various value creation drivers.

A second financial metrics which can influence the valuation multiple is the cash conversion ratio, measured as cash flow from operating activities divided by EBITDA. One assumption underlying the valuation with EBITDA multiples is that the EBITDA is a good approximation for the cash generation of the company. Therefore, if the relevant metrics for the valuation is actually the cash generation, potential deviations in the cash conversion need to be reflected in the multiple to adjust for the difference between the EBITDA and the cash flow.

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'15
Adjusted EBITDA	94,794	103,981	108,958	110,408	117,264	4.09%
Adjusted Taxes	(14,001)	(22,510)	(21,518)	(18,898)	(12,373)	
Change in Working Capital	(33,335)	(2,810)	33,640	3,369	(6,369)	
Gain/Loss on Disposal of Assets	38	(2,123)	(872)	142	(4,874)	
Change in Provisions	2,641	20,229	5,372	2,130	6,483	
Other Non-Cash Items	(1,494)	(20,248)	1,764	(4,324)	(1,944)	
Others	(2,843)	(2,533)	631	31,693	(3,841)	
Adjusted CF from Operations	**45,800**	**73,986**	**127,975**	**124,520**	**94,346**	**8.44%**
Cash Conversion Ratio	**48.3%**	**71.2%**	**117.5%**	**112.8%**	**80.5%**	

Table 18 Cash Conversion 2011 to 2015

It can indeed be observed in Table 18 that the cash conversion increased during the holding period of KKR, however due to the high fluctuations a direct comparison over a longer period is more meaningful, so that the development in the primary buyout is also included at this point (Table 19).

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
Adjusted EBITDA	35,159	55,099	76,576	63,635	66,632	83,175	91,475	100,271	10.49%
Adjusted Taxes	(4,745)	(12,288)	(18,282)	(13,261)	(14,977)	(19,102)	(19,253)	(27,761)	
Change in Working Capital	(9,667)	(309)	(22,408)	(7,938)	40,468	(11,238)	(33,335)	(2,810)	
Gain/Loss on Disposal of Assets	(655)	(319)	(1,114)	(1,809)	(3,996)	(41)	38	(2,123)	
Change in Provisions	5,270	2,386	5,373	827	(2,272)	(2,045)	2,641	20,229	
Other Non-Cash Items	-	-	-	-	(1,591)	7,231	(1,494)	(20,248)	
Others	(412)	(725)	273	(6,196)	329	(2,001)	(1,945)	6,587	
Adjusted CF from Operations	**24,950**	**43,844**	**40,418**	**35,258**	**84,593**	**55,979**	**38,127**	**74,145**	**9.15%**
Cash Conversion Ratio	**71.0%**	**79.6%**	**52.8%**	**55.4%**	**127.0%**	**67.3%**	**41.7%**	**73.9%**	

Table 19 Cash Conversion 2005 to 2012

When comparing the two time periods, it seems that the cash conversion in the secondary buyout is slightly higher than the one during the primary buyout by Capvis. While changes in working capital have a strong impact during specific years, it also becomes clear that it does not represent a continuous source of funding and does not seem to contribute to a sustainable improvement of the cash conversion. However, this might change in upcoming years when the enacted measures take full effect. For the periods at hand, the major difference is the development of taxes. Due to the purchase price allocation in 2012, the depreciation during the secondary buyout is considerably higher and thus represents a strong tax shield, resulting in a higher cash conversion ratio. Another factor influencing taxes is the significant increase in

interest expense in 2014. Although interest expense at the holding company was already material before, it becomes apparent in WMF's cash flow from 2014 as the merger of the holding company with the operating company results in the debt being held at the level of the operating company. The interest expense as such is considered in the cash flow from financing activities, thus not affecting the cash conversion ratio, however the tax shield resulting from it does have an influence, therefore increasing the cash generation of the company. Since it can rarely be expected that a buyer will sustain the levels of debt leading to this effect, it is unlikely that this has an impact on his willingness to pay and thus the valuation multiple. In addition, the effect resulting from the purchase price allocation has a limited lifetime, hence it is certainly not material for the valuation of the company. The expected future improvements in logistics on the other hand could indeed lead to a sustainable source of increased cash generation, so that it could have contributed to the growth in valuation multiple. Nevertheless, the potential is not yet sufficiently visible to be of material importance for the valuation so that it cannot serve as the only explanation for the remarkable multiple expansion in the secondary buyout.

The development of financial indicators is thus not the sole reason for the value creation through multiple expansion as seen before, but it might still stem from a fundamental improvement of the company's strategic attractiveness and its growth perspectives, which are not visible within the financial statements. Especially the future growth prospects of a company, as mentioned in section IV.4.3.1, are a major driver of multiples and have to be analyzed closely. Firstly, an immediate growth in EBITDA was indeed expected, so that EBITDA for 2016 was forecasted at 140 to 150 million Euros (Groupe SEB, 2016b[226] and Die Presse, 2016[227]) once restructuring costs would discontinue. This would have implied an exit multiple at around 12x EBITDA instead of the 13.4x EBITDA based on the realized adjusted EBITDA of 128 million Euros. Secondly, the exit multiple is driven by more long-term growth expectations. A prerequisite for this is that the necessary investments in both capital and innovation have been made during the holding period, something which is often assumed to not be the case under PE ownership by the public, politicians or the press as an omission of investments leads to immediate cash savings but only a delayed impact on growth and profitability. This would rather have long-term effects on the employees or the future owners of the company. However, both the literature presented in section IV.3.2 and this case study on WMF suggest that PE funds do not engage

[226] Groupe SEB (2016b): "WMF Acquisition – Strengthening Groupe SEB's leadership and adding a new growth platform", *Financial Presentation*
[227] Die Presse (2016): "Bieter für Kaffeemaschinen-Hersteller WMF stehen Schlange"

in such short-sighted actions as evidenced by the increase in R&D expenses and no significant reduction in CapEx between 2011 and 2015 (see Table 20).

In € thousands	2011	2012	2013	2014	2015	CAGR '12-'15
Capital Expenditure	**(29,090)**	**(35,109)**	**(34,557)**	**(29,537)**	**(32,736)**	**(2.31%)**
WMF Retail	(2,385)	(5,131)	(3,073)	(3,585)	-	
Consumer Goods	(11,694)	(13,036)	(14,694)	(8,223)	-	
Consumer Electric	(2,887)	(2,986)	(1,859)	(1,101)	-	
Professional Hotel Equipment	(853)	(886)	(402)	(611)	-	
Professional Coffee Machines	(6,747)	(6,529)	(7,054)	(7,963)	-	
Others	(4,524)	(6,541)	(7,475)	(8,054)	-	
R&D Expense	**13,800**	**14,900**	**16,100**	**15,400**	**18,600**	**7.67%**
Total Capitalized R&D	3,608	3,645	4,169	5,531	5,581	15.26%

Table 20 Investments 2011 to 2015

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012	CAGR '06-'12
Capital Expenditure	**(22,585)**	**(19,357)**	**(26,381)**	**(27,387)**	**(24,863)**	**(25,836)**	**(29,090)**	**(35,109)**	**10.43%**
Consumer Goods	(18,273)	(14,652)	(17,999)	(19,086)	(16,353)	(19,239)	-	-	
Institutional Products	(4,312)	(4,705)	(8,382)	(8,301)	(8,510)	(6,597)	-	-	
R&D Expense	**8,600**	**10,800**	**11,200**	**13,000**	**12,500**	**13,500**	**13,800**	**14,900**	**5.51%**
Total Capitalized R&D	2,198	2,708	3,566	3,411	3,430	4,008	3,608	3,645	5.08%

Table 21 Investments 2005 to 2012

It can be seen from Table 21 that CapEx grew much stronger in the primary buyout, however this is mainly due to one project in the consumer goods business, the project KARAT, which meant to modernize production and was successfully completed in 2013, thus reducing investment requirements in 2014 and 2015. Besides this project, there is no extraordinary development within CapEx, thus not representing a threat for future growth. However, it is interesting to observe that in both periods the investments shift towards the professional business and especially in the secondary buyout towards the professional coffee machines business. This corresponds to the findings of Kaplan (1989) who observes a greater concentration of CapEx on the most promising business units during LBOs.[228]

As already seen in section IV.3.3, also the development of R&D expenses does not show any cut backs during LBOs according to the literature. In fact, especially during KKR's ownership they actually increased much more than sales. Furthermore, the total capitalized development costs grew significantly, indicating that the focus shifts to more applied R&D projects, in line with the observations made by Zahra (1995).[229] This is supported by the fact that almost 50% of the product patents in the professional coffee machines business in 2016 were registered after 2010 (Groupe SEB, 2016b).[230] This again corresponds nicely to empirical findings from Lerner et al. (2008) on patent content and focus.[231]

[228] Kaplan (1989), pp. 226-231
[229] Zahra (1995), pp. 239-241
[230] Groupe SEB (2016b): "WMF Acquisition – Strengthening Groupe SEB's leadership and adding a new growth platform", *Financial Presentation*
[231] Lerner, Sorensen, and Stromberg (2008), pp. 460-474

Therefore, overall investments were aligned with future growth potential and the particular projects enacted during KKR's ownership show that WMF was prepared for growth beyond the holding period. First of all, the strong focus on international expansion laid grounds for further development, especially in the markets of China, India and the U.S. and reduced the dependency on Germany, thus making WMF a much more attractive target for strategic buyers. Secondly, a lot of necessary restructuring efforts have been undertaken to remodel this traditional German company, prepare it for the challenges of the 21st century and to reorganize it to account for its size and market developments. For instance, the uneconomic retail stores have been closed, while the remainder has been fully modernized, the e-commerce business has been actively fostered and even more importantly the logistics function has been reorganized so that it can meet today's expectations on availability and delivery time. All these measures make WMF a much more interesting target for strategic buyers, who therefore do not have to cope with the costs and risks of restructuring and international expansion. Another crucial element for WMF's increased strategic attractiveness was the development in the professional coffee machines business, which was driven and continues to be driven by an ongoing growth in coffee consumption, especially in the U.S., but also in former tea dominated countries such as China and India. WMF has become the market leader in this segment with a 28% market share while having a major part in recurring revenues through the largest service team in this segment. Therefore, WMF caught the attention of both famous coffee machine players such as DeLonghi but also household appliance producers who wanted to enter this segment and profit from the underlying macro-trends. Indeed, the coffee machines business was said to be valued at around ten times EBITDA, while the consumer goods business was valued at only five to six times EBITDA (Die Presse, 2016).[232] As the coffee machines business represented a much larger share of EBITDA at exit than at entry, this automatically leads to an increase in the overall multiple. Based on all these aspects, which enhanced WMF's strategic attractiveness and promised ongoing future growth, a substantial part of the multiple expansions can be explained through actual improvements of the company that are not reflected in other value drivers, i.e. sales and EBITDA margin. It also reveals the difference in multiple expansion between the primary and the secondary buyout. While in the primary buyout improvements were focused on top-line growth and profitability and were thus visible in the EBITDA, efforts in the secondary buyout were concentrated around sharpening WMF's profile, increasing its attractiveness for strategic buyers and preparing the company for successful future growth.

[232] Die Presse (2016): "Bieter für Kaffeemaschinen-Hersteller WMF stehen Schlange"

Besides the improvement of the portfolio company, two further reasons are important when analyzing multiple expansion in an LBO: Negotiation and timing skills of the GPs managing the PE fund. According to the findings of Achleitner and Figge (2014), negotiation skills are limited for secondary buyouts, thus reducing the ability of multiple expansion in such transactions. The importance of getting a high price for the selling PE fund reduces the chances for the buying PE fund to make a bargain and thus achieving a higher exit multiple.[233] This directly contradicts the findings in the case of WMF, where multiple expansion was much higher during the secondary buyout. However, when looking at the premiums paid by Capvis and KKR, the picture is slightly different than the one drawn by multiples, and thus more in line with the observations made in prior research. Capvis' offer in 2006 of 19.7 Euros per ordinary share represents only a premium of 4.5% above the share price prior to any rumors, while the share price of 47 Euros they received from KKR at exit in 2012 represented a premium of 24.4% above the share price prior to announcement. Capvis potentially profited from a dispute of the former shareholders in 2006 at entry (Handelsblatt, 2006)[234] and they certainly benefitted from the interest and competition of several PE funds at exit. Thus, negotiation skills do not explain the limited multiple expansion in the primary buyout, but should have rather been favorable for Capvis. Since there is no share price for the exit of KKR, the premium cannot help to assess the role of negotiation skills in the secondary buyout. Nevertheless, the previous paragraph has shown that KKR was in a good bargaining position due to the attractiveness of WMF and consequently the interest of strategic buyers, which tend to pay higher premiums than private equity funds (Bargeron et al., 2008).[235] Furthermore, KKR had no pressure to sell the company, as they were invested in WMF for less than four years when initiating the sale and alternatives to a trade sale existed, such as an IPO or a tertiary buyout, which strengthened KKR's position even more. Hence, it is highly likely that the implied premium paid by Groupe SEB was above the 24.4% paid by KKR. However, this is not necessarily the result of the negotiation skills of the fund but more a result of KKR's bargaining power resulting from the attractiveness of WMF for strategic buyers, which is nevertheless a consequence of the efforts undertaken by GPs during KKR's ownership.

The second reason for multiple expansion which is not directly linked to the company, namely timing skills, can be assessed by analyzing the transaction multiples paid during the respective period and thus concluding on whether higher entry and exit multiples result from generally

[233] Achleitner and Figge (2014), p. 419
[234] Handelsblatt (2006): "Schweizer Finanzinvestor übernimmt WMF"
[235] Bargeron, Schlingemann, Stulz, and Zutter (2008), p. 376f

higher transaction multiples in the industry, which would hence indicate timing skills of the GPs. If this is the reason for the multiple expansion, it should be shown that multiples in 2006 and 2012 were similar, while those of transactions in 2016 were significantly higher, to explain the difference between the primary and secondary buyout of WMF. In order to analyze this, several sources for transaction multiples are included (Table 22):

Source	*2006*	*2012*	*2016*	*Comment*
Agros Mid Market Index	7.70x	6.60x	9.60x	Historic EV/EBITDA, focus on mid market in Euro zone
European Comission	9.00x			Private equity report
PWC Trend Report			11.30x	
Bain PE Report		9.60x		European LBOs
William Blair	11.20x	9.40x	12.40x	Îndustrial technology deals
McKinsey			9.30x	Median buyout multiple in 2016
MergerMarket	8.20x	12.00x	8.10x	Adjusted average EBITDA multiple in Western Europe, consumer other
Average	**9.03x**	**9.40x**	**10.14x**	

Table 22 Multiple Development 2006 to 2016

While the multiples within a given year highly depend on the respective source, a trend can be observed of increasing multiples until 2016, in line with the expectations. Therefore, the higher multiple expansion in the secondary buyout can at least be partially attributed to increasing transaction multiples in the market, thus the result of timing skills and/or superior industry expertise of the PE fund.[236] Indeed, the LBO and M&A environment in Europe was influenced by uncertainty due to the Euro crisis in 2012 making the entry cheap, while in 2016 economic outlooks became more promising and low interest rates supported a strong transaction market with the availability of lots of cheap debt driving up valuation multiples. KKR is likely to have bet on this development when it acquired WMF. Therefore, the increase in industry multiples certainly contributed to the expansion of exit multiple in the secondary buyout. Nonetheless, the magnitude is substantially different as one can observe an increase from around 6.45x to 13.36x times EBITDA, in 2012 and 2016, respectively, over KKR's holding period compared to an increase of less than ten percent for the market.

Besides the reasons mentioned so far, some transaction specific factors might have additionally contributed to the multiple expansion. First of all, KKR's offer in 2012 did not intend to lead to the acquisition of the preferred share, so that the premium for those was much lower (0.2%), thus artificially reducing the overall multiple paid. Secondly, at entry of KKR, WMF still had a considerable free float and on top of that a large shareholder with FIBA, which reduced the control and the capital rights of KKR, hence, potentially leading to a discount, while at exit of KKR, the second shareholder FIBA also sold its stake, thus representing a sale of 100% of WMF.

[236] Achleitner, Braun, and Engel (2011), p. 161

To put this section in a nutshell, it is difficult to pinpoint the remarkable multiple expansion in the secondary buyout to one specific reason. Several factors have led to the increase from 6.45x in 2012 to 13.36x EBITDA in 2016. Nevertheless, it can be seen that changes in financial indicators and pure negotiation and timing skills probably had a limited impact. The major driver for the multiple expansion was most certainly the initiatives implemented by WMF during KKR's ownership, which helped reorganize and modernize the company, sharpen its strategic profile, bolster future growth expectations in both the short- and the long-term and thus improved the attractiveness for strategic buyers and the bargaining power of KKR, especially due to the unique position of WMF as market leader in the highly desired professional coffee machines segment. Additionally, the rising transaction multiples in the industry are likely to have contributed a fair share in the multiple expansion achieved by KKR. The literature on PE funds especially stresses the better industry expertise of GPs, as they are able to identify those markets that will be increasing in attractiveness and simultaneously in value. This is evidenced by the strong move into professional coffee machines segment that KKR supported which probably further caused exit multiples to expand substantially.

VI.3.6 Conclusion on Value Creation

As seen in the previous sections, both the primary and the secondary buyout were successful in creating value, however the way they achieved the results differed significantly. After aggressive top-line growth and margin expansion in the primary buyout, the focus during KKR's ownership was on sharpening WMF's strategic profile, focusing on the most promising segments and preparing the company for an attractive exit. Higher efficiency was achieved by divesting unprofitable divisions, closing uneconomic stores, reducing headcount, downsizing production, reducing the number of products and optimizing logistics. Apart from that, WMF was positioned for profitable future growth through accelerated international expansion, support of the e-commerce activity and most importantly the focused development of the professional coffee machines business. While a lot of these implementations are not yet visible in the income statement, which is still affected by restructuring costs, the necessary steps were taken to make WMF a desired company for a multitude of strategic buyers, thus enabling a successful exit for KKR. Therefore, most of the value creation in the secondary buyout comes from multiple expansion and only modest part of the increase in EV is explained by sales growth and margin enhancement. However, this multiple expansion is also a result of a fundamental improvement of WMF, despite not being fully reflected yet in the financial statements.

VI.4 Value Creation on Fund Level – IRR and Money Multiple

The previous section showed that the LBO of WMF by KKR indeed created value in terms of increasing the EV. This section will analyze whether this value creation also translated into sufficient returns for KKR and its investors, and if this deal can be considered a successful one for the fund. In order to do so, the IRR and the money multiple, the two most common return indicators in LBOs, are approximated with the available information. Hereby it is assumed that all payments are made on closing dates and that cash flows occurring on the same date are netted, while taxes on dividends and capital gains are not taken into account, as there is not sufficient information to determine at which level they are taxed.

The first transaction is the purchase of the shares from Capvis in 2012, which closed on 5th of October. The purchase price for these shares was 323.41 million Euros, however the total purchase costs totaled 328.7 million Euros according to the annual report of Finedining TopCo. The difference is assumed to stem from activated transaction cost. Total transaction costs were estimated at 15 million Euros in the offer document, thus it is assumed that the remainder are non-activated transaction costs, which are directly paid by the fund and represent an additional investment for KKR. The total costs were financed with 29.7 million Euros in equity and 173.8 million Euros through a shareholder loan, while the rest was covered using the credit facility provided by the Kreissparkasse Göppingen. Therefore, the total investment in this first transaction for KKR amounts to 213.2 million Euros (Table 23). The purchase of additional shares for 913 thousand Euros in 2013 was entirely paid by debt, thus not representing a cash outflow for the fund. The next cash flow impacting KKR's return is in March 2013, when 14.6 million Euros of the shareholder loan was repaid and an additional 2.8 million Euros in interest on the shareholder loan were paid out. The third important transaction is the purchase of the preferred shares at the end of 2014 for 320.7 million Euros, where total purchase costs were again higher with 331.8 million Euros. Similar to the initial acquisition in 2012, the estimated transaction costs of 23.2 million Euros are taken to calculate the non-activated transaction costs of 12.1 million Euros which have to be fully borne by KKR. Besides this, KKR contributed 116.4 million Euros in equity by converting the shareholder loan, while the remainder[237] of the total outstanding 186.1 million Euros was paid out, hence leading to a cash inflow for KKR of 57.6 million Euros. The following squeeze-out in early 2015 had a purchase price of 65.5 million Euros, but was fully debt financed, thus again not influencing the return to the fund. Nonetheless, it is important to note that the shareholding structure shifted in this transaction as

[237] Except for 2.1 million Euros in shareholder loan, which were converted into equity in 2015

FIBA tendered its shares for 49.99 Euros per share to the Finedining TopCo, totaling 116.98 million Euros, but reinvested 109.98 million Euros of these proceeds in the Finedining S.à.r.l. alongside KKR for 49.9% of the voting rights (Finedining Capital GmbH, 2014b).[238] As there is no contrary information, it is assumed that the voting rights are equivalent to the capital rights and therefore 50.1% of all future cash flows to the holding company are attributed to KKR. The first cash flow affected by this change is a dividend of 199.7 million Euros, which was paid on the 15th of July 2015, thus leading to a cash inflow for KKR of 100.05 million Euros. The final cash flow for the fund naturally results from the sale of WMF to Groupe SEB. As introduced in section VI.2.2, WMF was sold for a total EV of 1.71 billion Euros, including 565 million Euros of assumed net debt and 125 million Euros in pension liabilities, which therefore sums up to proceeds of 1.02 million Euros for the equity. On top of that Groupe SEB paid 70 million Euros in order to keep WMF's 2016 results, thus leading to a total cash inflow of 546.1 million Euros to KKR on the transaction closing date, the 30th of November 2016.

In € millions	*05.10.2012*	*31.03.2014*	*03.09.2014*	*15.07.2015*	*30.11.2016*
Purchase of Shares	*(323.41)*		*(320.68)*		
Equity Financing	(29.66)		(116.38)		
Shareholder Loan	(173.80)				
Non-Activated Transaction Costs	(9.74)		(12.09)		
Repayment of Shareholder Loan		14.60	186.10		
Interest on Shareholder Loan		2.80			
Dividends Received				100.05	
Proceeds from Sale					511.02
Additional Consideration					35.07
Total Cash Flow to KKR	**(213.20)**	**17.40**	**57.63**	**100.05**	**546.09**

IRR	**40.3%**
Money Multiple	**3.38x**

Table 23 Return Calculation

Given these transactions and the implied cash flows for KKR, the IRR of the LBO is at 40.3% and the money multiple at 3.38x, which can be considered very successful and in line with the 40% IRR and 3.4x money multiple which were reported by the press.[239]

Now the effect of different drivers and factors determining the above return will be analyzed by calculating their contribution to the money multiple.[240] To do so, the starting point will be the simplified structure of the LBO (base case), in which KKR acquires its stake in 2012 and

[238] Finedining Capital GmbH (2014b): "Offer document Finedining Capital GmbH", p. 12
[239] Real Deals (2016): "KKR sells WMF in €1.6bn deal"
[240] An overview of the different factors and their impact on the money multiple is given in the appendix.

sells it in 2016, while peculiarities of the transaction and factors influencing the value creation and return will be added step by step. This will be done under the assumption of an unlevered acquisition in order to see the effect of leverage at the end. As KKR's offer for WMF's shares implied an EV of 671.2 million Euros, whereby KKR obtained 49.9% in capital rights, the initial investment would have been 334.9 million Euros on a debt and cash free basis, including a refinancing of KKR's share in pension liabilities. Since a pure equity financing is assumed, KKR would have directly obtained 49.9% of the proceeds at exit representing 853.3 million Euros, as there are neither net debt nor pension liabilities to deduct. This implies a money multiple of 1.97x (see Figure 9), which stems purely from the EBITDA expansion and the multiple expansion, which were analyzed in detail in sections VI.3.4 and VI.3.5, respectively.

However, there are further factors which have a positive or negative effect on the return on an unlevered basis, by either having an impact on the initial investment or on the final proceeds. Firstly, the structure of having both preferred and ordinary share and the fact that KKR's offer differed depending on the type of share, leads to a deviation between what KKR paid and what the PE fund eventually obtained. Since the equity at entry and thus the EV is calculated on the basis of the offer prices, the higher valued ordinary shares contribute more to the equity value while giving the shareholders the same capital claim as preferred shares. Due to the higher offer for ordinary shares, KKR obtained more of those than of the preferred shares, thus paying for 55.3% of the equity value but obtaining only 49.9% of the share capital, a circumstance which can be interpreted as a premium for voting rights which however leads to an immediate loss of 31.3 million Euros or 0.06x the initial investment.[241] A second deviation from the base case is that a further investment was made at the end of 2014 and the squeeze-out was undertaken in March 2015. Considering that the share of assumed debt of KKR would have needed pure equity financing on an unlevered basis, this implies an additional investment of 142.4 million Euros for KKR or a reduction in money multiple of 0.27x. Moreover, the share in capital rights increased from 49.9% to 50.1% in the second investment, thus having a positive effect of 3.5 million Euros on the final proceeds and 0.1x on the money multiple. Thirdly, the transaction costs have to be taken into account as compared to the base case. This leads to an additional investment of 15 million Euros in 2012 and of 23.2 million Euros in 2014, increasing the required initial investment to a total of 546.9 million Euros and resulting in final proceeds of 856.7 million Euros.

[241] Based on the total unlevered initial investment of 534.8 million Euros, including all relevant factors.

Besides these effects, there is another factor which is sometimes deemed an operational improvement as well (Puche et al., 2015)[242], the free cash flow effect, which is treated separately in this analysis, as it is considered less a classical operational improvement, but more a consequence of the improvements. The free cash flow effect, as explained in section IV.4.1, is the result of using the cash generation of the company to reduce net debt or to distribute proceeds to shareholders. Thus, the first part of the free cash flow effect is the repayment of the shareholder loan in 2014, part of which is netted with transaction costs, thus both reducing the initial investment by this part and increasing proceeds by the remainder. Secondly, the dividend distribution of 100.5 million Euros to KKR in 2015 is included in the free cash flow effect. Furthermore, the change in net debt is due to the use of cash flows, thus the difference between the initial net debt, including both the debt for the acquisition in 2012 and KKR's share in the acquisition debt in 2014, and the final net debt at the sale in 2016 is added to the free cash flow effect. Additionally, it has to be considered that in the unlevered case, there would be no interest payments, which reduce the cash flow. Thus, the sum of all interest payments after tax[243] is added back to the free cash flow effect as well as the share of KKR in the 70 million Euros additional cash consideration, which can be interpreted as a compensation for the 2016 cash flows. In total, the free cash flow effect represents 233.9 million Euros in additional proceeds while reducing the initial investment by 12.1 million Euros, or in terms of money multiple an increase by 0.44x. Overall, the initial investment on an unlevered basis is 534.8 million Euros compared to proceeds of 1.08 billion Euros, representing a money multiple of 2.02x.

So far, the returns were calculated on an unlevered basis. Including leverage in the calculation impacts the returns through three effects. Firstly, it reduces the required initial investment by the fund to 213.2 million Euros. Secondly, the interest expense reduces the final proceeds. And thirdly, the net debt on the balance sheet at exit needs to be either repaid or reduces the equity consideration and thus in both cases reduces the proceeds to the fund. Overall, the 3.38x money multiple is obtained and thus, leverage is responsible for 40.4% of the total return. While this is indeed a significant part of the returns, it is in line with empirical results[244] as secondary buyouts generally create more value through leverage than primary ones.[245]

[242] Puche, Braun, and Achleitner (2015), p. 105
[243] Assuming a tax rate of 29.8%
[244] Puche, Braun, and Achleitner (2015), p. 111
[245] Achleitner and Figge (2014), p. 430f

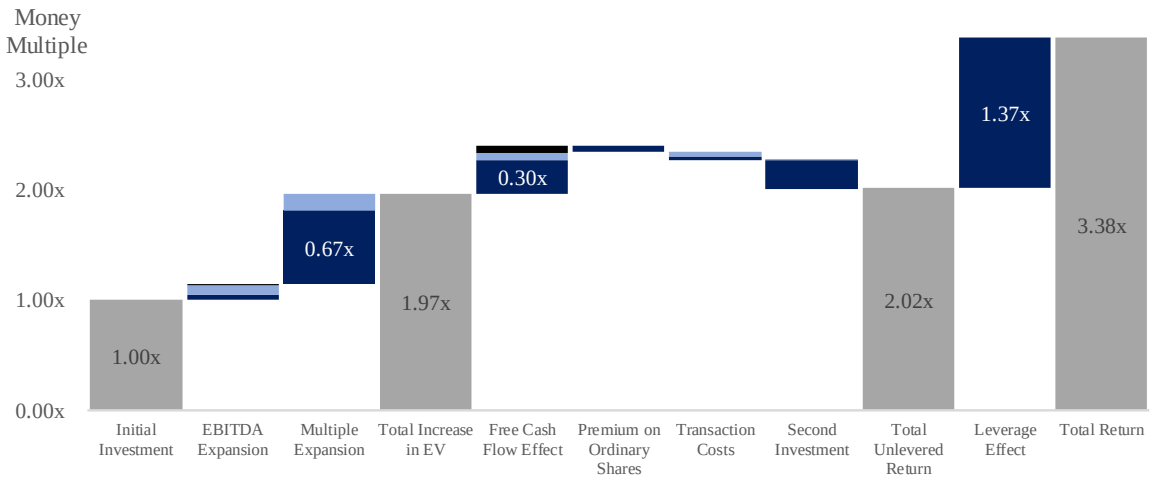

Figure 9 Return Bridge

Hence, it can be concluded that the buyout of WMF by KKR was both objectively a success in that in increased the value of the company and also a success for KKR who earned a decent return. While operational improvements contributed substantially to the return in that they expanded both EBITDA and the exit multiple, a large part of the return is due to the leverage effect which proves again crucial to obtain high returns in LBOs. Overall, the IRR of 40.3% for the buyout is well above the median numbers found by researchers, such as Lopez-de-Silanes et al. (26% IRR)[246] and Puche et al. (34% IRR) while the money multiple is actually comparable[247] (see sections IV.4.4 and IV.5, respectively) meaning that KKR was able to achieve substantial value creation and business enhancements in a shorter period of time than it is usually the case. This result also supports the findings on secondary buyouts by Achleitner et al. (2014) and Degeorge et al. (2016), given that the two financial sponsors Capvis and KKR focused on different aspects of value creation over their holding periods. Therefore, it is likely that their skill sets in managing portfolio companies are complementary enabling the secondary buyout to perform well even after the primary PE fund has reaped parts of the value creation potential.

Nevertheless, an additional aspect has to be kept in mind when judging the success of this buyout for KKR. The acquisition of WMF proved rather detrimental for KKR's reputation in Germany. The fact that they acquired the oldest listed company of the region and that eventually a lot of people lost their jobs, ignited again the "Heuschreckendebatte", which has been introduced before in section III.3. Although these measures might have been necessary and beneficial to the company, they were especially hard to understand for the population in light

[246] Lopez-de-Silanes, Phalippou, and Gottschalg (2015), p. 379f
[247] Puche, Braun, and Achleitner (2015), p. 111

of the large increase in management compensation, the return for the fund and the fact that WMF had successfully grown in terms of revenues in the preceding years. Furthermore, the squeeze-out at an implied EV which was almost half of the sales value 18 months later led to frustration among the minority shareholders, which further harmed KKR's image.

VII. Conclusion

The first part of this paper has shown that a lot of research already exists on private equity and value creation in LBOs in particular. Especially the contribution of the improvements within different value drivers to the overall value creation and investment return is well analyzed in comprehensive and recent studies, such as the one by Puche et al. (2015). However, there seem to be limited studies on how these improvements are achieved by PE funds and their portfolio companies. For instance, little empirical evidence can be found on how much of the sales growth is attributable to buy-and-build strategies, geographic expansion or new product development. Research on the impact of PE-ownership on margins, in contrast, appears to be far more exhaustive, in particular on the influence on productivity, employment levels and R&D expenses. Nonetheless, some of these results are considerably old, thus potentially not applicable in light of the constantly changing environment PE firms are facing, while other findings are contradictory. Furthermore, the factors determining multiple expansion seem to be mostly unexplored. While the impact of timing and negotiation skills on valuation has been analyzed by several researchers, there is no clear view on, or even a universal framework to evaluate the influence of fundamental improvements of the portfolio company on its enterprise value. For example, there is solid knowledge about the changes in capital efficiency PE funds initiate, such as the reduction in net working capital, sale-and-leaseback operations and divestitures, but no relationship to the valuation multiple or other value drivers has been established so far.

The knowledge about value creation on a fund level and the returns to the PE funds is far more comprehensive. Yet, in order to determine whether these returns can be maintained in the future, more transparency in the field of value creation on a company level is required, allowing for an evaluation of the suitability and sufficiency of those measures for the continued success of the PE industry.

The second part of the paper, the case study on the buyout of WMF by KKR, sheds light on some of these aspects, while simultaneously raising new questions in other areas. The comparison of the primary and secondary buyout provides two very different, but successful strategies and offers a broad picture of the different tools available to achieve an increase in EV as well as an example of how these tools can be implemented. These measures range from geographical expansion to additions to the product portfolio with the aim of growing sales, and from closure of stores, divestitures, product range and personnel cost reduction to a shift in the product mix in order to increase the overall margin. This multitude of tools shows that a

significant increase in the enterprise value is possible over longer holding periods and thus attractive returns can be achieved despite this trend in the industry. In that context, some findings of previous research can be confirmed, such as the matter that PE funds do not compromise future success for short-term gains by reducing investments and R&D expenses. Other results from the case study are contradicting the research, such as the observation that in the case of WMF mainly factory jobs instead of white-collar jobs were cut, as previously suggested by studies. This can of course just be the exception to the rule. However, this could also indicate a systematic difference in the German market or a shift due to the evolution of the industry.

Another important area in which the case study contributes to the overall understanding is multiple expansion. While often perceived as a side product or uncontrollable aspect in LBOs, it constitutes the central source of value creation in the secondary buyout and proves to be a successful strategy for LBOs. The case study shows how a company can be improved fundamentally to achieve a significantly higher exit multiple and the increase in valuation is less a result of generally rising valuations in the industry. Therefore, the achieved returns are a result of operational changes which can be replicated in future buyouts, promising attractive returns despite a less favorable market environment. Furthermore, two factors, namely asset turnover (i.e. capital efficiency) and cash conversion ratio in relation to ROCE, are introduced and could serve as a first cornerstone for a framework which systematically measures the effect of different factors on valuation multiples in LBOs. Additionally, the analysis on multiple expansion revealed the close relation of the distinct value drivers. Initially intended to increase sales or margin, measures such as the modernization of logistics or the active pursuit of certain business segments and geographies, can strongly influence the attractiveness of the company for a strategic buyer, thus resulting in higher exit multiples. Also, measures which have not yet materialized but are expected to do so in the near future, will be reflected in multiple expansion instead of an EBITDA increase, as was the case with personnel expenses for WMF. Therefore, a pure evaluation of the contribution of the value drivers to value creation can be less insightful than a thorough analysis of the underlying measures and causes.

Overall, the paper has uncovered some knowledge gaps in the area of value creation in LBOs, while offering insights into a multitude of these aspects with the help of the case study.

Future research in the field of value creation in LBOs should therefore focus on the company level. For instance, additional case studies will help to identify more measures used by PE funds to achieve value creation. This includes factors leading to multiple expansion in order to

eventually come up with a comprehensive framework which helps to quantify their impact. Furthermore, empirical studies focused on Germany could reveal systematic differences in the market and tactics of PE firms, while empirical studies in general could uncover which aspects of value creation have changed with the evolution of the industry during the last decades.

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IX. Appendix

In € thousands	2011	2012	2013	2014	2015
Sales	**979,411**	**1,027,326**	**1,014,970**	**1,024,310**	**1,061,413**
Change in Finished Goods	(309)	(3,283)	(1,747)	872	3,214
Other Own Work Capitalized	2,242	1,984	2,343	3,518	2,183
Total Operating Performance	**981,344**	**1,026,027**	**1,015,566**	**1,028,700**	**1,066,810**
Other Operating Income	32,092	35,825	32,522	31,287	35,677
Cost of Materials	(395,774)	(410,443)	(405,228)	(388,117)	(401,674)
Staff Costs	(303,937)	(313,284)	(322,311)	(354,711)	(336,312)
Adjustments to Staff Costs	3,319	3,710	3,495	20,000	4,000
Other Operating Expense	(222,250)	(237,854)	(247,049)	(249,433)	(258,375)
Adjustments to Other Operating Expense	-	-	31,963	22,682	7,138
Adjusted EBITDA	**94,794**	**103,981**	**108,958**	**110,408**	**117,264**
D&A	(26,491)	(28,835)	(26,142)	(46,960)	(45,107)
Adjustments to D&A	(17,623)	(10,323)	(17,623)	-	-
Adjusted EBIT	**50,680**	**64,823**	**65,193**	**63,448**	**72,157**
Income from Associates & Other Financial Assets	1,079	258	(187)	1,109	2,741
Interest Income	481	533	203	550	1,372
Interest Expense	(2,421)	(1,890)	(5,313)	(21,102)	(34,546)
Adjustments to Net Interest Expense	(3,319)	(3,710)	-	-	-
Other Net Finance Costs	(511)	96	(546)	1,002	(1,466)
Due to Profit Agreement Compensated Loss	-	-	-	33,979	-
Adjusted EBT	45,989	60,110	59,350	78,986	40,258
Taxes	(19,253)	(25,586)	(16,203)	(6,179)	(9,054)
Tax Impact Adjustments	5,252	3,076	(5,315)	(12,719)	(3,319)
Adjusted Net Income	31,988	37,600	37,832	60,088	27,885

Appendix 1 Full Adjusted Income Statement WMF AG 2011 to 2015

In € thousands	2011	2012	2013	2014	2015
Intangible Assets	44,650	293,256	274,582	254,880	241,433
Tangible Assets	120,591	136,594	137,906	127,831	118,990
Participations Valued at Equity	10,018	9,702	8,538	10,175	10,457
Other Financial Assets	2,404	2,423	2,312	2,290	2,309
Other Assets	2,139	1,921	1,446	898	615
Deferred Tax Claim	11,858	19,897	18,275	21,782	25,382
Total Non-Current Assets	**191,660**	**463,793**	**443,059**	**417,856**	**399,186**
Inventories	226,630	266,471	200,163	211,848	226,659
Trade Receivables	172,318	174,326	156,961	149,382	155,407
Current Earnings Claims	2,962	3,338	13,627	6,781	8,835
Cash and Cash Equivalents	17,113	54,184	100,189	184,498	110,106
Other Assets	19,337	17,436	16,185	21,199	19,198
Total Current Assets	**438,360**	**515,755**	**487,125**	**573,708**	**520,205**
Subscribed Capital	25	25	25	25	25
Capital Reserve	13,344	29,659	29,659	256,023	47,163
Revenue Reserve	9,450	(17,466)	(49,492)	(197,785)	(185,539)
NCI	229,659	255,997	243,272	37,749	2,958
Total Shareholders' Equity	**252,478**	**268,215**	**223,464**	**96,012**	**(135,393)**
Pension Provisions	61,324	90,429	89,846	111,426	106,182
Provisions	21,571	19,111	16,735	16,579	15,936
Financial Liabilities	72,000	139,005	134,994	465,547	598,924
Liabilities Towards Associated Companies	27,938	178,034	195,838	2,106	-
Other Liabilities	112	320	470	5,383	3,399
Deferred Tax Liabilities	11,663	86,650	70,168	61,901	54,938
Total Long Term Debt	**194,608**	**513,549**	**508,051**	**662,942**	**779,379**
Provisions	11,964	14,452	22,022	24,234	33,532
Current Earnings Liabilities	16,038	13,253	12,910	9,890	13,256
Financial Liabilities	2,261	10,605	9,670	7,787	21,366
Trade Payables	65,209	84,057	74,306	95,410	117,182
Liabilities Towards Associated Companies	9,867	-	-	-	-
Other Liabilities	77,595	75,417	79,761	95,289	90,069
Total Short Term Debt	**182,934**	**197,784**	**198,669**	**232,610**	**275,405**
Total Assets	630,020	979,548	930,184	991,564	919,391
Total Liabilities	630,020	979,548	930,184	991,564	919,391

Appendix 2 Full Balance Sheet Finedining TopCo GmbH 2011 to 2015

In € thousands	2011	2012	2013	2014	2015
Net Income	44,359	44,847	25,312	30,125	20,066
Adjusted Net Income	**31,988**	**37,600**	**37,832**	**60,088**	**27,885**
Result from Equity Valuation	(573)	290	1,161	(1,086)	(2,735)
D&A	26,491	28,835	26,142	46,960	45,107
Adjusted D&A	**44,114**	**39,158**	**43,765**	**46,960**	**45,107**
Change in Provisions	2,641	20,229	5,372	2,130	6,483
Gain/Loss on Disposal of Assets	38	(2,123)	(872)	142	(4,874)
Change in Working Capital	(33,335)	(2,810)	33,640	3,369	(6,369)
Interest Expense	-	-	-	17,241	30,793
Adjustments	**2,421**	**1,890**	**5,313**	**-**	**-**
Other Non-Cash Items	(1,494)	(20,248)	1,764	(4,324)	(1,944)
CF from Operations	38,127	69,020	92,519	94,557	86,527
Adjusted CF from Operations	**45,800**	**73,986**	**127,975**	**124,520**	**94,346**
Proceeds from Disposal of Intangible Assets and PP&E	1,227	2,908	1,949	3,424	16,039
Proceeds from Disposal of Other Financial Assets	152	85	701	57	66
Proceeds from Disposal of Consolidated Companies	12	13	9,705	14,442	-
Payments for Invesments in Intangible Assets and PP&E	(29,090)	(35,109)	(34,557)	(29,537)	(32,736)
Payments for Investments in Other Financial Assets	(53)	(284)	(55)	(35)	(85)
Granted Shareholder Loans incl. Accrued Interest	-	-	-	(444)	(20)
Interest Income	-	-	-	550	1,372
Dividends Received	-	-	-	340	627
Cash Flow from Investing Activity	(27,752)	(32,387)	(22,257)	(11,203)	(14,737)
Dividens Paid	(18,200)	(19,538)	(13,955)	(3,485)	(128,008)
Capital Transactions with NCI	-	(796)	-	(218,860)	(65,488)
Change in Shareholder Loan	-	-	-	(89,262)	(72,063)
Borrowing of Long-Term Financing Liabilities	-	12,500	-	335,553	135,877
Change in Short-Term Financing Liabilities	-	9,699	(3,038)	(1,883)	13,579
Repayment of Long-Term Financial Liabilities	-	-	(5,000)	(5,000)	(2,500)
Interest Expense	-	-	-	(17,791)	(32,165)
Adjustments	**(2,421)**	**(1,890)**	**(5,313)**	**-**	**-**
Purchase of Own Shares	-	(1,395)	-	-	-
Cash Flow from Financing Activity	(18,200)	470	(21,993)	(728)	(150,768)
Adjusted Cash Flow	**(20,621)**	**(1,420)**	**(27,306)**	**(728)**	**(150,768)**
Change in Cash	(7,825)	37,103	48,269	82,626	(78,978)
Cash Relevant Consolidation of Loans	(20,000)	-	-	-	-
Change in Cash Due to Exchange Rate Effects	1,867	(701)	(1,934)	1,604	4,679
Cash BoP	42,660	16,702	53,104	100,097	184,327
Cash EoP	16,702	53,104	99,439	184,327	110,028

Appendix 3 Full Adjusted Cash Flow Statement WMF AG 2011 to 2015

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012
Sales	**577,679**	**731,774**	**761,528**	**795,806**	**800,020**	**901,575**	**979,411**	**1,027,326**
Change in Finished Goods	638	3,265	10,249	(5,207)	(9,173)	4,773	(309)	(3,283)
Other Own Work Capitalized	1,709	2,145	3,207	2,471	2,481	2,527	2,242	1,984
Total Operating Performance	**580,026**	**737,184**	**774,984**	**793,070**	**793,328**	**908,875**	**981,344**	**1,026,027**
Other Operating Income	22,025	24,414	26,538	28,043	32,129	30,295	32,092	35,825
Cost of Materials	(211,807)	(290,157)	(293,249)	(301,088)	(299,642)	(360,334)	(395,774)	(410,443)
Staff Costs	(215,674)	(251,648)	(260,603)	(269,935)	(273,171)	(283,911)	(303,937)	(313,284)
Adjustments to Staff Costs	-	-	-	-	-	-	-	-
Other Operating Expense	(143,111)	(164,694)	(171,094)	(186,455)	(188,239)	(211,750)	(222,250)	(237,854)
Adjustments to Other Operating Expense	3,700	-	-	-	2,227	-	-	-
Adjusted EBITDA	**35,159**	**55,099**	**76,576**	**63,635**	**66,632**	**83,175**	**91,475**	**100,271**
D&A	(19,620)	(22,680)	(23,306)	(22,338)	(22,806)	(24,787)	(26,491)	(28,835)
Adjustments to D&A	-	-	-	-	-	-	-	7,300
Adjusted EBIT	**15,539**	**32,419**	**53,270**	**41,297**	**43,826**	**58,388**	**64,984**	**78,736**
Income from Associates & Other Financial Assets	1,151	1,609	1,060	1,341	(1,192)	1,403	1,079	258
Net Interest Result	(1,175)	(1,819)	(908)	(1,265)	(2,357)	(2,308)	(1,940)	(1,357)
Adjustments to Net Interest Expense	-	-	-	-	-	-	-	-
Other Net Finance Costs	-	-	-	(5,627)	2,227	287	(511)	96
Adjusted EBT	15,515	32,209	53,422	35,746	42,504	57,770	63,612	77,733
Taxes	(3,339)	(12,288)	(18,282)	(13,261)	(14,329)	(19,102)	(19,253)	(25,586)
Tax Impact Adjustments	(1,406)	-	-	-	(648)	-	-	(2,175)
Adjusted Net Income	10,770	19,921	35,140	22,485	27,527	38,668	44,359	49,972

Appendix 4 Full Adjusted Income Statement WMF AG 2005 to 2012

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012
Intangible Assets	10,913	10,201	11,279	14,054	14,679	17,930	17,028	14,109
Tangible Assets	110,604	111,452	114,263	115,548	112,603	118,071	120,591	128,614
Participations Valued at Equity	8,589	9,104	8,983	9,628	8,084	9,477	10,018	9,702
Other Financial Assets	6,039	2,368	2,435	2,408	2,320	2,323	2,224	2,423
Other Assets	218	2,438	2,625	2,539	2,266	1,978	1,864	1,921
Deferred Tax Claim	15,843	13,684	10,087	8,954	11,118	10,311	13,477	19,897
Total Non-Current Assets	**152,206**	**149,247**	**149,672**	**153,131**	**151,070**	**160,090**	**165,202**	**176,666**
Inventories	144,433	161,944	190,905	204,769	171,136	207,231	226,630	235,789
Trade Receivables	97,729	121,480	121,851	126,454	120,950	149,088	172,318	174,326
Current Earnings Claims	2,123	777	1,574	2,078	1,619	2,724	2,952	3,330
Cash and Cash Equivalents	8,798	11,594	15,394	15,316	49,716	42,660	16,702	53,104
Other Assets	9,882	11,969	12,644	19,587	12,935	13,975	17,069	17,435
Total Current Assets	**262,965**	**307,764**	**342,368**	**368,204**	**356,356**	**415,678**	**435,671**	**483,984**
Subscribed Capital	35,840	35,840	35,840	35,840	35,840	35,840	35,840	35,840
Capital Reserve	85,455	85,455	85,455	85,455	85,455	85,455	85,455	85,455
Revenue Reserve	111,420	121,642	140,981	151,617	160,023	186,893	212,244	218,635
NCI	117	1,028	1,652	2,084	2,242	1,895	1,964	1,237
Treasury Shares	-	-	-	-	-	-	-	(1,395)
Total Shareholders' Equity	**232,832**	**243,965**	**263,928**	**274,996**	**283,560**	**310,083**	**335,503**	**339,772**
Pension Provisions	56,252	57,851	59,261	59,509	61,109	60,751	70,228	90,429
Provisions	22,407	23,097	25,166	24,598	21,468	20,422	21,571	19,111
Financial Liabilities	-	-	-	-	20,000	20,000	-	12,500
Other Liabilities	117	6	5	6	173	118	112	320
Deferred Tax Liabilities	44	1,026	2,118	2,724	2,986	3,862	3,018	1,893
Total Long Term Debt	**78,820**	**81,980**	**86,550**	**86,837**	**105,736**	**105,153**	**94,929**	**124,253**
Provisions	6,052	7,989	9,921	11,900	11,158	11,045	11,964	14,452
Current Earnings Liabilities	3,116	6,158	11,421	9,112	10,457	9,570	16,038	13,253
Financial Liabilities	27,836	24,479	29,067	37,013	-	-	-	9,699
Trade Payables	27,658	40,742	39,221	41,476	34,974	70,611	65,209	84,057
Other Liabilities	38,857	51,698	51,932	60,001	61,541	69,306	77,230	75,164
Total Short Term Debt	**103,519**	**131,066**	**141,562**	**159,502**	**118,130**	**160,532**	**170,441**	**196,625**
Total Assets	415,171	457,011	492,040	521,335	507,426	575,768	600,873	660,650
Total Liabilities	415,171	457,011	492,040	521,335	507,426	575,768	600,873	660,650

Appendix 5 Balance Sheet WMF AG 2005 to 2012

In € thousands	2005	2006	2007	2008	2009	2010	2011	2012
Net Income	8,476	19,921	35,140	22,485	25,948	38,668	44,359	44,847
Adjusted Net Income	**10,770**	**19,921**	**35,140**	**22,485**	**27,527**	**38,668**	**44,359**	**49,972**
Result from Equity Valuation	(388)	(515)	121	(645)	1,651	(1,383)	(573)	290
D&A	19,620	22,680	23,306	22,338	22,806	24,787	26,491	28,835
Change in Provisions	5,270	2,386	5,373	827	(2,272)	(2,045)	2,641	20,229
Gain/Loss on Disposal of Assets	(655)	(319)	(1,114)	(1,809)	(3,996)	(41)	38	(2,123)
Change in Current Assets	(12,529)	(16,511)	(24,815)	(7,552)	44,213	(42,510)	(43,371)	(15,256)
Change in Current Liabilities	2,862	16,202	2,407	(386)	(3,745)	31,272	10,036	12,446
Other Non-Cash Items	-	-	-	-	(1,591)	7,231	(1,494)	(20,248)
CF from Operations	22,656	43,844	40,418	35,258	83,014	55,979	38,127	69,020
Adjusted CF from Operations	**24,950**	**43,844**	**40,418**	**35,258**	**84,593**	**55,979**	**38,127**	**74,145**
Proceeds from Disposals of Intangible and Tangible Fixed Assets	1,002	424	2,225	4,953	8,332	466	1,227	2,908
Proceeds from Disposals of Financial Assets	353	323	167	162	185	129	152	85
Proceeds from Sale of Consolidated Companies	-	450	-	-	-	-	12	13
Capital Investments in Purchase of Consolidated Companies	-	(8,142)	(1,249)	(1,234)	-	(6,282)	-	-
Capital Investments in Intangible and Tangible Fixed Assets	(22,585)	(19,357)	(26,381)	(27,387)	(24,863)	(25,836)	(29,090)	(35,109)
Capital Investments in Financial Assets	(239)	(216)	(233)	(135)	(97)	(85)	(53)	(284)
Cash Flow from Investing Activities	**(21,469)**	**(26,518)**	**(25,471)**	**(23,641)**	**(16,443)**	**(31,608)**	**(27,752)**	**(32,387)**
Payments to Shareholders	(8,400)	(9,800)	(13,425)	(16,800)	(14,700)	(19,917)	(18,200)	(21,729)
Change in Financial Liabilities	1,654	(3,357)	4,588	7,946	(17,013)	-	-	22,199
Payments for Repayment of Financing Loans	-	-	-	(3,890)	-	(13,297)	-	-
Cash Flow from Financing Activities	**(6,746)**	**(13,157)**	**(8,837)**	**(12,744)**	**(31,713)**	**(33,214)**	**(18,200)**	**470**
Change in Cash	(5,559)	4,169	6,110	(1,127)	34,858	(8,843)	(7,825)	37,103
Others	-	-	-	-	-	-	(20,000)	-
Due to Currency Translation & Change of Scope of Consolidation	421	(1,373)	(2,310)	1,049	(458)	1,787	1,867	(701)
Financial Resources BoP	13,936	8,798	11,594	15,394	15,316	49,716	42,660	16,702
Financial Resources EoP	8,798	11,594	15,394	15,316	49,716	42,660	16,702	53,104

Appendix 6 Full Adjusted Cash Flow Statement WMF AG 2005 to 2012

Return Driver	*Impact on Equity Investment*	*Equity Investment*	*Impact on Proceeds*	*Final Proceeds*	*Impact on MM*
Base Case		**334,901**		**334,901**	
Sales Increase	-	334,901	23,593	358,495	0.04x
Margin Increase	-	334,901	50,228	408,723	0.09x
Combination Effect	-	334,901	3,539	412,261	0.01x
Total EBITDA Expansion	**-**	**334,901**	**77,360**	**412,261**	**0.14x**
Multiple Increase	-	334,901	358,244	770,505	0.67x
Combination Effect	-	334,901	82,752	853,257	0.15x
Total Operational Improvement	**-**	**334,901**	**518,356**	**853,257**	**0.97x**
Premium on Ordinary Shares	31,325	366,226	-	853,257	(0.06x)
Transaction Costs First Investment	15,000	381,226	-	853,257	(0.03x)
Second Investment	142,432	523,658	-	853,257	(0.27x)
Change in Share in Second Investment	-	523,658	3,453	856,710	0.01x
Transaction Costs Second Investment	23,200	546,858	-	856,710	(0.04x)
Free Cash Flow Effect	(12,090)	534,768	150,957	1,007,667	0.30x
Impact of Interest Expense	-	534,768	35,737	1,043,404	0.07x
Additional Cash Consideration	-	534,768	35,070	1,078,474	0.07x
Total Value Creation ***(KKR's Share)***	**-**	**534,768**	**-**	**1,078,474**	**2.02x**
Leverarge Effect	**(321,571)**	**213,197**	**(357,309)**	**721,165**	**3.38x**

Appendix 7 Breakdown of Factors Contributing to Return