



German Mittelstand-Bonds. A role model for Poland?

**An exploration of SME bond-funding in Germany
compared to Poland.**

Bachelor of Arts Thesis

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Abstract

This Dissertation provides an extensive analysis of the German and Polish SME-sectors, derives their characteristics and their features in general terms and in terms of funding. The main difference between the respective SME-sectors is based in the structure of the economies of the two countries. Germany can be characterized as a developed market with a highly-developed structure of medium to large and a relatively low number of micro and small enterprises. The Polish economy is characterized by a bi-polar structure. On the one end a low productive micro and small businesses, on the other, EU 27 over performing middle-sized and large enterprises. Both German and Polish SMEs show a distinctive preference towards internal funding. Externally, loan funding from banks has still got a predominant position, albeit slowly decreasing in importance, based on the trend of diversification of funding amongst SMEs.

Since 2010 German Mittelstand has got the opportunity to issue bonds on specific segments of stock exchanges. The study has analysed the M-Bond market and compared it to Poland's main corporate bond market, named 'Catalyst'. The comparison showed that both markets show characteristics attributed to bond markets of emerging markets, being underdeveloped especially in terms of liquidity and transparency. Both markets face severe criticism based on insufficient quality matters of the placed instruments. However, both markets look back at an impressive development since their establishment and are still expected to grow rapidly, even if on different fundamentals. The study came to the conclusion, that withdrawing bank- and 'classical' corporate bonds from Catalyst, the German M-Segments are already exceeding in scale. Additionally the segments are already of higher maturity, which makes a transfer of M-Bond segments to Poland impractical. As up to date there is no foreign literature on the Polish corporate bond sector available, this Dissertation represents a distinct contribution to current literature.

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I. Introduction

This chapter has the aim of introducing the research problem and enlightening the purpose and relevance of this research.

1. Background

Based on the bilateral trade volume of EUR 75.9bn in 2011 Poland is Germany's most important economic partner in Eastern Europe and tenth overall (Deutsche Botschaft Warschau, 2012). In turn, Germany is distinctively Poland's most important partner in terms of imports, exports, direct investments and other areas. During the two decades after the economic turnover Poland's economy has experienced a dynamical development, which was grounded on a "rapid formation of a Polish equivalent of Germany's Mittelstand" (Cienski, 2012). Added the long-term success of German companies, it is not a coincidence that in Poland the German economy is perceived as a role model.

Although Poland looks back at 21 years of continuous economical growth, it had to wait for Europe's full attention until 2009, being the only EU-member to avoid a recession (Polska Agencja Rozwoju Przedsiębiorczości, 2012). Alongside with the economic growth, Poland has developed the largest capital market in Central and Eastern Europe, which was enlarged in 2009 by a new segment for the trade of bonds- Catalyst. In the following year Germany has experienced a comparable novelty, namely the introduction of stock exchange segments available purely for bonds of Mittelstand companies: Mittelstand-Bonds or M-Bonds.

2. Rationale

The purpose of this dissertation is to understand both the German new segments for Mittelstands-Bonds and the Polish corporate debt capital market, with an emphasis on the transferability of the German model to Poland.

As to date there is no foreign literature on the Polish corporate bond sector available. Therefore this Dissertation represents a distinct contribution to current literature. Furthermore the analysis of the transferability of the young M-Bond model is to be seen as distinctiveness in current literature and serves therefore as foundation for future research projects.

Thereby this research paper shall represent an important part in the evaluation process for the leading German portal for Mittelstand-Bonds Anleihen Finder GmbH, whether or not to expand activities into the Polish market.

3. Layout of the Study

The basis for the achievement of the purpose of this Dissertation is an extensive analysis in the respective fields. For this purpose the following research question were chosen:

- RQ 1: What are the structural differences, if any, between German and Polish SMEs?
- RQ 2: What are the differences, if any, in fund-raising of German and Polish SMEs?
- RQ 3: What are the characteristics of the German M-Bond model?
- RQ 4: What are the characteristics of the Polish corporate bond market?

The study will exclusively analyse M-Bonds and the corporate bonds traded in Poland. Neither equity-instruments, nor other debt instruments will be content of the study.

The study work consists of three parts. The Literature Review depicts the foundation for the understanding of the following research, which is divided into two fields: The first two research questions analyse the SME-markets of Poland and Germany, the second two the respective corporate bond segments. The graphic below displays the layout of the study.

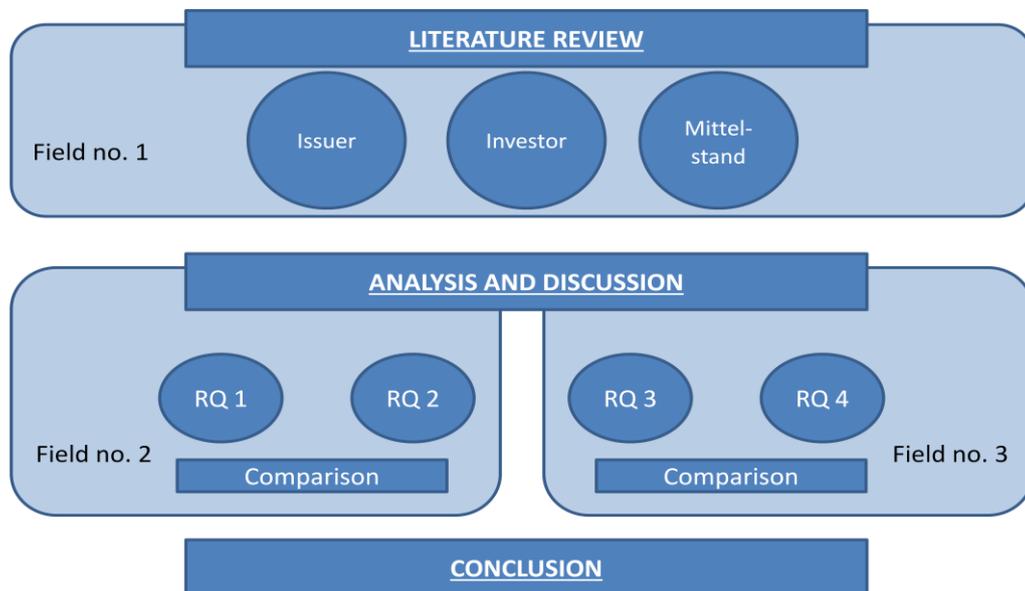


Figure 1 Layout of the Study, Author's development

For comparability reasons for field no. 2 the SME-definition of the EU was valid. The latter was analysed with the more flexible qualitative approach towards Mittelstand. Given the extend of the study, analyses were transferred into the appendix, when they were considered too large and limiting the fluent process of reading.

For an authentic basis for comparison, the study has adopted the exchange rate of EUR/PLN 4.1, a level, which was generally maintained over the period of the study. Also new bond placements after 01.04.2013 have not been taken into account.

II. Literature Review

1. Introduction

Managers of companies have to evaluate risks and chances every potential project bears in order to be able to make an appropriate business decision. The financial decision on the source of funding of the company and its business activities is not of minor importance.

The following chapter aims to establish a theoretical foundation for the understanding of the crucial decisions making companies have to face when deciding on sources of funding. Then using two opposing investment decision theories the investor's perspective will be examined, which will be followed by a short explanation of the Magical Triangle of Investment. The Literature Review will be finished by the development of the definition of Mittelstand.

2. Capital Structure/ Loan vs. Equity Theories

Corporations can decide to fund the company through own capital or to borrow funds. Loan finance is available in a multitude of possibilities and is therefore summarised in the generic term 'debt capital'. "Debt capital is characterized by a contractually predetermined rate of return, a contractually fixed time of repayment and a preferential treatment over equity in terms of repayment" (Lumby & Jones, 2011, p. 263). This leads to the core difference in comparison to equity: Investors do not become part-owner of the business, they become purely creditors.

2.1. Weighted Average Cost of Capital

The following chapters will frequently refer to the term of Weighted Average Cost of Capital (WACC). Companies fund their activities through a variety of funds, which have their own specific costs associated with them. WACC aggregates these costs into a cost of capital as a whole, in which each sort of capital-cost is proportionally weighted, and can therefore be interpreted as the minimum return required after tax (Ross, et al., 2010). The WACC equation shall therefore be:

Equation 1 WACC

$$WACC = \left[Ke \times \frac{E}{V} \right] + \left[\left(Kd \times \frac{D}{V} \right) \times (1 - Tc) \right]$$

$$WACC = \left[\text{Cost of Equity} \times \frac{\text{Equity}}{\text{Equity} + \text{Debt}} \right]$$

$$+ \left[\left(\text{Cost of Debt} \times \frac{\text{Debt}}{\text{Equity} + \text{Debt}} \right) \times (1 - \text{Marginal Tax Rate}) \right]$$

2.2. Modigliani-Miller Theorem, Proposition 1

The Modigliani-Miller Theorem (1958) forms the basis for 'modern' thinking on capital structure. Dependent on the assumption of a perfect economy without taxes, an increase in gearing would have two effects:

- Advantage:
Based on the lower risk and preferential payout and lower return requirements, debt is cheaper than equity.
- Disadvantage:
Gearing increases financial risk held by equity and so forces up the required expected return (in other words: fixed commitment paid before equity = finance risk).

The gained advantage has got a positive influence on the firm's value, whereas the disadvantage leads to a decrease of the value. Consequently, the changes cross one another out, so the WACC and the value of the firm remains the same. Therefore the gearing and the structure of the firm's capital are irrelevant.

2.3. Modigliani-Miller Theorem, Proposition 2

In 1963 Modigliani and Miller revised their theory. Based upon a number of assumptions including the environment, the tax regime and the functioning of capital markets the M and M theorem points towards the consequences for, amongst others and foremost, the total value of a company caused by changes of gearing-ratios (Lumby & Jones, 2011). Assuming that tax relief is permissible on corporate debt interest, the advantages decisively offset the disadvantages. Accordingly, gearing lowers the WACC and increases the total market value of the company, enhancing shareholders' wealth. The attached graphs give graphical evidence.

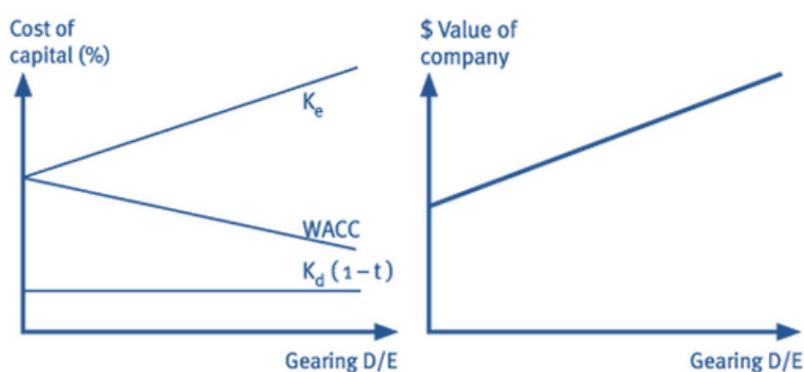


Figure 2 Modigliani-Miller Theorem, Kaplan Financial Knowledge (2010)

For that reason the M and M Theory suggests to managers who aspire to maximize their company's shareholder wealth, to gear the company to a maximum magnitude, at which it would almost entirely consist of debt, with an extremely low level of equity capital (Brooks, 2013).

The theory does not withstand the transition into real economy, largely because of the non-consideration of hidden factors, which are also known as "Limits to the Use of Debt" (Hillier, et al., 2013) :

- Agency cost
- Bankruptcy cost/ Cost of financial distress
- Tax exhaustion
- Debt capacity

2.3.1. Agency Cost - Principal-Agent Problem

Agency costs of leverage are part of the Principal-Agent Problem, "the problem of external control of management by the suppliers of company finance" (Lumby & Jones, 2011, p. 455). Suppliers of funding (the principals) face the risk of receiving misleading or insufficient information from the recipient of funding (the agent), also referred to as asymmetric information.

Principals aim to minimise their risks and impose "restrictive conditions", e.g. covenants, on debt agreements that pose limitations to the company's freedom in business activities (Marney & Tarbert, 2011). The restraints imposed are known as agency costs. The higher the principal's contribution is, the higher his risk potentially is and the higher are the limitations he would possibly set.

Ross, et al., (2010) indicate, that agents may make decisions that benefit shareholders but harm the firm's creditors and lower the total value of the firm, as well as try to diminish the limitations imposed by the principals. Hence the agents might limit the level of a company's gearing, affecting the firm's optimal capital structure choice contrary to M and M's Theory.

2.3.2. Bankruptcy Cost

M and M assume no bankruptcy cost, which means that a company forced into bankruptcy, could be liquidated at no cost. Consequently, the threat of bankruptcy would have no negative adverse effect on the total value of the company (Lumby & Jones, 2011).

In the real world the costs of bankruptcy, composed of legal costs and write offs, are considerable. As future cash flows are uncertain, disposable funds for the repayment of liabilities are uncertain. Consequently every stakeholder, in particular shareholder, faces additional implicit risk of the increasing level of bankruptcy, which goes along with an increasing level of gearing.

2.3.3. Tax exhaustion

Increasing gearing leads to increasing interest payments and eventually to an increasing tax relief. Tax exhaustion refers to a situation, where the company has not sufficient tax liability to take advantage of all the relief that it has available (Marney & Tarbert, 2011). Accordingly further intake of debt is of decreasing appeal.

2.3.4. Debt Capacity

Suppliers of funding require collaterals for securitisation of their capital outlay. Most of debt capital is secured against assets of the borrowing company. If the company fails to repay its liabilities, the counterparty, can dispose of the security to recover its claims out of the sale proceed. Once a company has reached its capacity to provide securities, it is unlikely to receive any further debt, which would exceed its qualified value of assets. (Titman, et al., 2011)

Every single of the above mentioned aspects represents an explanation, why in the real world there is no company of a nearly-100% gearing-ratio as suggested by Modigliani and Miller.

3. Classical or Traditional Theory of Capital Structure

The Classical Theory of Capital Structure signifies that at a moderately low altitude of gearing, the advantages outweigh the disadvantages, hence lead to a decreasing WACC and consequently a gradual increase of company market value. At a certain level the relationship turns around and the disadvantages offset the advantages, so that a further rise in gearing would lead to a decline in the company's market value (Marney & Tarbert, 2011). That phenomenon is contradictory to M and M's view and illustrated in the adverse U-shape of the graph below

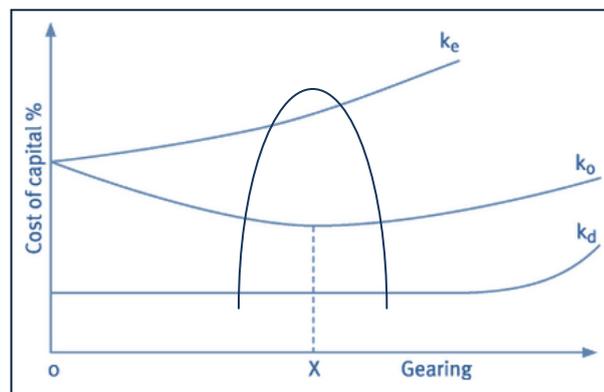


Figure 3 Classical Theory of Capital Structure, Author's development

When the WACC is at its low point and the market value of assets are maximized, an optimal structure of capital occurs (Hillier, et al., 2013), which is in M and M's view located at the highest gearing point possible.

The theory does not precisely explain the correlation of a company's gearing level, the respective costs of capital or the market value in real-life. But it makes clear that the capital structure of a company can have both, unfavourable and advantageous effects on its WACC and total market value. Therefore "gearing can be a double-edged sword and hence should always be treated with caution." (Lumby & Jones, 2011, p. 464)

4. Pecking Order Theory of Capital Structure

The Pecking Order Theory (Donaldson 1961, Myers & Mailuf 1984) is to be seen as contradictory to the orthodox capital structures theories described above. Correspondingly "companies make their decision on the source of funding out of cost-, transparency- and ownership-considerations, [...] resulting in the preference of internal equity funding, extended by external debt funding and then at the last stage with external equity funding" (Hillier, et al., 2013, p. 453). External equity funding means the issue of new shares, which consequently leads to a change in ownership-structure. The asymmetric information between managers and external shareholders leads managers to prefer the issue debt before equity, whenever it is possible to do so.

As the theories discussed above focus exclusively on the examination of debt vs. equity, the Pecking Order Theory adds new aspects into the considerations of funding. However, the theory does not specify the order of further instruments within the respective categories. (Marney & Tarbert, 2011)

5. Market Timing Theory

Baker & Wurgler (2002) analysed in "The Journal of Finance", that leverage-ratios "have nothing to do" with pecking order or optimal capital structure. The discrepancy between book and market valuations influences the capital structure levels in enterprises. This means that if a firm requires funding during a period when its book to market value (accounting value/ market capitalisation) is high, it is more likely to raise equity, and vice versa (Baker & Wurgler, 2002).

The Market Timing Theory considers asymmetric information as irrelevant, indicating that "Managers simply take advantage of market conditions when they decide to raise capital" (Hillier, et al., 2013, p. 456). Therefore there is no optimal capital structure, as market timing financing decisions are accumulated over a period of time into the capital structure outcome (Baker & Wurgler, 2002).

3. Investment Decisions

3.1. Modern Portfolio Theory

The Modern Portfolio Theory (1952) is a theoretical model, which uses certain assumptions to describe how capital markets operate. In consequent years it has been further developed, i.e. the Single-Index Model, Capital Asset Pricing Model and specifically the Arbitrage Pricing Theory (Pike & Neale, 2009). However, the Modern Portfolio Theory is purely descriptive, basing prognoses on historical data, and therefore the theory is not usable for the design of portfolios, being increasingly displaced by behavioural theories (Curtis, 2004).

The Portfolio Theory indicates that “investing your funds in two or more assets, that is to say, a portfolio, it is almost always possible to improve return relative to the risk being taken, and vice versa” (Marney & Tarbert, 2011, p. 160). Markowitz emphasized that the correlation of securities with each other offset the sole number of different securities in the portfolio. For example, prices of shares develop differently from prices of bonds, which eventually will lead to lower cumulative risk, in other words, maximise the return relative to risk (Marney & Tarbert, 2011). Markowitz defined risk as standard deviation of return. According to the theory by combining different assets, if they are not perfectly positively correlated, the total variance of the portfolio return reduces and hence the return of a portfolio is the weighted combination of the assets' returns (Lumby & Jones, 2011).

3.2. Behavioural Finance – Prospect Theory

Kahneman and Tversky (1979) presented in the Prospect Theory a descriptive model of decision making under risk. In contradiction to Markowitz's rationality assumption, they evaluated how investment decisions are made, rather than how they should be (Curtis, 2004).

Among others, the theory describes the asymmetry of human choices, known as the certainty effect. It describes “the risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses” resulting in “underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty” (Kahneman & Tversky, 1979, p. 263). Consequently the choices would lead to irrational decisions according to the MPT approach, but eventually lead to satisfaction of deeper emotional needs.

3.3. Magic Triangle of Investments

The Magic Triangle of Investments is a theory, which is widely used in the German financial advisory industry. It explains the negative correlation between return, risk and liquidity. A graphical display can be found in section V.4.5.

4. Definition of Small and Medium Sized Enterprises

Traditionally the German SME-sector is referred to as “Mittelstand”, a well-known term also outside of Germany. Due to various customary approaches, a binding definition of Mittelstand does not exist.

Looking at quantitative criteria the German Banking Industry Committee subdivides Mittelstand into the following categories, dependent on annual turnovers (IHK Berlin, 2012):

Table 1 SME Definition German Banking Industry (2012)

Category	Turnover
Small	≤ € 500k
Medium-sized	≤ € 50m
Large	≤ € 500m

The German government uses the most common quantitative definition issued by the Institute for Mittelstand-Research (IfM).

Table 2 SME Definition Institute for Mittelstand-Research (2012)

Category	Turnover	Employees
Small	< € 1m	< 9
Medium-sized	≤ € 50m	< 500

For a thorough understanding of Mittelstand, qualitative criteria have to be taken into account. Mittelstand is “much more pronounced by its attitude in the socio-economical and political process” (Institut für Mittelstandsforschung, 2012, p. 2) and plays therefore a crucial role in the German social market economy. As a consequence Mittelstand is not to be seen as simple superscription for SMEs, but expresses a special responsibility and mindset in the union of leadership and ownership of the enterprise (Bundesverband der Deutschen Industrie, 2012)- typically found in family-owned businesses. Hence the IfM uses the term Mittelstand as a synonymous for family-owned enterprises (Institut für Mittelstandsforschung, 2012).

As in the latest report about the biggest family-owned enterprises in Germany the IfM identified more than 4,400 family-owned enterprises with annual turnovers of over EUR 50m (Institut für Mittelstandsforschung, 2013), this equalisation might appear not comprehensible in terms of SME. However, the overlay of family-owned businesses and ‘statistical’ SMEs is very high. Additionally only 0.5% of Mittelstand has got annual turnovers of more than EUR 50m (KfW, 2012). The extended application of the term Mittelstand appears therefore justifiable.

The definition of SMEs in Poland is less sophisticated. Based on the relatively young market economy, Poland has adopted the segmentation criteria of the European Commission (Polska Agencja Rozwoju Przedsiębiorczości, 2013). The updated criteria came into force in June 2005 as a basis for programs, policies and statistics, etc. that the EC and other official bodies apply for SMEs (European Commission, 2005). To guarantee the comparability between the SME sectors in Poland and Germany the following definition of the European Commission will be applied.

Table 3 SME Definition European Commission (2012)

Category	Turnover OR Balance sheet total		Employees
Micro	≤ € 2 m	≤ € 2 m	< 10
Small	≤ € 10 m	≤ € 10 m	< 50
Medium-sized	≤ € 50 m	≤ € 43 m	< 250

III. Research Methodology

“Research methodology is a set of structured guidelines or activities to assist in generating valid and reliable research results” (Mingers, 2011).

The Research Methodology chapter aims to illustrate and explain the design, data collection and approaches used in this study. The research methodology will be explained with the help of the following sections.

1. Research Design

The basis for any research project is the identification of the purpose of the study. As the purpose of this study is to evaluate the applicability of the German SME bond-funding model to Poland, the analysis will be taken out on four levels: The German and the Polish SME-markets, thus the German and Polish corporate debt capital markets.

In order to achieve the outcome of the purpose of the study, the respective topics have to be compared against one another, which represents the research objective. The foundation for the comparison is displayed in the following research questions:

- RQ 1: What are the structural differences, if any, between German and Polish SMEs?
- RQ 2: What are the differences, if any, in fund-raising of German and Polish SMEs?
- RQ 3: What are the characteristics of the German M-Bond model?
- RQ 4: What are the characteristics of the Polish corporate bond market?

RQ 1 and RQ 2 refer to a complex of themes connected to SMEs, whereas RQ 3 and RQ 4 aim to increase the understanding of the respective debt capital markets (DCM).

The answer to the respective questions required extensive research, which has been comprehensively prepared and adjusted throughout the elaboration of the study. The graphic below displays the research design of the study, which will help to answer the research questions in Chapter IV, leading to the fulfilment of the research objective and enable to finish the study with the conclusion in Chapter V.

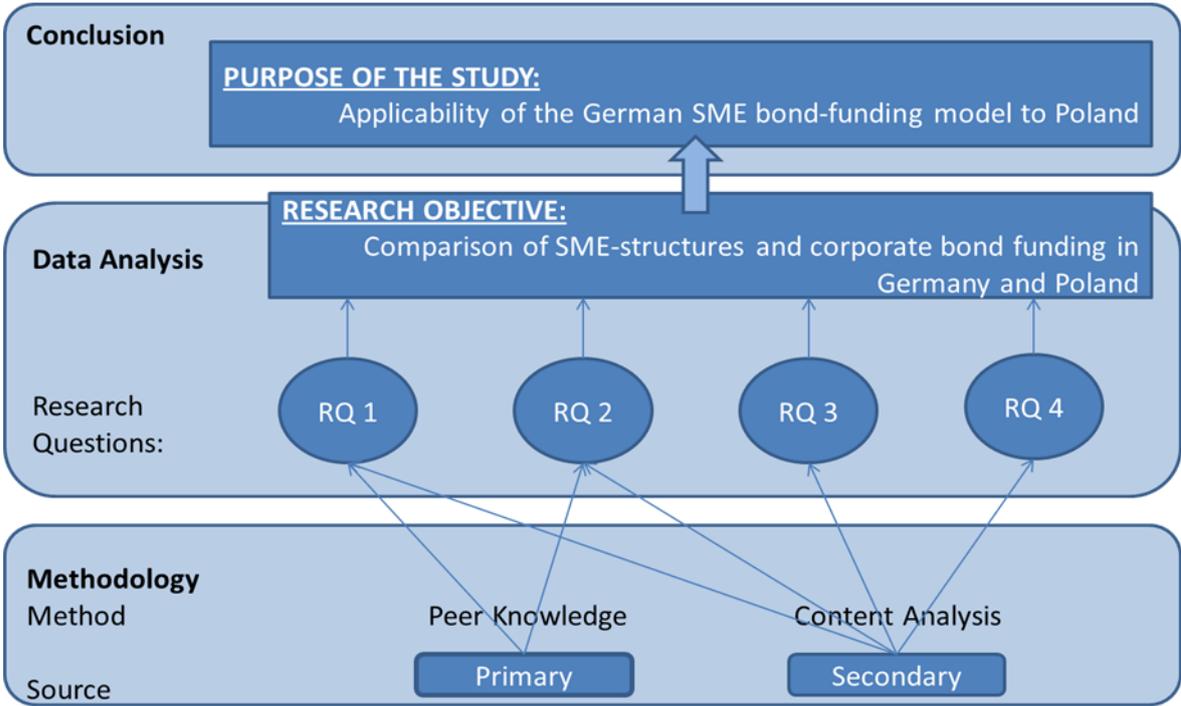


Figure 4 Research Design, Author's Development

2. Research Approach and Philosophy

2.1. Research Philosophy

The layout of the questions leads to a descriptio-explanatory nature of the study. Saunders, et al., (2012) refer to Bhaskar (1989) who says that “researchers will only be able to understand what is going on [...] if we understand the [...] structures that have given the rise to the phenomena that we are trying to understand” and add “critical realists, on the other hand, would recognise the importance of multilevel study [...]. Each of these levels has the capacity to change the researcher’s understanding of that which is being studied” (Saunders, et al., 2012, p. 136f.) Therefore the research is deemed to follow the “Critical Realism” philosophy, which will establish the basis to interconnect the specifics of the four research questions, derive related topics and evolve throughout the research process.

2.2. Research Approach

To answer the research questions, data has been collected to explore similarities and differences between Germany and Poland. Following it has been summarised to generalise patterns, which in turn were aimed to be tested against literature and subsequent data. Due to lack of literature in the field of comparison of SME bond-funding between the Poland and Germany, the aim of the research shall be the generation of a self-developed conclusion, rather than the verification or falsification of an already existing theory. That approach characterises the inductive research approach.

3. Research Strategies and Time Horizons

3.1. Time Horizons

Given the actuality of the matter and the establishment of the German M-Bond market in 2010 and Polish Catalyst in 2009, the possibility of a longitudinal study is rather limited. The paper is therefore a cross-sectional study, defined as “the study of a particular phenomenon (or phenomena) at a particular time” (Saunders, et al., 2012, p. 190), yet taking into consideration data over a broader period of time.

3.2. Research Strategies

The author of this study looks back at more than six years of private and commercial banking work experience, largely connected to German and fractionally to Polish SMEs. That fact had a significant influence on the research design and strategy. The research benefited distinctively from good access to both secondary data, in terms of reports and analyses not widely accessible to

general public, and primary data, in terms of admission to specialists mainly in the fields of SME and DCM. The research paper does not contradict with any confidentiality matters.

Given the broad study field of this paper and good access to solid secondary research, a reliable primary research appeared too sophisticated and exceeding the resources of an undergraduate research project. Therefore the author's experience gained through vocational training and informal, semi-structured conversations with colleagues serve as primary source, mainly used for RQ 1 and 2.

Based on a high quantity and quality of secondary sources, secondary research was at the core of this research study. It was based on a variety of resources, specifically:

- RQ 1 and 2: specialist reports and analyses from the financial industry and institutions specialised on SMEs, books, newspaper articles and official data from governments and the EU. The latter have been used largely as basis for direct comparison between the two analysed countries.
- RQ 3 and 4: specialist reports and analyses from the financial industry and institutions specialised on corporate debt markets, M-Bonds and investments, and a large amount of (specialist) magazines and newspapers, which included articles, interviews and discussions.

The high share of secondary data finds criticism in a variety of literature (compare Saunders, et al., 2012; Ghauri & Gronhaug, 2010; Yin, 2009). However, the actuality and proximity to the sources and the process of data analysis proves a high reliability. Additionally, as can be seen in Figure 4, the author adds his knowledge as primary source.

As in the respective sources various groups of interests are represented, the study puts emphasis on diversification of sources, in order to maintain an objective approach. As a consequence data accessed through the author's professional channels, which tended to be in favour of certain approaches, have been enlarged by further field research to either confirm or disapprove the analysed outcome. Therefore the study also follows also a comparative approach (Wilson, 2010).

For the structures and characteristics of the M-Bond market in RQ 3 and mainly for the corporate bond market in Poland for RQ 4, quantitative research had to be added to the research methodologies. Therefore the research strategy of this paper is to be described as mixed method research (Mingers, 2011, p. 165), however with a high contribution of qualitative research, which in turn characterises the inductive approach (Yin, 2009).

4. Data Collection and Data Analysis

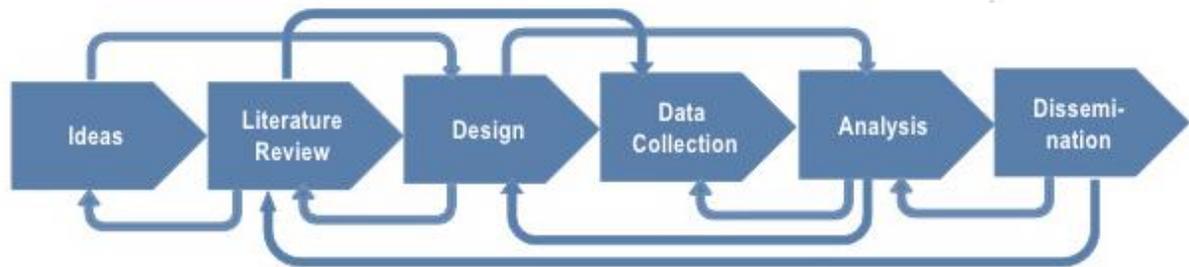


Figure 5 - Typical Qualitative Research, University of Coimbra (2010)

4.1. Data Collection

The graphic indicates a typical process of the qualitative research approach, characterised by recurring flows of research. The structure and the connections of the respective topics are dependent on the research objectives, structure and design (Saunders, et al., 2012; Wilson, 2010; Yin, 2009), nevertheless they point towards the fact that an accomplished stage of research leads automatically to another. As displayed above, the study is based on various sources of secondary data, which has been assessed following the ongoing comparison approach.

4.2. Data Analysis

To quantify qualitative data Hair, et al., (2003) suggest to make use of content analysis, which “obtains data by observing and analyzing the content or message of written text” (Hair, et al., 2003, p. 126). The study followed the generic approaches to analysis, which are not specified in only one theory, but consist of a variety of techniques. The study followed partly a structure, which has been described by Saunders, et al., (2012) as follows:

1. Identifying categories or codes that allow you to comprehend the data;
2. Attaching data from disparate sources to appropriate categories or codes to integrate these data;
3. Developing analytical categories further to identify relationships and patterns;
4. Developing testable propositions;
5. Drawing and verifying conclusions.

A big part of that process was ‘unitising’ data, withdrawing data from various reports and bringing it together under one topic to further recognise relationships. Sometimes the process of forming patterns, drew attention to a topic which has not been analysed, but seemed like ‘the missing bit’. Thus the research had to start again at a different stage, like indicated in the Figure 5. The research

conducted was pretty time-consuming, reflective and intensive. That lead at times to very broad results of research, which then faced the problem of abstraction and actual use in the study. At other times, however, that strategy lead the researcher with little new information. Saunders, et al. see these characteristics mirrored in the Grounded Theory Method, which according to Ghauri & Gronhaug (2010) requires a high level of competence and good access to data.

5. Summary

The research study is designed to derive causal relationships between variables within the respective fields of analysis, which were established out of the four research questions. Following the patterns of the Grounded Theory Method the study developed comprehensive answers to the research questions. The following graphic uses Saunder's research onion to summarise the research methodology.

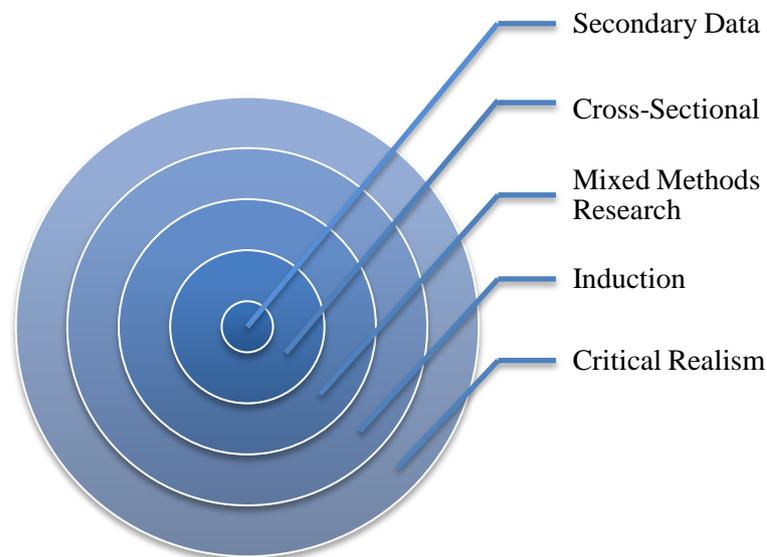


Figure 6 Research Onion, Author's development, adapted from Saunders, M et al. (2010)

Concluding, the access to resources has to be highlighted as a core strength of this paper. Highly reliable and in parts restrictively accessible data has been used to create an unprecedented comparison of two developing bond markets in Germany and Poland. That fact enlarged by the author's work experience distinguishes this undergraduate research project.

However, the time frame for this paper was scarce as well as the resources given to a undergraduate reserach project, embodying a real obstacle to the work's debth of expertise.

Furthermore the research study also faced country-specific limitations. A comprehensive comparison of Germany and Poland faced limitations based on the different scales and levels of maturity of the economies, correspondingly accessibility of data.

Additionally the higher maturity of the German economy leads to different priorities in the media. The media attention for both SMEs and (SME-) corporate bonds in Germany is distinctively higher than in Poland, leading to an imbalance of access to resources. As a result research for the Polish sections was more effortful.

Also it has to be added that to fully analyse the extend of SME-funding, especially in Germany, neighbouring foreign countries, e.g. Luxembourg, would have to be included in the research, displaying a geographical limitation to the study.

IV. Findings

1. Introduction

The following chapters will analyse the German and Polish SME-market and their funding preferences in order to derive characteristics. This will be followed by an analysis of applicable corporate debt capital markets of both countries.

2. Structural analysis of SMEs in Germany and Poland

1. Introduction

“Small and Medium-sized Enterprises are the backbone of the European economy” (Roland Berger Strategy Consultants, 2012). 99.8% of all businesses in 27 countries of the European Union are counted among the SME-sector, being responsible for 67.4% of total employment in the single economic area (European Commission, 2013). Therefore SMEs capture special attention of European policy-makers. The following chapter will analyse the German and the Polish SME-market.

To guarantee the comparability between the two economies, the following chapters will be based on the SBA (Small Business Act) Fact Sheet of the European Commission, which “represents a comprehensive source of information on the performance of SMEs in Europe and uses a wide range of success indicators” (European Commission, 2012).

2. Profile of the SME-sector in Germany

According to the latest SBA-Fact Sheet Germany hosts Europe’s best performing SME sector in terms of total figures for jobs and value added. Europe’s largest economy has got a significantly lower share of micro-enterprises than the EU average, which reflects in the considerably higher rate of small and medium-sized companies. Additionally the sector of large companies ranks distinctively above EU average in respect of number of enterprises, employment and value added. These figures largely relate to the size of the German economy and indicate a high degree of maturity (IHK Berlin, 2012).

Number	Share	Share	Number	Share	Share	Billion	€	Share	Share
Micro	1.745.398	83,30%	92,20%	4.753.024	19,20%	29,60%	207	15,00%	21,20%
Small	286.970	13,70%	6,50%	5.667.339	22,90%	20,60%	254	18,40%	18,50%
Medium-sized	54.300	2,60%	1,10%	5.102.403	20,60%	17,20%	284	20,60%	18,40%
SMEs	2.086.668	99,50%	99,80%	15.522.766	62,70%	67,40%	745	53,90%	58,10%
Large	9.647	0,50%	0,20%	9.228.272	37,30%	32,60%	636	46,10%	41,90%
Total	2.096.315	100,00%	100,00%	24.751.038	100,00%	100,00%	1.381	100,00%	100,00%

Figure 7 SBA Fact Sheet Germany, Author’s development, adapted from European Commission (2012)

3. Profile of the SME-sector in Poland

SMEs played a major role in the economic reorganisation and development of a competitive market economy in Poland, being an engine for growth and employment (Bukowski, 2010). DB Research (2010) characterises Polish SMEs by a high degree of flexibility, responding quickly to fluctuations of conjunction and structural changes in terms of quantitative and qualitative demand.

That fact might be based on the pre-dominance of Micro-businesses in the Polish SME-sector, exceeding EU-27 by nearly 8% (European Commission, 2013) in terms of employment. Also Poland has got an underdeveloped Small enterprises sector. Low value added contribution of both is to be seen as an indicator for lower average productivity.

In contradiction Poland has got a highly productive medium and large enterprise-sector, outperforming EU 27 in value added distinctively, whilst having accordant share of total enterprises. This tendency has been strengthened during the financial crisis, which led to a decreasing number of enterprises, on the one hand, and increased added value of the remaining, on the other. The report therefore visualises a bi-polar structure of the Polish economy.

Number	Share	Share	Number	Share	Share	Billion	€	Share	Share
Micro	1.745.398	83,30 %	92,20%	4.753.024	19,20%	29,60%	207	15,00%	21,20%
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Total	2.096.315	100,0 0%	100,00 %	24.751.03 8	100,00 %	100,00 %	1.38 1	100,00 %	100,00 %

Figure 8 SBA Fact Sheet Poland, Author's development, adapted from European Commission (2012)

4. Characteristics of the German SME-sector

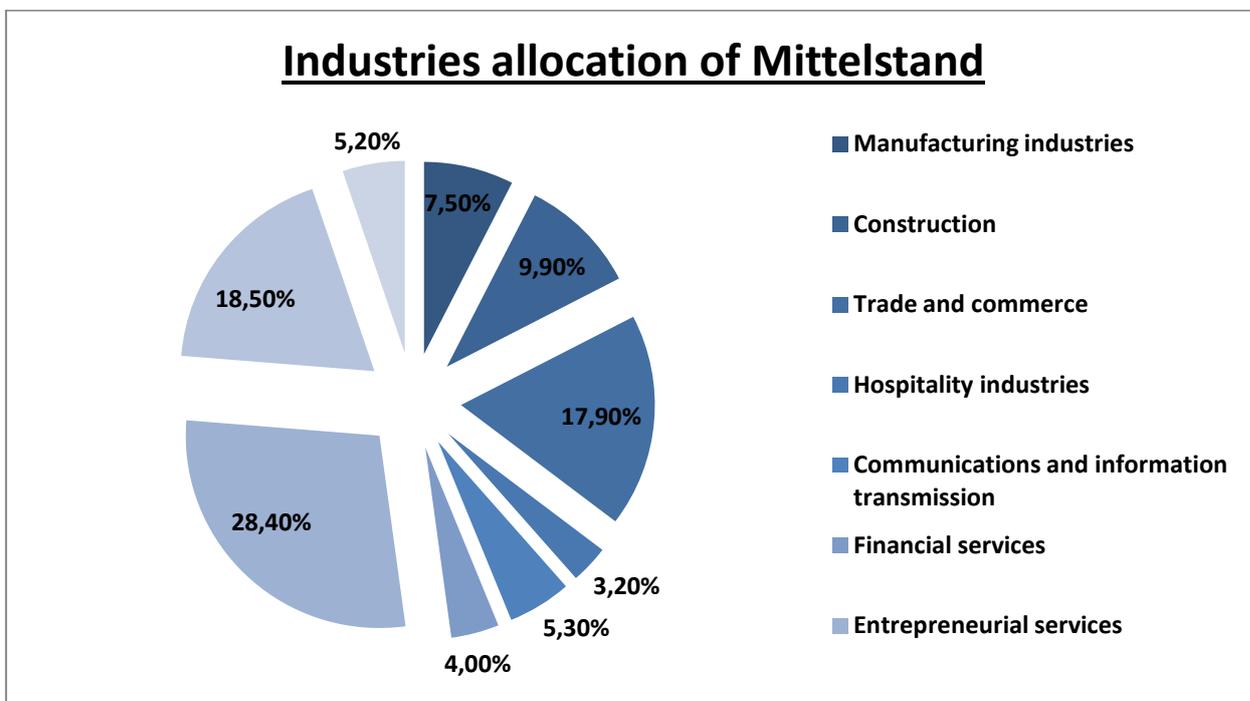
The full analysis of characteristics of the German SME-sector can be found in Appendix II.

Germany enjoys a leading position, outperforming EU 27 in most of the policy areas analysed in the SBA-Fact Sheet 2012. Its SMEs perform particularly well in skills and innovation, access to finance, internationalisation and environment.

Capital-intensive, medium- to high-tech industries amount to a high partition of German SMEs (18% opposed to 12% EU average) leading to high turnovers and added value of Mittelstand. That strong position translates into another core strength: the high international orientation. Mittelstand contributes to half of total exports of Germany; The export per inhabitant amounts in Germany to EUR 15.6k compared to the EU-27 and Poland, with EUR 7.7k and EUR 3.2k respectively (Polska Agencja Rozwoju Przedsiębiorczości, 2012).

Germany ranks considerably low in terms of licensing and permit systems, leading to high costs and efforts for SMEs to comply with administrative requirements. That also transfers onto entrepreneurial activities, where Germany bottoms EU statistics. The graphic below displays the structure of the German Mittelstand.

Table 4 Industry allocation of Mittelstand, adopted from KfW (2012)



5. Characteristics of the Polish SME-sector

The full analysis of characteristics of the Polish SME-sector can be found in Appendix III

The core strength of Polish SMEs lays in low production costs combined with high levels of entrepreneurial activities. Poland benefits from net increases of business openings ranging at 4th position in the EU in terms of total number of entrepreneurs over total employees.

Poland underperforms EU 27 in a number of policy areas. Polish SMEs underperform their European peers first and foremost in the fields of innovation and skills and accordingly internationalisation. Polish enterprises sell most of their products on the domestic market, not following the Modern Portfolio Theory and therefore taking less advantage of the single economic area, whereupon a bi-polar distinction is noticeable.

Additionally Polish SMEs lag behind in investments in innovation and high-technologies, which represents a threat of a middle income trap in future. The low levels of investments explain the low productivity of micro- and small-enterprises.

6. Summary - Comparison

The structural differences between German and Polish SMEs and therefore the answer to RQ 1 are summarised below:

Table 5 Summary RQ 1, Author's development

	German	Polish
Economy	Mature economy, with a high degree of medium to large scaled enterprises based on large scale of the economy.	Elastic bi-polar economy, high disparity between underperforming micro- and small, and outperforming medium and large enterprises (EU 27).
SBA-Fact Sheet	Outperforming EU 27 on many policy areas.	Overall underperforming
Core Strength	Structure of Mittelstand: long lasting, proven business models, with a high degree of capital-intensive technology-based industries.	Competitive advantage in overall low costs of production and elastic economy.
Core Weakness	Entrepreneurship	Skills and Innovation
Exports	Leading role in Europe, Mittelstand-structure transferring to value added and high turnovers.	Performing under EU 27, mainly concentrating on domestic market with a bi-polar distinction and an increase of importance of exports.
Main Export Markets	Western Europe, Eastern Europe	Germany, CEE
Skills and Innovation	Leading role in Europe, contributing to high value added and scale of enterprises.	Underperforming EU peers and therefore suffering from low productivity of its micro- and small enterprises.
Entrepreneurship	Underperforming EU 27, based on high administrative efforts and costs, and preference of employment by workforce.	Outperforming EU 27, High entrepreneurial rates.

3. Analysis of funding of German and Polish SMEs

1. Sources of Finance of German SMEs

German Mittelstand consists largely of family-owned business which are generally characterised by a long-term business approach and financial risk aversion, and accordingly seem to follow the Pecking-Order-Theory. Therefore Mittelstand chooses preferably internal equity as source of finance. Various surveys confirm that internal financing based on profits, reserves and cash flows is the most popular source amongst Mittelstand (for example Deloitte, 2012; Commerzbank AG, 2012; Bankenverband, 2012). The global unstable economic situation and higher equity-requirements from banks have intensified that preference, resulting in growing equity-ratios over the past years.

Further demand for capital is predominantly pleased by traditional bank debt. Bank loans are considered to be of high strategic importance and rank considerably above leasing, shareholder loans and further ways of external financing (Commerzbank AG, 2012). That fact is also based on the historically grown model of 'house-banks'; banks being the main banking relationship of Mittelstand-companies not infrequently over generations. Based on the lending-relationship, banks then provide crucial services and products Mittelstand requires for a variety of business activities, like hedging of foreign trade. In a survey amongst 209 Mittelstand-companies 88% responded to follow the house-bank principle, resulting in an average share of bank liabilities amounting to 26% of the balance sheet total (Deloitte, 2012).

Given the imposed requirements on the banking industry, most of all Basel II and III, companies also expect to face higher requirements in respect to resilient balance sheet ratios, reliable reporting and collaterals, respectively (Deloitte, 2012).

Although the majority of companies emphasises the importance of their core bank, a distinct trend towards diversification of financial sources is noticeable in the increased demand for alternative ways of debt finance, like M-Bonds, Schuldschein and in particular Factoring (Der Betrieb, 2012). Yet, the usage of the respective instruments is still underdeveloped.

Based on the current low level of interest rates, Mittelstand benefits from low cost of debt. Additionally large banks, like Commerzbank and Deutsche Bank, have set up dedicated funds for SME funding. However, Bankenverband states that the good access to funding has not been utilised by Mittelstand in 2012 (Bankenverband, 2012). Amongst other factors, that might be also seen as indicator, that the trend for diversification of funding is sustainable.

2. Sources of Finance of the Polish SMEs

In the period 2003 - 2013 Polish SMEs grew decisively above EU average. Despite the fact that Polish SMEs trust mostly on equity, turnovers of Micro-enterprises grew 2.4, small- 2.9 and medium- 1.9 times above EU 27-average, with profits of medium-sized companies increased by 7.1% (Polska Agencja Rozwoju Przedsiębiorczości, 2012). This growth has been a consequence of a resilient domestic economy, a fairly confident conjuncture outlook and a moderate approach towards leverage. As can be seen in table 5, 65% of all new investments are financed by own funds (Polska Agencja Rozwoju Przedsiębiorczości, 2012).

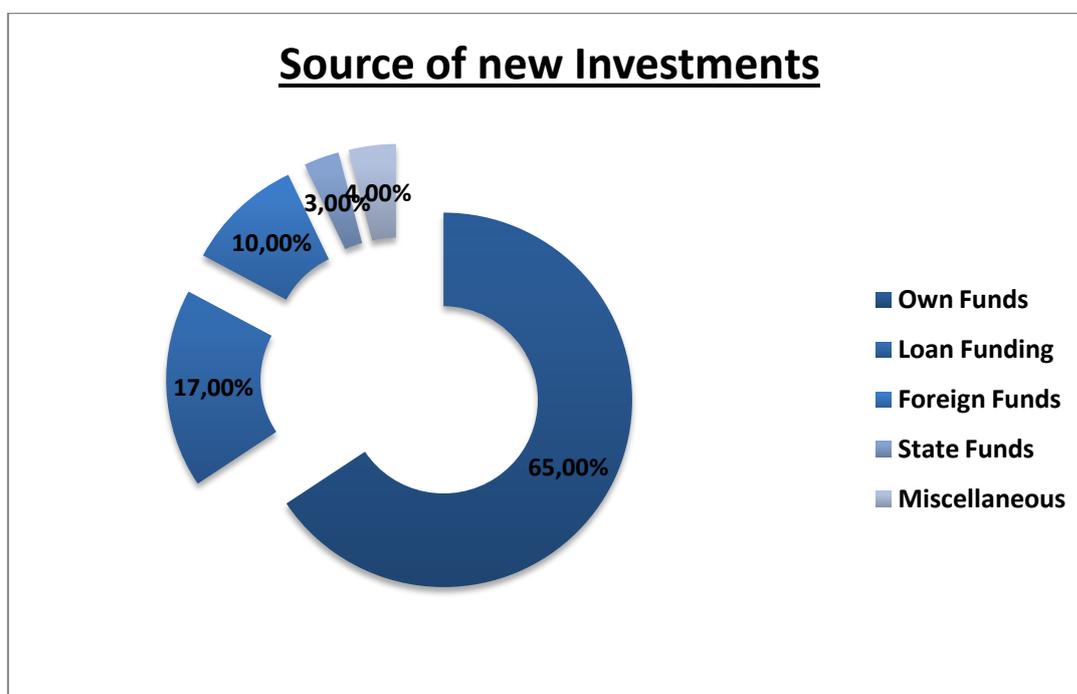
According to the Polish Confederation of Private Employers Lewiatan (PKPP Lewiatan), slightly more than 50% of represented SMEs declare not to use bank funding at all (2011), preferring to grow slowly out of own funds, than taking on debt. Nonetheless, banks are the main source of external finance. Polish banks have remained relatively healthy throughout the crisis and are

willing to provide finance, especially from small enterprises onwards, albeit on more conservative terms than previously (FitchRatings, 2012).

That good access to funding has been also proven in empirical studies (European Commission, 2013) and surveys among enterprises (Starczewska-Krzysztozek, 2011; Misztak-Kowalska, 2012; Polska Agencja Rozwoju Przedsiębiorczości, 2012). However, the economic downturn in Europe led to increasing numbers of business closures and lower business expectations, and consequently to a more cautious approach towards loans of both, banks and enterprises. That circumstance intensified the tendency of diversification of sources of funding, which is taking place since 2006, mainly to the detriment of traditional bank loans (Starczewska-Krzysztozek, 2011).

The graphic below shows the sources of funding of investments.

Table 6 Source of new Investments, Author's development adapted from Polska Agencja Rozwoju Przedsiębiorczości (2012)



3. Summary – Comparison

The approaches towards funding are in both countries similar. Both are characterised by a rather cautious approach towards external lending. However Polish banks and enterprises seem to have a more cautious approach, being mirrored in a high share of SMEs being funded exclusively through internal funds. The structures of both economies are being mirrored here, with Germany's developed Mittelstand borrowing reasonably to fund growth and a bi-polar distinction in Poland.

Further characteristics in fund-raising between German and Polish SMEs and therefore the answer to RQ 2 are summarised below:

Table 7 Summary RQ 2, Author's development

	German	Polish
Main Source of Finance	Equity	Equity Slightly more than 50% of SMEs not using bank loans at all.
Equity-Ratio	26.9% (KfW, 2012)	
Funding of Investments	Structure of Mittelstand: long lasting, proven business models, with a high degree of capital-intense technology-based industries.	64% with equity capital 17% loans (PRAP, 2012)
External Debt	Leading role in Europe, Mittelstand-structure transferring to value added and high turnovers.	Performing under EU 27, mainly concentrating on domestic market with a bi-polar distinction and an increase of importance of exports.
Bank Lending	German banks are actively seeking lending opportunities to Mittelstand; special programs.	Tend to be more cautious, still offering good access to funding.
SBA-Fact Sheet	Access to Finance: overperforming	Access to Finance: overperforming
Trend	Increasing importance of diversification of sources of funding.	Cautiousness towards external funding, trend towards diversification

In both countries, in Germany and in Poland, in recent years there was a noticeable aggravation in demand for diversification of funding. This let SMEs increasingly to debt capital markets. The following chapters will analyse the model of SME-bond financing in Germany under the consideration of transferability to Polish SMEs.

4. Analysis of the M-Bond market in Germany

1. Introduction

For decades large German corporations took advantage of capital markets as access to finance. In recent years the mature corporate bond market gained momentum, rising volume to EUR 99.2bn (Bankenverband, 2012). Triggered by new legislation and increasing demand for alternative ways of funding, five stock exchanges established segments (2010, 2011) accessible for placements of companies of smaller scale, giving Mittelstand the opportunity to engage directly with capital markets.

2. Market Profile

The five segments have created a secondary market for the trade of issued financial instruments, which currently trades listings of 70 issuers of the total amount of ca. EUR 3.2bn. The initial issue of bonds, quasi directly to institutional and private investors is the primary market.

The table below gives an overview of the five segments

Table 8 Summary M-Bond Segments, Author's development adapted from Hoppe & Lais (2012)

Segment Name	bondm	Entry Standard	der mittelstandsmarkt	Mittelstandsbörse Deutschland	m:access
Stock Exchange	Börse Stuttgart	Börse Frankfurt	Börse Düsseldorf	Börse Hamburg/ Hannover	Börse Munich
Inauguration	Q2/2010	Q2/2011	Q4/2010	Q1/2011	Q4/2011
No. of Emissions	24	29	14	2	1
Volume of Emissions (in MEUR)	1,585	1,060	455	75	25
Top Sectors	1. Industrial 2. Transportation & Logistics 3. Automobile, Consumer, Food & Beverages	1. Financial Services 2. Industrial, Food & Beverages 3. Consumer, Utilities	1. Industrial 2. Food & Beverages 3. Consumer	Financial Services Industrial	Media
Emission Volume (in MEUR)	25-150	no requirements	min. 10	No requirements	min. 25
Nomination	max. 1000	max. 1000	max. 1000	max. 1000	any
Rating	required	min. BB	min. BB+	required	optional
Follow-up Rating	required	required	Required	required	optional
Average Rating	BB+	BB+	BBB-	BB+	BBB-

3. Market development

Since the outburst of the financial crisis capital markets were characterised by general low levels of confidence, which led to escape of investors into secure and highly liquid investments. Given this background the market for M-Bonds developed rapidly. Gainsaying many critics (e.g. Nguyen, 2012), first insolvencies in 2012 did not lead to a spectacular failure of the market, but to an increasing professionalism amongst investors.

The defaults led to an increased risk-awareness, especially amongst private investors. Consequently investors scaled up expectations in respect to quality, emphasizing e.g. ratings and covenant-structures (Schilling-Schön, 2012) and therefore improving the quality of instruments. Furthermore, the market shows general tendencies towards 'classical' capital markets.

A rise of turnovers and liquidity in the secondary market is observable, which in turn attracts broader fields of investors. Investment funds show increasing interest in M-Bonds, so far exclusively as addition to portfolios of their funds, as the still low liquidity of the market and low levels of trade make M-Bonds not suitable to be the sole subject of funds.

Another indicator for the professionalization of the market is the development of three indices, as these serve as an underlayment for further capital market products, like credit default swaps and certificates, which in turn could further accelerate the development of the M-Bond market (Hoppe & Lais, 2013).

4. Typical Instrument

M-Bonds

Mittelstand-Bonds (M-Bonds) are high-yield corporate bonds, therefore mostly of non-investment grade, which are listed on one of the 5 special segments of stock exchanges and issued by upper medium to large Mittelstand. As described in I.4., there is no clear definition of Mittelstand, therefore the term is being used lavishly and subsequently there is no precise definition of the instrument. Therefore M-Bonds will be described on the basis of already listed issues:

- Volume: EUR 10-250m, average EUR 48m
- Duration: Almost exclusively 5 y, 2-10 y possible
- Denomination: For private investors EUR 1k
For institutional investors EUR 50-100k
- Coupon: Median 7.25 % p. a. (minimum 5.9 %, maximum 11.5 %)
- Interest Payment: Annually
- Rating: Largely BBB+ to BB- (lower medium to non-investment grade)
Average BBB- (Probability of default: 0.4%)*
- Investors: See IV.4.8.
- Costs: 2-5% of total issue amount (in dependent of contribution of issuer)

*according to German rating agency Creditreform

M-Bonds always have to be constructed individually. Therefore they can vary widely in terms of volume, interest rate, interest rate agreements, repayment, duration, securitization, fungibility and further structural features (Hoppe & Lais, 2013). In contrast to classical corporate bonds, where the whole emission-process is being managed and underwritten by an investment bank, the emitter of an M-Bond can absorb certain responsibilities and tasks and therefore lower the emission costs (Achleitner, et al., 2011).

5. Capital market viability

A company is viable to perform on capital markets if it is able to comply with regulations set by the government and stock exchanges. However, “a potential emitter has to have financial, organisational and personnel resources at disposal to be capable of complying with requirements of reporting and communication” (Achleitner, et al., 2011, p. 26), as well as to ensure transparency. Additionally the scale of the emitter or the volume of emission are to be seen as the foundation for a successful placement, as investors put emphasis on high liquidity, which is possible from certain volumes onwards (PricewaterhouseCoopers, 2011).

6. Placement-Process

An extended illustration of the design and important features of the placement-process can be found in Appendix III.

An attractive bond is made up of an appealing combination of the coupon, maturity, rating, brand of the emitter and a preceding extensive preparation. Therefore the emitter has to define precisely the aims of the placement, to structure the bond, its characteristics and the placement-process accordingly. Also the emitter has to meet the right timing, as even a well-planned and structured placement might fail, if it is placed in an illiquid stage of the market, which can be seen as an indicator for the Market Timing Theory.

The graphic below gives a brief overview over placement process.

Table 9 Transaction/Placement Process, won adapted from Achtleitner, et al. (2012)

<u>Transaction/ Placement Process</u>			
Pre-preparation	Preparation	Implementation	Utilisation
<ul style="list-style-type: none"> • Extensive Research • Examination of capital market viability • Analysis of market environment • Evaluation of purpose of the instrument (aims and goals) • Decision making 	<ul style="list-style-type: none"> • Definition of internal responsibilities • Choice of capital market partner (bank, broker, ...) • Choice of stock exchange • Choice of structure of financial instrument • Implementation of necessary internal changes • Preparation of necessary information • Distribution structure • Rating Evaluation (whether or not; which agency) 	<ul style="list-style-type: none"> • Issue of documentation (prospectus) • Obtain license and approval from BaFin (Federal Financial Supervisory Authority) • Application at stock exchange segment • Due-dilligence examination by banks • Marketing and investor contact • Price fixation • Placement 	<ul style="list-style-type: none"> • Subsequent obligations of being public • Strategic usage of funds • Communication and investor relations • Maintenance of financial ratios • Payment of interest • Repayment
Lenght: 2-7 months			

7. Issuers

As analyzed above, the German economy consists largely of Mittelstand. If the issuer is a family owned-company, the maintenance of ownership-structures is a crucial objective whilst evaluating the choice of financial instruments. A study of Stiftung Familienunternehmen (2010) indicates that the main aims of funding via bonds are respectively:

- Organic and inorganic growth
- Pay-off of existing liabilities (eventually other financial instruments)
- Decrease the importance on banks
- Diversification of sources of funding and increase of financial security
- Additional liquidity

The volume and maturity of the issue has to be chosen accordingly to the aim of the application of funds. Anleihen Finder (2010) therefore emphasizes the importance of the principle of matching maturities:

Fixed assets - long-term liabilities
Short-term assets – short-term liabilities

The median annual turnovers of emitters in the year preceding the issue were EUR 96m, which of slightly over 30% had turnovers below EUR 50m and 26% above EUR 200m. (Ernest & Young, 2012). The main issuers at the largest segments consist of:

- Industrial
- Financial Services
- Transportation and Logistics

Going further, the main reason for issuers to choose M-Bonds are the relatively low agency costs.

“The capital market is the most pleasant investor, who keeps his mouth shut as long as he receives interest” (Achleitner, et al., 2011).

Although the expenses, like fees and interest, might be in total higher than a traditional banking loan, they offer higher flexibility in terms of utilisation of funds, collaterals and covenants, and others.

8. Investors

Dependent on the structure and characteristics of the debt instrument, the emitter attracts according groups of investors. The respective segments for M-Bonds give emitters the opportunity to open up for a broad base of private and institutional investors (PricewaterhouseCoopers, 2011).

Institutional investors have usually high amounts of disposable funds, therefore being a substantial factor for successful bond issues. They tend to have short-term investment strategies, benefiting from price movements and therefore they are more likely to act on the market actively, paying high attention to trade volumes and a liquid secondary market. If both are low, single buying- or selling-orders are likely to lead to price fluctuations (FH Muenster; Boerse Stuttgart; Deloitte, 2012).

Au contraire, private investors tend to follow a buy-and-hold strategy. That means that they are less sensitive to price fluctuations and therefore act as a stabilising factor (Achleitner, et al., 2011). Albeit a high share of private investors tends to have a negative impact on the liquidity of the market. As a consequence, most of the emitters prefer a levelled mixture of investors.

Generally investors pay attention to the following aspects:

- Cash flow
- Scale of the issuer
- Credit worthiness
- Communication
- Publicity

The results of a study conducted by Münster University will be summarised on the basis of the Magic Triangle of Investment.

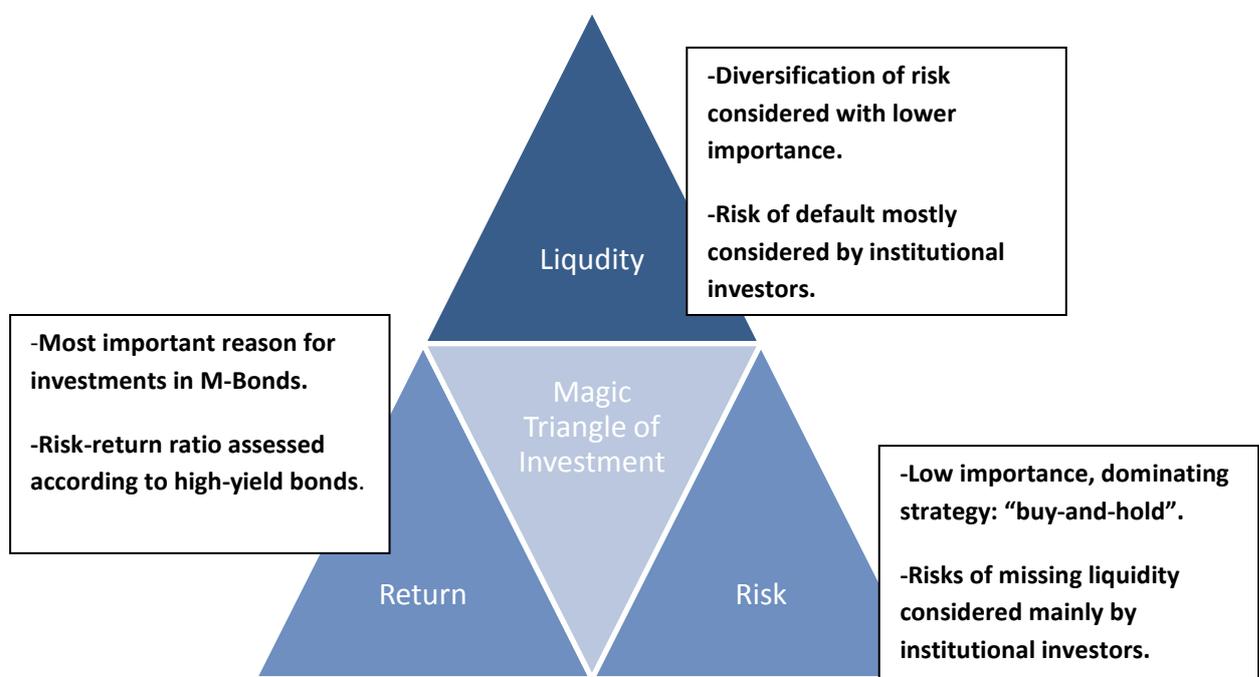


Figure 9 - Study Summary, Magical Triangle of Investment, Author's Development adapted from FH Muenster (2012)

9. Market Outlook

In 2006-2008 various Mezzanine-programs amounting to EUR 5bn have been placed, with a peak of maturities in 2013, making consequently Mittelstand face a necessity for refinancing of ca. EUR 1.6bn. (Hoppe & Lais, 2013). Additionally German Mittelstand's faith in their traditional borrowers, banks, decreased during the crisis significantly, making companies intensify their efforts for diversification of their financial structures. Thereto regulatory restrictions, especially Basel III, will complicate long-term borrowing for banks and expectedly complicate access to external funding for Mittelstand.

The financial crisis caused a lack of investment opportunities, which are expected to continue shifting investor's demand towards M-Bonds, especially if the trend towards professionalization will continue.

Summarizing the growing trend towards alternative funding, especially M-Bonds, is expected to continue driving a share of, at a guess by Führ (2012), around 10,000 capital market viable Mittelstand-companies onto capital markets.

5. Polish Corporate Debt Capital Market

1. Market Profile

Poland's organised debt instrument market takes place on the segment 'Catalyst' of the Warsaw Stock Exchange. Before the market has been established in September 2009, the trade of bonds was held on a minor scale, mainly on the non-regulated interbank market with small shares of corporate bonds (Brzyska, Agata, 2012).

Catalyst is the largest bond segment in CEE and is available to corporate, communal and sovereign issuers. It has low minimum requirements, e.g. once a company is already publicly listed on a stock exchange, it is already considered as having met the criteria. (Catalyst, 2011)

The total market value of Catalyst amounts to PLN 584bn (ca. EUR 142bn). 92% are represented by sovereign bonds, leaving the segment of corporate bonds behind in a subordinated role. The corporate bond segment is made up by 121 corporations listing bonds of the amount of PLN 45bn (ca. EUR 11bn). Withdrawing bank bonds, the market will have value of PLN 11bn (ca. EUR 2.6bn). Subtracting the three largest bonds (Energia, PKNiN and PKN Orlen), the market value is left at PLN 6.7bn (ca. EUR 1.63bn).

2. Market Development

Since its establishment Catalyst showed a robust development, which can be seen in the graph below. In 2012 Catalyst continued its development, growing 113% in turnovers and 31% nominal placements year on year, covering 70% of the total corporate bond volume listings in Poland (Catalyst, 2011).

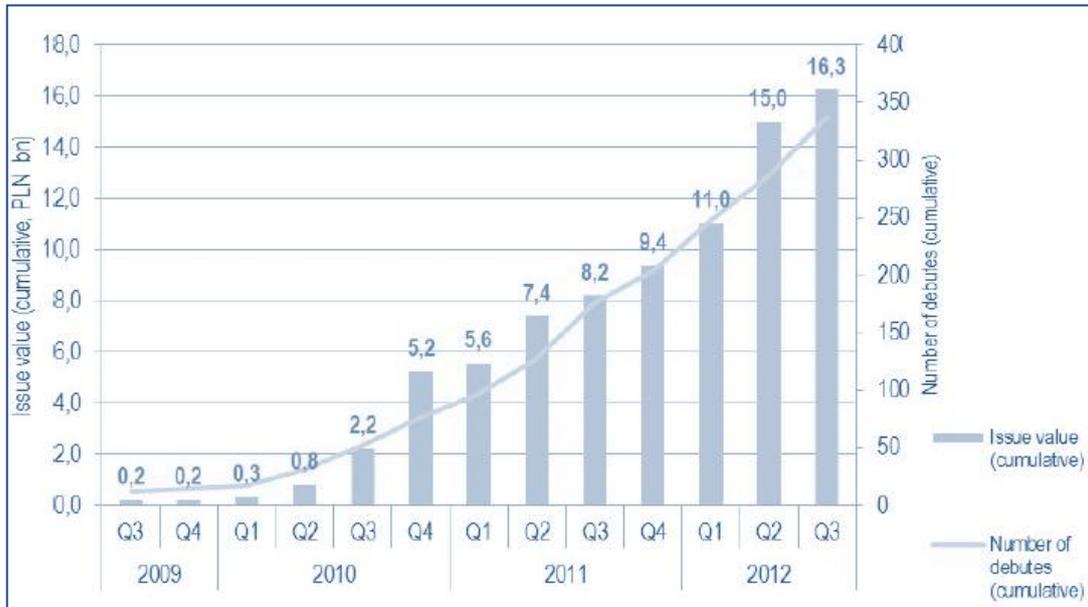


Figure 10 Development of Catalyst, Grand Thornton (2012)

According to the former CEO of Warsaw Stock Exchange Ludwik Sobolewski (2011) “Poland experiences alongside with the business-development of the market, a cultural development, as issue and investment in bonds, other than treasury bonds, represents a complete novelty”.

2012 marked a further professionalization of the market. Various large corporations have tapped into the market, issuing bonds of multiple billions PLN (FitchRatings, 2012) and setting new standards on Catalyst in terms of rating, information on credit spread, investor base and demand. The issues were comparable to standards of large corporate bonds of mature markets, consequently attracting a high base of investors- largely pension funds and insurance companies (FitchRatings, 2012). Additionally in 2011 first defaults occurred, demonstrating the high risks connected to investments in corporate bonds and leading to increased awareness amongst investors. The first trials, e.g. liquidation of PBG SA, will set precedence for further cases and are therefore observed precisely.

Compared to the size of Poland’s economy and comparable countries, however, the Polish Capital Market is still underdeveloped and considered as a developing market (Nguyen, 2012). The year 2013 marks a milestone in the development of the market: The first bonds issued in 2009/2010 will

acquire maturity (Polcan, 2013). The degree of payback of the total value of PLN 2,7bn (ca. EUR 658m) will have crucial importance for the further progress of the young market.

3. Typical Instrument

Bonds listed on Catalyst offer a mixture of characteristics of both, emerging and mature markets. 81% of bonds listed on Catalyst pay floating interests based on WIBOR 6M + spread, which is dependent on the issuers creditworthiness and connected collaterals (Grant Thornton, 2012). 42% of bonds issued were not collateralized, and if, they usually are secured with real estates (Korpoobligacje, 2013). A trend towards fixed interest is noticeable. Another tendency is the tendency towards long maturity periods.

- Volume: PLN 420k-2.5bn
- Duration: Average 6.5y
- Denomination: Mainly PLN 1k, followed by PLN 100k
- Coupon: Median 10.25 % p. a. (minimum 4.8 %, maximum 18 %)
- Interest payment: Semi-annually
- Rating: Not needed
- Defaults: 0.23%
- Investors: See 5.4.

The mean value of issues of corporate bonds amounted to over PLN 48m, whereas the median value was significantly lower, valued PLN 10m. The discrepancy between the mean and the median value was largely affected by bond issues by large companies, like PGNiG's issue of PLN 2.5bn. (Tucholska, 2012). It is noteworthy, that 75% of issues had a value lower than PLN 30m. Amongst these were four issues even below PLN 1m, like GPF Causa with PLN 420k (Catalyst, 2011). Issues of such low volumes are likely to be issues based on low credit standing, rather than diversification of funding.

4. Issuers

Corporate bonds have become an important source of capital for various companies, which when searching for diversification, do not want to rely on banks or that have limited credit standing at banks (Atroszczak, 2012). Additionally emitters appreciate the flexibility of bonds in their design, as well as in the disposition of funds. According to a study by Grant Thornton (2012) the majority of issuers (31%) have used the funds originated from issues to finance new investments and 17% as a cash injection for current activities.

The structure of emitters and emissions is heterogeneous:

- Banking (20%)
- Real Estate Development (14%)
- Financial Services, mostly Debt-Collection Agencies (14%)
- Followed by fractional shares diversified over many industries

The high share of real estate developers and debt-collection agencies and their partially high coupons leaves doubt, whether the issuers are using the capital market for diversification of funding, or rather as a substitute based on low creditworthiness. Interestingly amongst the issuers there are few family-owned businesses with Mittelstand analogy.

Grant Thornton (2012) further analyses in a study the main reasons for issuers to place bonds at Catalyst:

- Diversification of funding
- Flexibility in utilisation of funds
- Cheaper access to finance: eventually a bond might be cheaper than a classical loan thus better access to banking loans through higher publicity and independence
- Enlargement of investors base
- Marketing Increasing presence of the company name in present in media, etc.

5. Investors

An important growth factor for the market is an increasing investor base. Driven by higher credit spreads and decreasing returns on deposits, investors actively seek for new investment opportunities (FitchRatings, 2012).

Banks and other companies with shares of 34% each mark the main investor groups. Many investments of corporate bonds are part of intra-company cash management programmes within associated companies. Companies with liquidity needs issue intra-group bonds to entities with liquidity surplus (Korpoobligacje, 2013). Private banks act as arranger and often hold their customer's bonds for non-trading purposes. Fitch suggests that approximately one third of all corporate bonds are being held by lead-managing banks (FitchRatings, 2012). That fact indicates that although bonds are to be seen as alternative to banks, large banks are still largely engaged in the issues of external funding as arranger and investors.

Recently Polish investment funds (TFI) showed increasing interest in corporate bonds. Currently there are three funds, which principally invest in corporate bonds (Atroszczak, 2012). With

growing professionalization the market gains quality issues of good emitters, attracting investments of pension funds (OFE) which are characterised by a prudent approach towards risk (Brzyska, Agata, 2012). As such, they follow as most of the investors on Catalyst a buy-and-hold approach, which might lead to and might also be the result of low liquidity in the market.

Although the segment Catalyst is designed to offer access to institutional as well as individual investors, individual investors represent a minor share. However, recent issues, e.g. PCC Rokita, indicated a clear trend towards the opening of the market for individual investors by means of lower denominations and higher marketing efforts (Korpoobligacje, 2013). Retail investors tend to be rather unsophisticated, basing their decisions on issuer brand recognition, pricing and advice received from their banker or broker.

Summarising, the core local investor base consists of as few as 60 institutions (FitchRatings, 2012), with minor interest of foreign investors but gaining popularity as mean of diversification of portfolios.

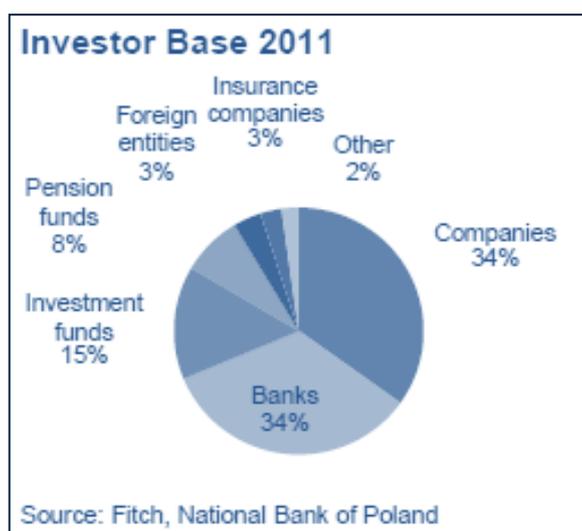


Figure 11 Investor Base of Catalyst, Fitch (2012)

6. Outlook

The Polish bond market comprised on Catalyst has experienced robust growth and is developing towards mature debt capital markets, indicated e.g. by trends towards longer maturity and fixed coupons.

Furthermore, one could compare the numbers of bond issues to numbers of IPOs, which placed Warsaw Stock Exchange with 105 IPOs as the leading bourse in Europe (Minsitry of Treasury, 2012), and the value of debt securities issued by companies and financial institutions in relation to GDP.

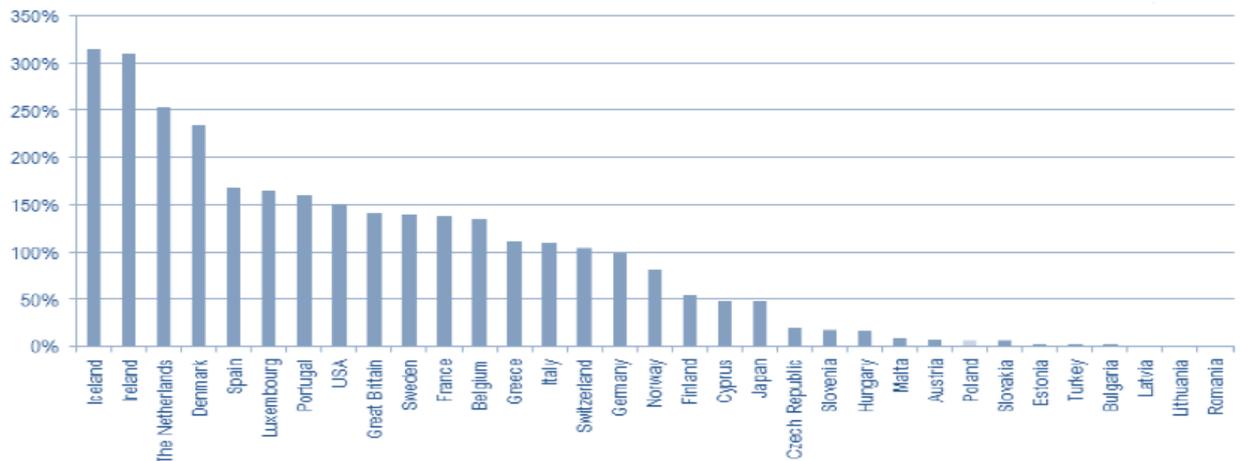


Figure 12 The value of bonds issued by companies and financial institutions in relation to GDP, GrandThornton (2012)

Poland’s rate of 6% is considerably lower than the rates of Ireland, United Kingdom and Germany, where that ratio amounts to 310%, 140% and 100% respectively (Grant Thornton, 2012). Adding Poland’s proved resilient corporate sector, in many respects, the “catch-up” effect is very likely to continue. Therefore one could conclude that the Polish corporate bond market has got vast potential for growth.

7. Summary - Comparison

The largest distinction between the M-Segments and Catalyst is their core nature: The M-segments are merely segments of larger, established stock exchanges, which eventually list ‘classical’ corporate bonds, whereas Catalyst operates as the main bond segment in Poland. Therefore Catalyst is a platform to a variety of issuers and not only SME-bonds, oppositely to the M-Segments. The total volume of bonds listed at M-Segments of EUR 3.2bn exceed the adjusted corporate bond value at Catalyst of ~EUR 1.63bn , which indicates the low stage of development of the total corporate bond sector in Poland.

Both are relatively young markets, which despite the recent dynamical development, can be in many respects still characterised by terms of developing markets, which are according to Fitch (2012) the “relatively low liquidity which inhibits investor appetite, few foreign investors, untested bankruptcy laws“, and specifically for Catalyst “a small, mostly unrated pool of bonds, and floating rate coupons.” Also in mature bond markets the risk-spread of the coupon mirrors the creditworthiness of the issuers. Here the M-segment lags behind catalyst, as the disparity of coupons is lower and ‘brand’-bonds are much more likely to succeed, which shall explain an insensitive approach of the investors.

However, both markets show tendencies towards the professionalism of ‘classical’ corporate bond markets. Hereby both stand at crossroads. Despite the relatively mature answers to the first

defaults, M-Segments have still to prove that these were just problems of individual issuers, rather than a systematic problem. Catalyst faces the first wave of repayments of bonds which have gained maturity of in total PLN 2,7bn (ca. EUR 658m). The degree of repayments will have critical influence on the further development of the promising market.

The further analysis of the German M-Bond Segments and Catalyst can be summarised as follows:

Table 10 Summary RQ 3 and RQ 4, Author's development

	M-Segments	Catalyst
Profile	Sub-segments of established stock-exchanges	Main bond-market
Market Size	EUR 3.2bn	total corporate PLN 11bn/ ~EUR 2.6bn equivalent PLN 6.7bn/~EUR 1.63bn (adjusted by ≥ PLN 1bn listings)
Role of Banks	Minor, large corporate banks reluctant	Still in central position as arranger and main investor
Issuers	1. Industrial 2. Financial Services 3. Transportation & Logistics	1. Banking 2. Real Estate Development 3. Financial Services
avg. Issue	EUR 48m	PLN 48m/ EUR ~11.7m PLN 10m/ EUR ~2.4m median
avg. Rating	BBB- (lower medium grade)	not compulsory, hence not used (except large caps)
Coupon	Fixed	Floating
Coupon Rate	Median 7.25 % p. a. (minimum 5.9 %, maximum 11.5 %)	Median 10.25 % p. a. (minimum 4.8 %, maximum 18 %)
Coupon Payment	Annually	semi-annually
Investors	institutional and private	institutional, private marginal
Investment approach	short-term and buy-and-hold	buy-and-hold
Investment funds	1 ETF	3 TFI with focus corporate bonds
Indices	3	0
First Defaults	2011	2011
Probability of Default	0.4% (Creditreform)	0.23% (historically, GrantThornton)

V. Discussion and Conclusion

1. Discussion

The German economy consists to a high extend of Mittelstand, which is to some extend pronounced by highly-developed capital-intensive industries and a high contribution to exports. Poland is characterized by a bi-polar economy with a distinct share of unproductive companies, opposed to a rapidly developing medium and large sector. The successful development of the latter in recent years seems to lead to a catch-up to the German role-model. Based on the imbalance of media attention in this respect, an evaluation whether Polish middle-sized companies fit the qualitative definition of German Mittelstand (compare II.2.4.) was limited. However, the analysed tendency of Polish middle-sized enterprises to have increasing export rates and larger investments in innovation with scale seems to follow that pattern.

In respect of funding SMEs of both countries seem to be pretty homogenous. Both are following a risk-averse approach, by not taking on too much debt. Internal funding is considered by both as the main source of finance, with a large share of companies, mainly Polish, not taking advantage of loan funding at all. Here German SMEs tend to be more assertive by profiting of the positive influences of debt, as described in the M and M Theory and Classical Theory of Capital Structure. That aversion towards gearing saved many Polish businesses throughout the crisis, might however oppose a threat to further development. Further capital demand is largely contributed by banks, which albeit lost reputation during the crisis and which are facing stricter capital-requirements, i.e. out of Basel III. Both factors shall strengthen the trend in both countries towards a diversification of funding, especially in Germany drawing the attention to capital markets instruments. Given the “catch-up” factor in Poland, the low agency costs and orther, this trend is to be seen as sustainable.

The dynamical development of the five M-Segments and Catalyst since their establishment do not hide the fact that the segments face serious issues. Based on the low or even insufficient degree of granularity and liquidity investors cannot rely on the satisfaction of their orders in the secondary market. The limited flexibility leads important investor groups, like large scaled investment funds or hedge funds to hold back in investments. Based on the low level of liquidity, in Poland investors are to some extend limited to follow a buy-and-hold approach. To counteract the segments work together with liquidity partners, guarantees, etc. to increase the secondary-market liquidity. As M-Bonds, as well as the corporate bonds placed on Catalyst, are high-yield bonds often of non-investment grade, they bare a high risk for investors, leading to high requirements for information

disclosure. In Germany emitters responded to increasing quality requirements by the increasing application of collaterals and covenants into bond structures.

However, information about e.g. placement successes, are not fully accessible, leading especially private investors to rely on ratings. As ratings are not compulsory at every segment and rating agencies have been accused of certifying too positive ratings, the market faces an intense problem of a low degree of transparency. The segments attempt to counteract, e.g. Boerse Stuttgart introducing obligatory ratings, on top of own weekly risk assessments with following risk-classifications. On the contrary, Catalyst does not require ratings and sets very low entry requirements, which allow a very high flexibility of market participants. Generally one can say that Catalyst sets very low quality requirements, which attract issuers of low creditworthiness and in turn higher risk for investors.

The higher the risk is, the higher the reward has to be. The high interest spreads for issues of volumes of even under PLN 1m indicate that several issuers of low creditworthiness use corporate bonds for funding, as banking loans would be either too expensive, or not accessible. In this respect mostly real estates developers at Catalyst and solar-energy issuers on the M-Segments risk of default. The low creditworthiness of many issuers is a point, which keeps many potential issuers away. Creditworthy, risk-averse medium-sized companies do not have problems to receive loan funding. However, a more restrictive loan policy combined with the professionalization of Catalyst might amplify the positive trend of corporate bonds in Poland, which is dominated by service-sectors. The three large issuers of PLN ≥ 1 bn bonds have set role models of bond-issues, which could serve as guidance for future issues at Catalyst.

2. Conclusion

In order to analyse the applicability of the German M-Bond model to Poland, this study paper has accomplished extensive research to point out the characteristics of Polish SMEs compared to Germany. Following the commonalities and distinctions of sources of funding of both SME-markets have been exposed, transitioning to corporate debt markets. Finally out of the analysis of the M-Bond segments and Catalyst, the study paper derived a comparison to enable the final conclusion.

Throughout the study it has increasingly become clear, that Central and Eastern Europe's largest corporate bond market is at the beginning of its development and therefore not sufficiently developed to establish a separate segment for upper medium-sized companies. The market shows various features, which characterise debt capital markets of emerging markets and slowly attracts attention of companies outside of the service sector, which so far observe the development of the market. However, it is recommendable to the Polish corporate bond market to evaluate and

possibly adapt features of the recently developed models set by the M-Bonds segments. Catalyst should most of all focus on solutions to increase liquidity, reporting requirements and the initial issue.

Hence international research studies about Polish bonds were so far exclusively limited to sovereign and municipal bonds, this research study is to be highlighted as unprecedented. The comparison to the German M-Bond market is a further enrichment to the study and contributes to a broader significance of the research paper. Furthermore, the study could serve as reference for further fields of future research studies. Which of should include:

- Analysis, whether Polish medium-sized to large enterprises are developing towards a Polish Mittelstand-equivalent.
- Analysis of industry-specific bond-funding emerged out of the high market shares at Catalyst.
- Analysis of the total bond-funding potential amongst Polish medium-sized to large enterprises.
 - Changes in the potentials under quality-requirements set by respective M-Segments.

The study was to a certain extend affected by limitations set by the different development stages of the German and Polish economies, which found reflection in the access to official data, as well as the imbalance of media attention.

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APPENDICES

APPENDIX I

The SBA-Fact Sheet 2012 analyses also the general business environment for SMEs in each European country. *Ceteris paribus* Germany occupies a leading position and ranks above EU average in most policy areas. The report emphasizes Germany's top performance in the areas skills and innovation, access to finance and appreciates the long-term efforts in environmental issues (European Commission, 2013). Given the high ranks overall the report also indicates limited space for improvements.

Despite fears about decreasing funding from banks, the fact sheet testifies a drop of banks rejecting loan applications from 26% to 8% (EU from 22% to 15%) and an increase in willingness to provide loans by 9% (EU 3%). These year-on-year figures changed in a favourable way for the first time since 2007 (European Commission, 2013).

The report attributes Germany a predominant position in the area of skills and innovation, being on top of various sub-categories, e.g. "innovating in-house". Despite the leading position the government has implemented various programs to further reinforce rapid growth (European Commission, 2013). Prof. Simon (2012) supports this argument in 'Manager Magazin', indicating that in 2010 German companies, mainly Mittelstand, have registered in 12,553 patents, followed by France with 4,536 and Switzerland 2,389 (Simon, 2012). In regards to the sectoral distribution German SMEs go in line with the EU average, with one clear distinction: the importance of medium- to high-tech industries. Roughly 18% of German SMEs are active in these capital-intensive industries, opposed to a 12% EU average (European Commission, 2013). The companies benefit from a robust demand for high-quality products "Made in Germany", letting them to market their products at high prices, which in turn leads to high turnovers and higher added value (Essec Business School, 2012).

Another strength of German SMEs is the degree Internationalisation. In the report 'Internationalisation of Mittelstand' the government-owned development bank KfW (2012) states that, based on the extended definition with annual turnovers up to EUR 500m, in 2011 Mittelstand's exports amounted to ca. EUR 600bn, which correspond to half of Germany's total exports. 47% of foreign sales are being realised in Western Europe, followed closely by Central and Eastern Europe (30%), which means that the highest importance for exporting enterprises represent the single European market (KfW, 2012).

Surprisingly, German SMEs are not that devoted to activities outside of Europe, performing even below EU average (European Commission, 2013). Albeit the dependence on exports varies between the industries, exporting companies create on average 30% of their returns in foreign

markets. Hence the German government is very active in this policy area, offering a very favourable environment for international activities.

The SBA report also points out areas, in which Germany is lacking behind its EU-peers. Germany ranks at bottom position of EU and OECD statistics regarding licensing and permit systems. Burdensome regulations with ineffective communication between administrative bodies, long periods of tax-retention, etc. result in high costs and efforts for SMEs to comply with federal legislation (European Commission, 2013). Furthermore these limitations discourage entrepreneurial activity, another domain in which Germany is trailing behind EU average.

Both, the self-employment and the entrepreneurial rate, are much less pronounced than in EU 27 mirroring the preference amongst German manpower to be in employment rather than running an own business. That fact should also be seen as an explanatory factor for the substantially lower share of Micro-firms in Germany. In addition the Commission attests a lower intention to start a business within three years than in the EU average by 7%, which might be partially explained by the current “fairly favourable conditions on the German labour market” (European Commission, 2013, p. 5). To counteract this tendency the government has introduced several policies to encourage entrepreneurship.

APPENDIX II

The SBA report points out access to finance and entrepreneurship as the main strengths of the Polish SMEs. Poland enjoys high rates of business foundations, since 1989 on average 250,000 new companies per year were set up with an over EU average rate of survival since 2003 (Bukowski, 2010). This fact is remarkable especially when looking at World Bank’s Doing Business Ranking, where Poland is ranked 124th out of 185 in the category of starting a business (Germany: 106) (World Bank, 2012). Overall Poland enjoys a high level of entrepreneurship, placing Poland on 4th position, based on the total number of entrepreneurs over total employees 18% compared to an EU average of 14% (European Commission, 2013).

Polish SMEs take less advantage of the European single market, lagging behind the EU average quite distinctively. An explanation for that is the large domestic market, which is still growing and meeting high demand of consumption. 60% of SMEs sell their whole production nationally. Many firms as suppliers of medium or large companies, which have much higher export rates (Starczewska-Krzysztozek, 2011). The 10 largest Polish exporters are subsidiaries of foreign companies (Misztak-Kowalska, 2012). As for many SMEs the exclusive concentration on the domestic market might mark a retirement from tremendous chances, particularly in the view of the fact that Polish products are highly competitive based on low production costs, the government has

introduced a variety of steps to promote exports. That approach seems to contradict the Modern Portfolio Theory, which can also be applied for businesses and their diversification of projects.

Polish SMEs underperform its EU 27 peers substantially in the sector of skills and innovation in every subcategory of the SBA Factsheet 2012 (European Commission, 2013). Bukowski explains the disadvantages as historically founded: during the (still undergoing) process of transformation “there was simply no time to develop enough capital to invest in capital-intensive industries” (Bukowski, 2010, p. 3) and consequently enterprises of larger scale. Innovations are capital-intensive and even if they are co-funded by the EU, they still demand high investments, which exceed the financial capabilities of the majority of micro-enterprises. It should be positively noted that various surveys show a trend towards increasing importance of quality and innovations, both ranking on top priorities especially in the medium-sized sector (see Bukowski, 2010; Starczewska-Krzysztozek, 2011; Polska Agencja Rozwoju Przedsiębiorczości, 2012). Additionally governmental programs like ‘innovation bonus’ receive oversubscribed applications. Both can be seen as indicators for the increased awareness amongst Polish SMEs, that they have to increase their efforts in innovation, high-technologies and R&D in order to guarantee long-term growth and avoid the ‘Middle income trap’ (Polska Agencja Rozwoju Przedsiębiorczości, 2012). The middle income trap is an economic situation in which a developing country’s economy finds itself being unable to compete with innovations of developed economies and low-cost production of emerging economies and therefore being trapped in the middle.

The investments in innovations and high technologies also aim for a diversification of competitive advantages of the Polish economy. According to Starczewska-Krzysztozek (2011) Poland’s main advantage over its European peers remain the low costs of production.

The difficult economic situation and cautious approach towards access and assignment of loans are expected to ease with time. Factors which saved Poland- cautious approach towards leverage, defensive strategies- might be problematic in better times creating growth barriers and descending competitiveness. Therefore Polish authorities and enterprises have initiated preparations for expansion strategies (Polska Agencja Rozwoju Przedsiębiorczości, 2013) to further increase merits of Poland’s economy additionally to its main competitive advantage of low production costs.

APPENDIX III

A placement of a bond can be conducted in several ways. Dependent on the capital market experience and the resources of the issuer, the placement can be carried out largely on the issuers own or externally (Achleitner, et al., 2011). The second option implies investment banks or brokerages arranging the complete transaction process. Choosing this option the issuer benefits from broader distribution channels and better access to investors, resulting in an accelerated placement-process (Anleihen Finder, 2011). Accordingly an issue managed by external partners exclusively is the most expensive option. Usually emitters decide to combine both possibilities in accordance to their resources to benefit from expertise and decrease costs.

Additionally the issuer has to decide whether the bond should be issued as a public offering or private placement. The private placement is not listed on a stock exchange, as it distributed directly to a smaller amount of investors. As the lack of listing on a secondary market complicates the resale of bonds, the investors expect a higher coupon. Generally a private listing is conducted on quicker space, as the investment is largely prearranged and other requirements, like the issue of a prospectus, are redundant. Volumes of that type of placements tend to be lower, also because the overall costs of the issue are lower (AnleihenFinder, 2010).

The potential emitter has to plan various stages of the placement process. The examination of capital market viability is one part of the pre-preparation stage of a placement. A Placement has always to be planed individually and has to match the companies´ values, strategies and goals. For example going public will lead to a higher visibility of the company and eventually its owners (Achleitner, et al., 2011). The emitter has to evaluate his ability and willingness towards sharing of information with the public.

At the initial stage the company has to determine the aim of the bond, its characteristics and way of distribution. Retailers, e.g., can use their network of distribution centers to sell their bonds to customers, turning them into investors and using the bond as a marketing mean (Führ, 2012).

In the preparation stage the emitter should also be sure about its capabilities to fulfil the requirements in terms of communication and transparency, with a special emphasis on financial reporting (Hinz, 2012). Connected to transparency and reporting, the emitter should evaluate the topic of rating. Here too, there are various possibilities and various points to be taken into consideration; like the choice between rating of the company or the single bond. Howsoever, the rating has got distinct influence on the success of the issue and is nearly considered as a standard (Hoppe & Lais, 2013).

Nearly as important as the actual design of the bond and placement-process is the correct timing of the issue, as even a well-planned and structured placement might fail, if it is placed in an illiquid stage of the market (Hinz, 2012). That fact might also be seen as an indicator for Baker &

Wurgler's Market Timing Theory, which was discussed above and indicated that "Managers simply take advantage of market conditions when they decide to raise capital" (Hillier, et al., 2013, p. 456).