

SMEs AND BASEL III – MEASURES OF IMPROVEMENT

Claudia Brandstätter
University of Applied Sciences FH JOANNEUM, Austria
claudia.brandstaetter@fh-joanneum.at

Johannes Pamsl
University of Applied Sciences FH JOANNEUM, Austria

Daniela Wilfinger
University of Applied Sciences FH JOANNEUM, Austria

Abstract:

The entrepreneurial landscape has changed massively in the recent years. Increased competitive pressure, shortened product life cycles, complex customer requirements, increasing globalization and digitization are only some buzzwords. In this context, Industry 4.0 can be seen as a way to deal with these changes. Since Industry 4.0 not only affects individual parts of the value chain, but also changes the whole production process, a large part of the machinery, equipment and control processes will have to be renewed for this purpose. For companies, especially for SMEs, this means high investments over the next years. So, the question arises how to finance these investments.

SMEs face two different problems. On the one hand, they need to invest, to remain competitive. On the other hand, they have a limited access to the capital market – compared to large enterprises. One reason for this limited access is the implementation of BASEL III, which is associated with stricter capital conditions and corporate ratings.

The following paper will show which forms of financing SMEs are mainly used. It also demonstrates the level of information of SMEs about BASEL III and its associated ratings. Another important point of view is to find out whether companies are taking measures to improve these rating criteria. The findings presented in this paper were obtained with the help of an empirical study in which Austrian industrial companies in the SME sector were interviewed.

Keywords: Basel III, Industry 4.0, SMEs, financing, rating criteria, improvement of rating criteria.

1. INTRODUCTION

1.1 Initial Situation

Today companies face major challenges. Digitization and connectivity are progressing, demand and competitive pressure are increasing, product life cycles are becoming shorter, and customer requests become more demanding.

Traditional machines, systems and processes are no longer sufficient to fulfill all requirements. Companies are forced to change, to remain competitive. These changes can be summarized under the heading of Industry 4.0.

Industry 4.0 means the digitization and networking of the complete value chains up to a largely self-organized production with the help of cyber-physical systems (CPS) (Verein Industrie 4.0, 2017, pp 13-14) CPS are open systems that enable a variety of new features and services.

These possibilities arise from the use of sensors and actuators that are digitally connected to each other and use data and services available worldwide (Kusch et al. 2017, p.49).

Another fundamental feature is the Internet of Things (IoT), which serves to use existing technical solutions through advanced services. The result is a complex network of physical objects and data that is consistently networked and can capture and evaluate information in real time. With the help of intelligent systems, the existing information is analysed and the corresponding potential for optimization is identified (Reischauer/Schober 2015, pp 273-274).

The use of Industry 4.0 technologies leads to increased productivity and flexibility, as well as increased innovation and reduced resource consumption (Windelband et al. 2015, p.26). The aim is to create so-called intelligent value chains. These begin with the design of a product up to the production, use and final recycling. In parallel with the increasing individualization of the products, the costs of production, through ongoing process optimization along the value chain, also will be reduced.

An essential factor for this cost reduction is the availability of information in real time, because by using this data, a company can react earlier to changes such as fluctuating raw material or energy prices. (Samulat 2017, pp 2- 5).

Even though many of these technologies already exist, Industry 4.0 is only just beginning, because much of the machinery, equipment and control processes need to be renewed (Andelfinger/Hänisch 2017, pp 69-72).

Today, companies have to face two contradictory problems. On the one hand, due to developments in recent years, which can be summarized under the heading of Industry 4.0, more investments in increasing automation and individualization of production are necessary, especially for industrial companies, in order to remain competitive.

On the other hand, the financial situation of companies is limited. Companies suffer from stricter financing policies due to Basel III, as a result of the former financial crisis. Especially Small and medium-sized enterprises suffer from a credit crunch and often face limited access to the capital market. This is a serious problem, because SMEs represent the skin content of companies in Europe. The vast majority (99.8%) within the EU-28s are SMEs – 22.3 million employees have been working in this size class (Eurostat, 2016).

Also the Austrian economy is dominated by small and middle sized companies (SMEs). 98% of all Austrian businesses are SMEs, this means 323.600 companies, generate 64% revenues and employ 67% dependent employees (Statistik Austria 2015).

The question therefore arises how SMEs finance the investments that are necessary because of Industry 4.0. Are there alternative forms of financing, such as venture capital, mezzanine capital, silent participations, business angels and external equity, in addition to traditional bank lending?

Since SMEs often have limited access to capital markets, bank lending is one of the most important forms of external financing of investments (Brunner et al., 2016). Looking at the traditional bank loan, it is of interest in this context how well SMEs know about BASEL III and its associated ratings. Another important point of view is to find out whether companies are taking measures to improve these rating criteria.

The paper attempts to answer the following research questions:

- Which forms of financing are relevant for SMEs
- Which level of information SMEs have about BASEL III and about the rating procedures
- Do SMEs plan improvement measures that have a positive impact on the rating criteria in order to increase the chances of a bank loan or to improve the conditions

1.2 Methodology and Research Sample

In order to answer these questions a survey was conducted from University of Applied Sciences, FH JOANNEUM Kapfenberg at the Institute of Industrial Management during summer term 2016. A total of 3813 Austrian industrial SMEs were surveyed. The following SME classification was used to arrange in order small and medium-sized enterprises.

Figure 1: Classification of SMEs

	Medium Sized Companies	Small Sized Companies	Micros
Employees	< 250	< 50	< 10
Turnover	≤ 50 Mio €	≤ 10 Mio €	≤ 2 Mio €
Balance Sheet	≤ 43 Mio €	≤ 10 Mio €	≤ 2 Mio €

Source: Austrian Chamber of Commerce for the industry division, 2016

Due to the large number of potential participants a quantitative method was chosen. To conduct the empirical study, an online survey was selected. The questionnaire was created using a survey tool and sent electronically to selected companies via email. All the companies involved in the study received the same questionnaire, which consisted of closed questions and thus did not provide any scope for their own submissions. A full survey of the sectors cited below was carried out among SMEs employing between 10 and 250 employees. Micro-enterprises (less than 10 employees) were not considered as part of the investigation.

The industry was divided with the help of the Austrian Chamber of Commerce for the industry division.

Companies in the following industries were contacted as part of the study:

Table 1: Industry Divisions

Construction industry,	Industrial manufacturers of paper and cardboard products	Petroleum industry
Chemical industry Electrical and electronic industries	Machine metal goods and foundry industry	Stone and ceramic industry
Gas and heat supply companies	NE metal industry	Vehicle industry
Glass industry Wood industry	Paper industry	Wood industry

Source: Austrian Chamber of Commerce for the industry division, 2016

The response rate was 6.6%. For further evaluations the SME definition of the European Union was used, whereas the number of employees was considered as the only criterion (European Commission, 2016).

The questionnaire was divided into three parts. In the first part, general data of the companies were collected, such as legal form, number of employees, turnover, balance sheet total and equity ratio. The second part of the questionnaire dealt with questions relating to Basel III and the ratings applied by the banks, as well as possible sources of information used. In the third part, companies were asked about alternative financing options.

2. THE RULES OF THE BASEL COMMITTEE ON BANKING SUPERVISION

2.1. Essential provisions of BASEL I – III

In 1974, the Basel Committee on Banking Supervision was established by the central bank governors of the G10 countries¹ in Basel, which made recommendations on banking supervision (Huelmann 2004). The recommendations of the Basel Committee have not been and are not legally binding, but the proposals are generally implemented. In Europe, for example, the recommendations are transposed into national law through directives. The Basel Capital Accord (Basel I), adopted in 1988 by the Basel Committee on Banking Supervision, introduced a system to reduce the risk of credit transactions. For each loan issued, equity considerations of 8% of the loan volume must be provided, regardless of the creditworthiness of the company. Since credit rates are also based on banks' capital adequacy, this was a disadvantage for companies with an above-average credit rating and a corresponding advantage for companies with poor creditworthiness. Because of this disparity, the Basel Committee discussed for several years' innovations that eventually culminated in Basel II (Heim 2006).

With 1.1.2007, the existing equity agreement has been replaced by the Basel II Agreement. The main innovations relate to the minimum capital requirement, the bank review process and extended disclosure. In the case of the minimum capital requirement, the capital adequations must now be made in accordance with the credit risk. The necessary assessment of the credit risk of the companies is carried out by ratings (Reichling 2003).

Since even compliance with the minimum capital requirement does not cover all risks, the Basel Committee came to the conclusion that adequate risk management of banks is necessary (banking review process), which is constantly being improved. Therefore, the banking regulator, for its part, has the task of regularly reviewing the risk management of banks (Szensy, Kuthe 2014, p. 388).

The third major innovation of Basel II was extended disclosure, which enables market participants to assess the risk appetite of the management and risk management of the institution. In this way, they can select their decisions for investments or loans accordingly. Within a limited framework, banks can determine the scope and frequency of disclosure themselves (Deutsche Bundesbank, 2016)

In 2009, the Basel Committee on Banking Supervision was entrusted by the governments of the G20 countries with the development of a new set of rules, which was approved in December 2010. Significant innovations in the framework, which builds on Basel II, concern the equity, the debt ceiling of banking institutions and the liquidity rules (Basel Committee on Banking Supervision, 2010, p. 13). Equity was more strictly defined under Basel III and divided into going concern capital and gone concern capital. Going concern capital is intended to prevent insolvency in the event of losses incurred during the company's continuation. Here, a distinction is made between hard and additional going concern capital. The gone concern capital serves the creditor satisfaction in the event of insolvency. A subdivision of the supplementary capital as under Basel II is no longer planned (Zeitler 2016 p.10). In times of increasing credit axis, additional capital buffers are to be built up as collateral to cushion cyclical fluctuations. A distinction is made between capital preservation buffers and countercyclical capital buffers (Zirkler, Hofmann, Schmolz 2016).

Furthermore, the introduction of a maximum leverage ratio is intended to limit the debt of the banking sector. This can mitigate the risk of destabilizing deleveraging that hurts the financial system and the economy. Additional protective measures against model risk and measurement errors, e.g. by supplementing the risk-based measurement by a simple, transparent and independent measurement of the risk, should also be introduced.

The third major innovation is liquidity. Two minimum standards have been introduced for this purpose. The minimum liquidity coverage ratio (LCR) is intended to enable banks to survive stress scenarios lasting a maximum period of one month. The Net Stable Funding Ratio (NSFR) is intended to ensure (at least in part) a long-term refinancing. (Basel Committee on Banking Supervision, 2010 and Basel III Structural Liquidity Rate, 2014).

¹ USA, Canada, Great Britain, France, Germany, Italy, Belgium, Netherlands, Sweden and Japan. The committee now comprises 27 nations. The primary objective is to improve financial stability; Bank for international settlements (2015, Oct. 20).

The following figure summarises the potential impact of Basel III on SMEs and identifies possible options for action for SMEs.

Figure 2: Potential Impact of BASEL III on SMEs

Basel III		
Higher capital Adequacy	Risk-based maximum debt (Leverage Ratio)	Liquidity Assurance (LCR, NSFR)
Increasing importance and demands on the risk management	Obligatory stress tests	Transparency and disclosure requirements
Potential Impact on SMEs		
<ul style="list-style-type: none"> • Deterioration of credit conditions • Reduction of the loan offer • Reduction of the credit period • Increasing information requirements by credit institutions • Burden on the relationship between SMEs and domestic banks • Inhibition of economic growth and investment • Increasing importance of rating criteria (equity ratio, liquidity) • Higher security requirements • Increasing importance of financing alternatives to raising capital 		
Possible Actions for SMEs		
Balance sheet policy	Business policy	Organization
Adjustment of the financing structure and increase of equity	Improving transparency and communication with credit institutions	Improvement of Risk Management and Controlling of rating relevant criteria
Ready keeping fungible Collateral	Improvement of the Rating	
Timely creation and filing of annual reports	Use of alternative sources of funding	Accurate financial Planning

Source: Hofmann, Schmolz, 2014, p 26

2.2 Rating methods

A rating is the ability of an issuer to meet its payment obligations from a bond completely and on time (Büschgen, Everling, 1996, p. 24.). A distinction is made between two different ratings, the external or internal rating.

The external rating is carried out on the request of the issuer by a credit rating agency. The publication is intended to increase the number of investors. The internal rating is carried out by credit institutions. Unlike external ratings, internal ratings are not published (Klempien, 2016).

The main difference between the two procedures is that, in the internal rating procedure, there is a mostly long-standing business relationship between the credit institution and the company applying for a loan. Since Basel II, banks have had the opportunity to differentiate borrowers. This allows the probability of default or the percentage of loan default to be taken into account in the event of a loan default. Banks can use different methods to calculate capital adequacy. One method is the standard approach. In this case, the banks use existing credit ratings from rating agencies to make a selection of the risk weight factor (Behr, Fischer, 2005 pp 41-42).

Approaches based on internal ratings (IRB) can be used as an alternative version to the standard approach. In these cases, risk weights are determined by intra-bank procedures. The risk weighting is achieved by including the Probability of Default, the Loss Given Default, the Exposure at Default and the Maturity (Paul 2002). In the simple approach, the Probability of Default must be estimated with the help of an internal rating and allocation to a rating class. (Hofmann, Pluto 2005).

Unlike the simple IRB approach, in the advanced IRB approach, in addition to the Probability of Failure, the Loss Given Default, the Exposure at Default and the Maturity must also be appreciated. (Schmidt 2005).

Both quantitative and qualitative factors are used to compile the ratings. Quantitative criteria reflect the economic situation of the company and can be derived from the annual financial statements. With the help of qualitative criteria, the future viability of the company should be judged. Qualitative criteria are only taken into account with Basel II and look at areas such as corporate governance. Examples of qualitative criteria are organizational structure, strategy, planning and control, risk management, personnel structure, industry affiliation, market and competitive position (Dietrich, 2016).

3. RESULTS

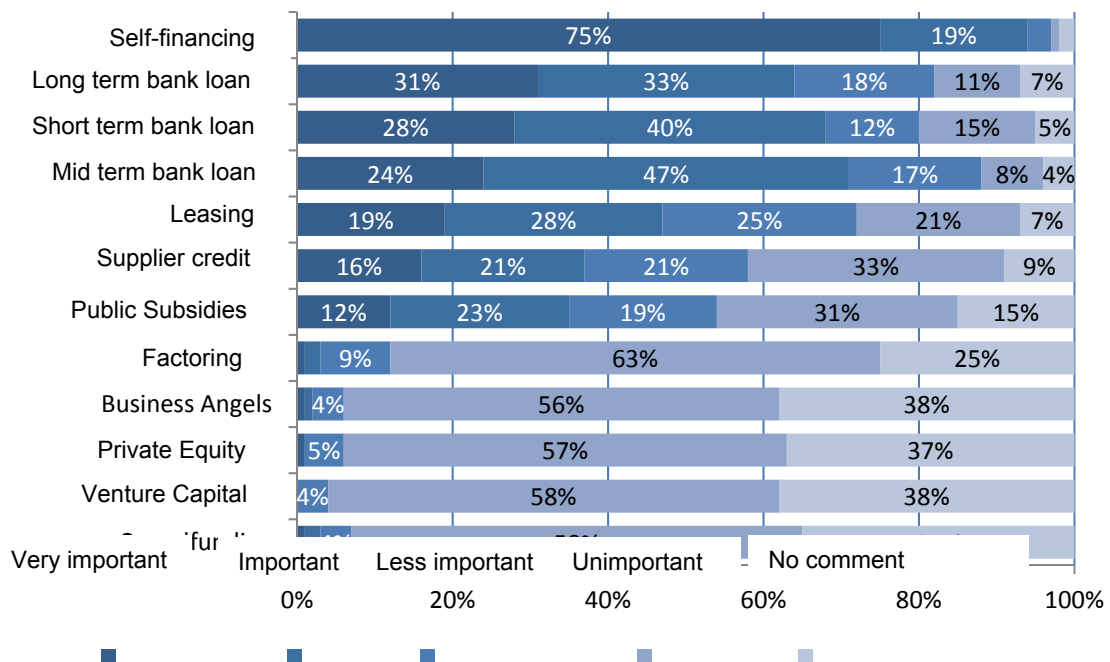
3.1. Forms of financing of SMEs

The type of financing can be divided into source of funds (internal or external financing) and the legal status of the investors (equity, debt or mezzanine capital) (Benesch, Schuch 2013, p. 94). Internal financing includes income generated by a company itself. External financing means capital, which is made available to the company from the outside. This can be done by owners, credit institutions, suppliers, customers, business angels, private equity partners or venture capital companies (Nathusius 2001, Losbichler 2015).

The empirical survey tried to find out how important the forms of financing cited in Figure 2 are for the companies surveyed.

Corresponding to the high level of equity, self-financing is the most popular form. If one focuses on the various forms of debt financing, one gets the following results, as shown in Figure 2.

Figure 3: Forms of Financing of SMEs



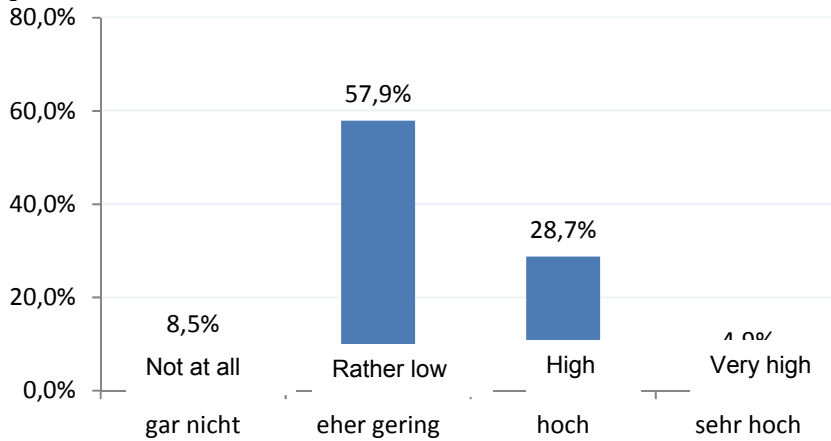
Bank loans, followed by leasing and supplier loans, are the most important forms of financing for SMEs. Modern forms of financing, such as business angels or crowdfunding, play only a minor role. The main reasons why the alternative forms of financing cited are out of the question for respondents were the following:

- Satisfaction with existing credit conditions,
- Lack of information on alternative financing options,
- Sufficient equity,
- Rejection of the sale of company shares,
- Laborious resolution compared to loans at credit institutions.

3.2 Level of Information about BASEL III

A Bank lending is the most popular form of financing for SMEs. 82.5% of the companies surveyed said they had taken out a bank loan over the last 5 years. The question therefore arises how well informed companies are about Basel III. For this purpose, the respondents were able to assess their information status on a four-stage scale from "not at all" "rather low," "high" to "very high" as shown in Figure 3.

Figure 4: Level of Information about BASEL III

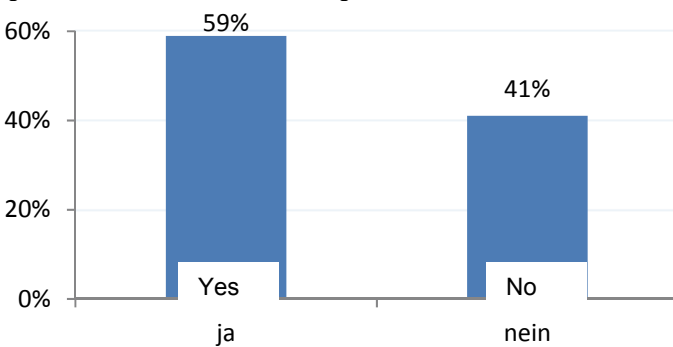


Almost two thirds of respondents (67%) said they had a very low or rather low level of information concerning Basel III. Nearly 30% rate their knowledge of Basel III as high. Looking at the results depending on the size of the company, there is a clear correlation between increasing size of a company and knowledge of Basel III.

3.3 Rating criteria

The next step was to ask whether the companies were informed by their bank what rating criteria were used (see Figure 4).

Figure 5: Information about Rating criteria

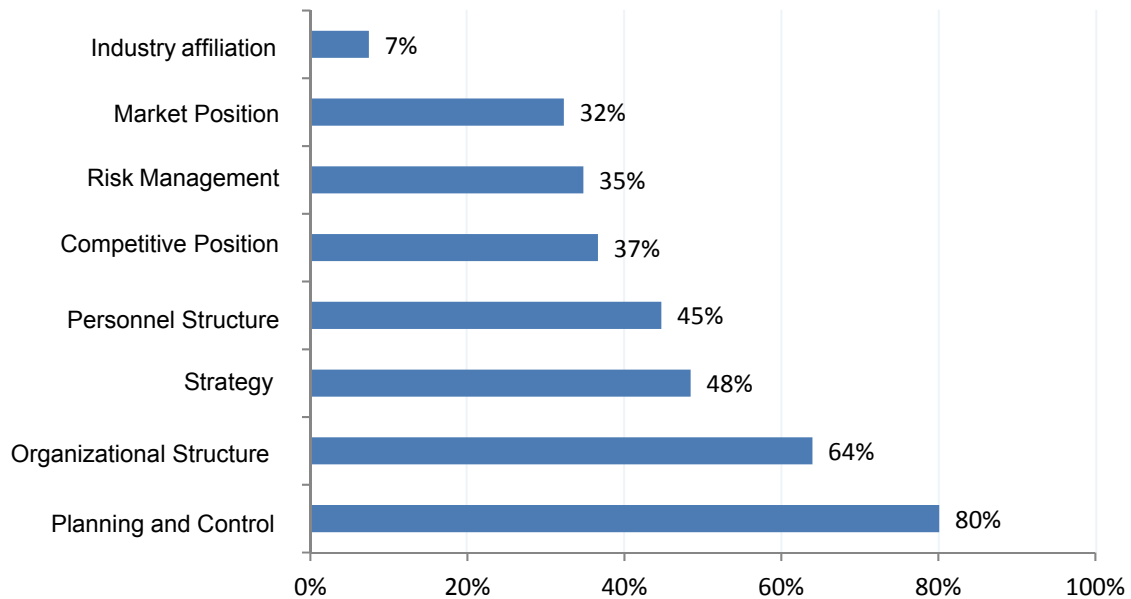


The proportion of companies that have been adequately informed by their bank about the rating criteria is only 59%. This percentage is very low given the frequency and importance of bank loans. Looking at the information about rating criteria depending on the size of a company, the following picture emerges: Small businesses in particular do not feel well or do not feel sufficiently informed about the rating criteria. This was reported by almost one in two companies surveyed with 10-49 employees. For medium sized companies, the proportion of those who feel sufficiently informed about rating criteria is about 83%.

3.4 Improvement measures

Basel II and Basel III brought many changes in lending. In particular, the need for ratings has presented new challenges for both banks and companies. Companies were therefore asked whether they were taking measures to improve the qualitative rating criteria. The obtained results are presented in Figure 5.

Figure 6: Measures of Improvement for SMEs



A total of 78% of all respondents said they were taking measures to improve the qualitative rating criteria. In particular, improvement measures are carried out in planning and control from 80% of the companies surveyed, followed by improvement measures with regard to the organisational structure (64%). Also improvements in strategy and staffing structure were indicated by almost one in two companies.

A third of the SMEs surveyed take measures to improve competitive position and risk management. Furthermore, the change in the market is mentioned as an important factor. Measures should therefore be developed to be able to respond to changes in the market as quickly as possible.

4. SUMMARY

Basel III is the answer to the financial crisis from 2008 and should give banks a new framework for lending. However, the impact of Basel III affects not only banks but also domestic companies. In order to investigate the impact of Basel III on Austrian SMEs in industry, an empirical study was carried out in the summer of 2016. The results of the study showed that the majority of domestic SMEs have used loans from their banks in recent years. In addition to self-financing, loans represent the most important form of financing for SMEs. Despite the importance of credits, the level of information on Basel III among domestic SMEs is rather low. Small companies have a lower level of information than medium and large sized enterprises.

Basel III brought significant changes in lending to Austrian SMEs. Small businesses in particular are affected by increasing demands and a deterioration in available loans. Medium sized businesses are not so badly affected by this. Moreover, most of them have other alternatives to finance their investments.

Alternative forms of financing are not an alternative to credit for the companies surveyed. In addition to the steadily increasing capital ratio of companies, the current low lending rates do not make these forms of financing attractive to domestic SMEs.

The introduction of ratings that have been in place since Basel II showed that the companies surveyed are making an increased effort to improve their rating, which can have a positive impact on the development of the company. The improvements that companies make are in planning and control, organisational structure and strategy.

For future research it would be interesting to find out, if there exist funding opportunities for SMEs at national and EU-level to finance investments which are necessary because of Industry 4.0. As a common difficulty for SMEs is the lack of information on suitable financing options. A guideline could be developed specifically for SMEs, based on the findings on funding opportunities.

REFERENCE LIST

1. Baseler Ausschuss für Bankenaufsicht (2015, Dec. 25). Internationale Konvergenz der Eigenkapitalmessung und Eigenkapitalanforderungen, 2006. Retrieved from <http://www.bis.org/publ/bcbs128ger.pdf>
2. Baseler Ausschuss für Bankenaufsicht (2016, March. 21). Ein globaler Regulierungsrahmen für widerstandsfähigere Banken und Bankensysteme, 2010. Retrieved from http://www.bis.org/publ/bcbs189_de.pdf
3. Baseler Ausschuss für Bankenaufsicht (2016, Apr. 04). Mindestliquiditätsquote und Instrumente zur Überwachung des Liquiditätsrisikos 2013. Retrieved from http://www.bis.org/publ/bcbs238_de.pdf
4. Baseler Ausschuss für Bankenaufsicht (2016, March 13). Basel III: Rahmenregelung für die Höchstverschuldensquote und Offenlegungsanforderungen 2014. Retrieved from http://www.bis.org/publ/bcbs270_de.pdf
5. Baseler Ausschuss für Bankenaufsicht (2016, Jun. 20): Basel III: Strukturelle Liquiditätsquote 2014. Retrieved from http://www.bis.org/publ/bcbs271_de.pdf
6. Behr, P., Fischer, J. (2005). Basel II und Controlling, ein praxisorientiertes Konzept zur Basel II- konformen Unternehmenssteuerung pp41 -42. Wiesbaden, Germany: Gabler Verlag
7. Benesch, T., Schuch, K. (2013). Basiswissen zu Investitionen und Finanzierung. Wien, Austria: Linde Verlag.
8. Brunner, P., Mahlberg, B., Schneider, H. (2016, Jan 10). Retrieved from <http://www.bmwf.gv.at/Wirtschaftspolitik/Wirtschaftspolitik/Documents/Finanzierungssituation%20von%20KMU.pdf>
9. Büschgen, H., Everling, O. (Ed.) (1996). Handbuch Rating. p 24. Wiesbaden, Germany: Gabler Verlag.
10. Deutsche Bundesbank (2016, Apr. 20). Retrieved from https://www.bundesbank.de/Navigation/DE/Aufgaben/Bankenaufsicht/Basel2/Erweiterte_Offenlegung/erweiterte_offenlegung.html
11. Dietrich, P. (2016, March 26). Retrieved from <http://www.controllingportal.de/Fachinfo/Branchen/Rating-Kriterien-Teil-X-aus-Controlling-in-der-Immobilienwirtschaft-und-Rating-nach-Basel-II-und-III.html>
12. Europäische Kommission (2016, Dec. 14). What is an SME? Retrieved from http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_de
13. Eurostat (2016, Dec. 14). Business economy – size class analysis. Retrieved from http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Business_economy_-_size_class_analysis
14. Fäuser, K., Ott, A., Böhm, L., Wiedemann, L. (2017). Industrie 4.0: Wie cyber-physische Systeme die Arbeitswelt verändern. In Andelfinger, V. H., Hänisch (Ed). Wiesbaden, Germany: Springer, Gabler Verlag. Pp 69-83.
15. Heim, G. (2006). Rating-Handbuch für die Praxis – Basel II als Chance für Mittel- und Kleinbetriebe.p 27. Berlin, Germany: Erich Schmid Verlag.
16. Hofmann, J., Pluto, K. (2005) Zentrale Aspekte der neuen Eigenkapitalempfehlungen (Basel II). In Sonderheft 25 (5), Verlagsgruppe Handelsblatt. Aktuelle Entwicklungen im Bankencontrolling: Rating, Gesamtbesteuerung und Basel II, Düsseldorf, Germany.
17. Hofmann, J., Schmolz, S. (2014). Controlling und Basel III in der Unternehmenspraxis. p 26. Wiesbaden, Germany: Springer Verlag.
18. Huelmann, F. (2004). Baseler Eigenkapitalvereinbarung – Basel I/II. Norderstedt, Germany: Books on Demand.
19. Klempien, D. (2015, Aug. 16). Retrieved from <http://www.controllingportal.de/Fachinfo/Rating/Rating-Grundlagen.html>
20. Kusch, R., Malik, B., Greibner, W., Saserklar, V. (2017). Industrie 4.0 und Digitalisierung: Allgemeines Verständnis, aktuelle Trends und Anwendungsbereiche. Hof/Saale, Germany: Hochschule für Angewandte Wissenschaften.
21. Losbichler, H. (2015). Grundlagen der finanziellen Unternehmensführung. Wien, Austria: Linde Verlag.

22. Nathusius, K. (2001). Grundlagen der Gründungsfinanzierung. Wiesbaden, Germany: Springer Verlag.
23. Paul, S. (2002) Das Konzept des Baseler Akkords. In Kolbeck, C., Wimmer, R. (Ed.) *Finanzierung für den Mittelstand*. Wiesbaden, Germany: Springer Verlag.
24. Reichling, P. (Ed.) (2003). Risikomanagement und Rating. Wiesbaden, Germany: Gabler Verlag
25. Reischauer, G., Schober, L. (2016). Industrie 4.0 durch strategische Organisationsgestaltung managen. In Obermeier, R. (Ed.), *Industrie 4.0 als unternehmerische Gestaltungsaufgabe: Betriebswirtschaftliche, technische und rechtliche Herausforderungen* (pp 271-291). Wiesbaden, Germany: Springer Verlag.
26. Samulat, P. (2017). Die Digitalisierung der Welt: Wie das Industrielle Internet der Dinge aus Produkten Services macht. Wiesbaden, Germany: Springer Verlag.
27. Schmidt, W., (2005). Finanzwirtschaft sowie F&E internationaler Unternehmen. In Oesterle, M.-J., Wolf, J. Internationalisierung und Institution. Wiesbaden, Germany, Gabler Verlag.
28. Statistik Austria 2015, 2015-06-25
29. Szesny, A., Kuthe, T. (2014). Kapitalmarkt Compliance. p 388. Heidelberg, Germany: C. F. Müller Verlag.
30. Verein Industrie 4.0 (2017). Österreich – Die Plattform für intelligente Produktion: Ergebnispapier “Qualifikation und Kompetenzen in der Industrie 4.0, pp 13-15. Wien, Austria.
31. Veränderungen in der industriellen Produktion – notwendige Kompetenzen auf dem Weg vom Internet der Dinge zu Industrie 4.0. Berufsbildung. Wissenschaft und Praxis (BWP), 44 (6), p 26
32. Zirkler, B., Hofmann, J., Schmolz, S. (2016, March 22). Retrieved from http://webcache.googleusercontent.com/search?q=cache:Y3xub7t1UNQJ:www.springer.com/cda/content/document/cda_downloaddocument/9783658077044-c1.pdf%3FSGWID%3D0-0-45-1486968-p177092125+&cd=5&hl=de&ct=clnk&gl=at