Bank Management
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Basel III – Reactions of the Banks

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Contents

Acronyms II
1 Introduction 1
2 Principles of Basel III 2
2.1 Historic Evolvement of Basel III 2
2.3 Purpose of the Rules 3
2.2 Implementation in the EU 4
2.4 Supporting Arguments in Favor of Basel III 5
2.5 Criticism 6
3 Reactions of the Banks 8
3.1 Reactions Regarding Banks' Business Models 9
3.2 Reactions Regarding Selected Financial Aspects 11
4 Conclusion 17
Bibliography 18

Acronyms

EBA	European Banking Authority
ECB	European Central Bank
EU	European Union
BCBS	Basel Committee on Banking Supervision
BPS	Basis Points
MAG	Macroeconomic Assessment Group
ROAA	Return on Average Assets
RWA	Risk-Weighted Assets

1 Introduction

"In the present episode of global recovery, after this shock we had in the previous years, uncertainty is the enemy in a way. With this decision […] we eliminate uncertainty in a large area which is a major contribution in consolidating the global economy" (Reuters 2010) said Jean-Claude Trichet, president of the European Central Bank (ECB) from November 2003 until October 2011, commenting on the implementation of the Third Basel Accord (Basel III). Contrarily, Karl-Heinz Boss, former managing director of the Association of German public sector banks stated: "The agreement is a regulatory shot in the dark as no studies on the impact are envisaged. We see the danger that the ability of German banks to supply loans to the economy will be significantly curtailed. […] It seems the timetable here was more important than quality (making this) a compromise package with risk and side effects." (ibid.)

As a reaction to the economic crisis, which started in 2007 as a financial crisis, the pre-existing recommendations on banking laws and regulations, i.e. Basel II, were revised and the first version of the Basel III regulatory reforms was introduced in 2010. The reactions to the issuance of the amended framework were diverging. On the one hand and in the light of the easing global economic crisis, new rules were very much welcomed. On the other hand, some practitioners also criticized the Basel Committee on Banking Supervision (BCBS) and its new rules for several reasons. The important question raised was which impact the rules will have on banks and how quickly and to what extent they will be able to respond to the new regulation.

The main purpose of this paper is to examine Basel III and related reactions of the banks, especially with a focus on banks being active in the EU. In order to do so, reasons for the introduction of the amended regulatory rules and the implementation procedure in the European Union (EU) will be presented first. Following, major arguments in favor of Basel III as well as exemplary criticizing arguments will be introduced. On the basis of this, it is to be investigated whether these arguments hold true, which impact the rules have on banks and what resulting reactions of these institutions look like.

2 Principles of Basel III

The following chapter deals with the development of Basel III, the historic evolvement and the implementation of the rules in general and in particular with regard to the EU. Furthermore, basic characteristics of the rules as well as supporting arguments and criticism will be presented.

2.1 Historic Evolvement of Basel III

Prior to the outbreak of the financial crisis in 2007 banks in many countries had started using on- and off-balance sheet debt financing extensively (cf. BCBS 2011a: 1). This led to a slow erosion of the equity basis of these banks and is regarded as one of the main reason for the intensity of the crisis (cf. ibid.). At the same time, many banks only had little liquidity buffers. Hence, banks with low liquidity buffers and low equity ratios were not able to absorb the consequences arising from defaulting loans. Especially at the beginning, defaulting of these loans occurred as a result of the subprime mortgage crisis and the real estate bubble bursting in the United States respectively (cf. ibid.). Due to the interconnection of banks and their world-wide activities, the crisis quickly spread to the global financial markets and expanded into a global crisis, also affecting the real economy.

Consequently, the market lost its trust in the liquidity as well as in the solvency of large banks which caused a massive liquidity shortage as well as a general credit shortage on the market. Pre-existing laws dealing with banking regulation, e.g. Basel II, were not able to prevent the outbreak or mitigate the intensity of the financial crisis. The crisis "has unveiled a number of shortcomings of Basel II and necessitated unprecedented levels of public support in order to restore confidence and stability in the financial system." (EU Commission 2013)

As a reaction, the BCBS initiated the amendment of Basel II which had been effective since 2007. Especially the fact that banks had too little capital to absorb risks as well as banks' insufficient liquidity and risk management measures were regarded as the

major drawbacks of Basel II (cf. ibid.). As a consequence, Basel III was published in a first version in 2010 and was endorsed at the G20 summit in Seoul in the same year. Basel III has been officially effective in its latest, revised version – published in June 2011 – since 1 January 2013 and must be fully implemented by the beginning of 2019 (cf. BCBS 2011a). For the purpose of facilitating the transition period and to mitigate possible effects of the new rules' introduction on the worldwide economy, annual phase-in-agreements for the implementation of the new regulatory reforms have been provided by the BCBS.

2.3 Purpose of the Rules

The new regulation's main purpose is to increase the safety and the credibility of the international banking system, especially in the light of the financial crisis which revealed various flaws of the system and of the predecessor of Basel III (cf. Härle et al. 2010: 2). These new rules shall enable banks to "absorb shocks arising from financial and economic stress." (BCBS 2011a: 1) Furthermore, it will help these institutions to overcome future crisis without the help of governmental financial aid (cf. Lessenich 2013: 37) and without becoming a threat for the real economy (cf. BCBS 2011a: 1). It was the BCBS' intention to improve (1) the quality and quantity of capital and to have banks focus on (2) liquidity management as well as on their (3) risk management and risk coverage (cf. Härle et al. 2010: 2).

Exemplary aspects of Basel III regarding *(1) capital* are a new definition of capital and stricter requirements how to calculate it. Additional aspects include the increase of the level of required capital and the introduction of a capital conservation and an additional countercyclical buffer in order to mitigate the effects of the pro-cyclical strengthening of negative financial shocks. Furthermore, new loss absorbency requirements for systematically important financial institutions were introduced (cf. BCBS 2011b).

The stricter capital requirements, later to be further elaborated, refer to the fact that Basel III requires banks, for example, to raise their Common Equity Tier 1 Capital Ratio (percentage of risk-weighted assets (RWA)) from 2% to 4.5%. The minimum

Tier 1 Capital Ratio of a bank has to amount to 6% (4% under Basel II) and the minimum Total Capital Ratio remains at a level of 8%. Additionally, banks need to keep a capital conservation buffer of 2.5% and a countercyclical buffer of 0% - 2.5% depending on specific macroeconomic circumstances. Depending on the importance of the bank for the banking sector, the absorbency requirement rule may apply which requires these institutions to have another capital buffer of 1% - 2.5%. (cf. Accenture 2012: 14)

Exemplary aspects of Basel III regarding *(2) liquidity management* are the introduction of a Liquidity Coverage Ratio to secure liquidity provision for at least 30 days during financial or economic stress and the introduction of a Net Stable Funding Ratio. The latter one "incentivizes the use of stable sources of funding by restraining short-term wholesale borrowing." (Bruno/Onali/Schaeck 2014: 10)

Exemplary aspects of Basel III regarding *(3) risk management* are the introduction of new management rules regarding counterparty credit risk exposure, the enhancement of a bank's corporate governance and the extension of transparency/disclosure requirements. Furthermore, banks are now forced to conduct credit analyses more rigorously, especially with regard to externally rated securitization exposures (cf. ibid.).

2.2 Implementation in the EU

The EU Commission transposed the rules published by the BCBS into EU law with the help of the Capital Requirement Directive IV which was published in the Journal of the European Union in July 2013. This directive was going to apply from 1 January 2014 and consists of two legislative instruments, namely the Capital Requirements Directive (2013/36/EU) and the Capital Requirements Regulation (575/2013) (cf. Bank of England 2013).

It has to be noted that Basel III was transformed into EU legislation with some changes due to pre-existing EU specific rules and the fact that Basel III is only applicable to internationally active banks whereas the transposed rules affect all the banks and investment firms which are active in the EU. Also, a so-called Single-Rule-Book was

published to secure EU-wide harmonization of the regulation on the financial markets. Additionally, some regulatory reforms that were not part of the original Basel III rules were added to further improve the harmonization and credibility of the EU's banking legislation. (cf. EU Commission 2013)

2.4 Supporting Arguments in Favor of Basel III

One main argument in favor of Basel III is that increasing capital requirements for banks could solve the problems of the financial system and would support its long-term stability. During the last financial crisis starting in 2007, banks were highly leveraged. When loans defaulted and banks' asset values decreased, the provoked financial distress of these interconnected institutions caused massive problems on the market. This also affected the real economy, not only the banking sector. If higher capital requirements had already existed, the outbreak of the economic crisis might have been prevented or at least its intensity mitigated.

Furthermore, stricter requirements could reduce the probability that taxpayers become involved as tax money was used to bail out financial institutions during the crisis. The reason is that more equity can absorb a higher decrease of banks' asset values and consequently could prevent a bankruptcy from taking place (cf. Admati et al. 2011: 9). Additionally, the guarantee of governments to become a possible savior of last resort for banks encouraged these institutions to become involved in high-risk projects and to pursue risky investment strategies.

Supporters of the previously mentioned argument even claim that higher equity ratios than proposed by the BCBS would be necessary. Examples include Eugene Fama who stated in 2012 that at least a 25% equity ratio is necessary to eliminate moral hazard and to reduce the risk of a bailout substantially (cf. Fama 2012: 16). Additionally, according to Merton Miller, equity is the cheapest way to regulate banks (cf. Miller 1995: 488).

Another argument in favor of the stricter capital requirements is the fact that better capitalized facts tend to be more valuable. Although an issuance of new equity is supposed to be perceived negatively (cf. e.g. Asquith/Mullins 1986: 41), a study published in 2009 observed an existing positive correlation between the value of a bank and the bank's equity ratio (cf. Mehran & Thakor 2009: 11). Furthermore, an IMF Working Paper showed in 2010 that well-capitalized banks performed better on the stock market than their competitors with less equity during the financial crisis (cf. Demirguc-Kunt, Detragiache and Merrouche 2010: 15).

2.5 Criticism

Basel III has been criticized for several reasons and counterarguments against the new regulatory reforms will be discussed hereafter. The fact that it has been developed so quickly following the financial crisis is one of the major problems.

Furthermore, one rule regarded as one of the principal contributions of Basel II to the financial crisis, i.e. the calculation of risk weights, has not been revised (yet) (cf. The Economist 2010). This rule implied that only little or sometimes even no capital was needed to secure assets which were supposed to be risk-free or assets with a low risk of defaulting (cf. ibid.). If an asset was risky or not had been based on the evaluation of a rating agency. "What brought banks […] to their knees was not direct exposure to sub-prime loans, but exposure to triple-A-rates debt backed by pools of such loans." (ibid.) Although being top-rated, the debt was not risk-free and lacked appropriate capital protection. Despite the fact that banks have to secure risky assets with much more equity now, the mentioned rule still exists under Basel III and still imposes a serious problem. In order to increase returns, this rule might even force banks to accumulate more of these risk-free rated assets. Hence, the underlying unforeseeable risks cannot be mitigated as effectively as necessary.

Another popular argument against Basel III is the fact that a high level of equity might have a negative macroeconomic impact since these assets cannot be used to enhance economic growth and are only needed in the event of financial distress (cf. Greenspan

2011). The "excessive buffer in banks' balance sheets is not available to finance productivity-enhancing capital investment so the population's standard of living almost certainly declines." (Šútorová 2012: 17) This argument regarding economic growth has been proved by several studies. For example, one found out that, although the effect is modest, stricter capital requirements might reduce the growth of GDP (cf. Angelini/Gerali 2012: 25).

An additional point of criticism is that equity financing is more expensive than debt financing for two reasons. First, investors require higher returns than debt holders and interest payments are tax deductible in most jurisdictions. Consequently, higher capital requirements could lower banks' profitability. Second and as already mentioned, an equity issuance is often perceived negatively (cf. e.g. Asquith/Mullins 1986: 41) and thus, incentive-guided managers might abstain from issuing equity and consequently use other means to achieve the required financial ratios. After the introduction of Basel III some European banks even stated that they would rather reduce their assets in order to fulfill the requirements than to raise expensive equity capital (cf. Jenkins/Masters/Barker 2011).

Another counterargument is that higher capital requirements will reduce banks' lending activities and thus lead to an increase in lending rates, i.e. higher lending spreads. Further arguments are that debt has a disciplining function because "it prevents managers from wasting or diverting corporate funds" (Šútorová 2012: 21) and from taking on excessive risk. Also, liquidity creation in the system can be hindered because of the stricter capital requirements (cf. e.g. Horváth/Seidler/Weill 2012: 2).

3 Reactions of the Banks

"Basel III will undoubtedly hit banks hard through its range of new and stricter regulations, whether because of higher capital requirements, the new liquidity standard, the increased risk coverage, the new leverage ratio or a combination of the different requirements." (Accenture 2011: 5) The macroeconomic impact of Basel III was already mentioned under section 2.5. The purpose of this part of the paper is to investigate how banks have reacted to the introduction of the new regulatory reforms specifically.

First of all, the latest progress report on the implementation of the Basel regulatory framework at a global level, which was published by the BCBS, shows that internationally active banks are going to meet the 2019 deadline of the full implementation of the Basel III requirements (cf. BCBS 2014: 5).

In order to comply with the new requirements, banks have a variety of means to respond to the new challenges. Possible responses can be divided into three categories, i.e. operational responses, tactical responses and strategic responses (cf. Accenture 2011: 6). Operational responses refer to short-term responses like, for example, RWA optimization, the reduction of credit exposure and possible credit losses and the improvement of liquidity risk management processes (cf. ibid.). Examples for tactical responses are the adjustment of lending rates and the implementation of risk-sensitive pricing (cf. ibid.). Strategic responses refer to long-term strategies like the issuance of capital, the amendment of the bank's business model or of the bank's group structure (cf. ibid.).

Following, some exemplary reactions of banks will be introduced and several already mentioned counterarguments against the introduction of Basel III will be further investigated and elaborated.

3.1 Reactions Regarding Banks' Business Models

The purpose of this section is to answer the questions whether banks' business models have changed following the introduction of Basel III.

After the introduction of the Third Basel Accord it was predicted by McKinsey in November 2010 that "banks are likely to systematically review their capital allocation to each segment and ensure that capital is preferentially allocated to segments that generate higher returns […]." (Härle et al. 2010: 20) Specifically, this means that these institutions have to evaluate their business models and also each client segment in order to find out which clients or business segments add economic value and which ones destroy value. Especially, customers that "account for a big share of the bank's RWAs without returning the cost of capital" (ibid.) are likely to be dropped. Moreover, it was predicted that banks would change their business models, i.e. by amending prices for certain products, reducing costs and by restructuring their product portfolio with the purpose of maintaining profitability (cf. ibid.: 21).

A study published by msgGillardon in 2014 dealt with some of the aspects mentioned in the McKinsey paper on *Basel III and European Banking* by conducting a survey among German banks. The results of the survey were published in a study called *Geschäftsmodelle unter dem Einfluss von Basel III* (Impact of Basel III on Business Models). First of all, the results of the survey show that banks consider the impact of the new rules to be not as strong as they did in 2012. Nonetheless, the stricter regulatory requirements have had an impact on business models as well as on organizational structures and procedures. (cf. Zimpel 2014: 70-73)

The major findings of the survey are the following: banks have adapted their business strategies to the new rules and have restructured their product portfolio by focusing their activities on short-term loans as well as on long-term deposits. In detail, 27% of the surveyed banks stated that they have only been offering short-term loans to their clients whereas 22% stated that they are likely to follow the same approach. Moreover,

on average 59% of the banks have indicated that they have primarily been selling products with long-term capital commitment to their depositors.

Since the number of products on the market is likely to continue to decrease due to the stricter regulatory requirements, competition about these product and thus about prospective clients has been increasing. Consequently, interest rates on long-term deposits are likely to increase again which might pose a problem for banks' liquidity. In the opinion of the author of this paper, this increase is only going to happen if the European Central Bank changes its monetary policy and raises the prime rate to a reasonable level again.

Additionally, 58% of the surveyed banks think that long-term loans will become more expensive for their clients as fewer banks will offer such loans anymore. Moreover, intermediary activities where banks earn provisions instead of interest rates have become more important.

Furthermore, the survey illustrates that all kinds of banks in Germany, i.e. large banks, regional banks/private banks, savings banks and cooperative credit institutions, are affected by Basel III. Nonetheless, it has to be noted that the effects/impacts differ depending on the bank's business model. Hence, different institutions need to apply different strategies in order to survive on the market. For example, cooperative credit institutions are focusing much more on intermediary activities and commission income than savings banks. Also, 54% of the large banks (on average 49%) indicated that they would only offer their clients short-term credits in the future, whereas this is only planned by 36% of the cooperative credit institutions. Moreover, selling products with long-term capital commitment is regarded as necessary by 67% of private banks/regional banks and only by 54% of the surveyed large banks.

Another factor which has to be considered is the current low-interest-rate phase. Although banks would like to focus their activities much more on short-term loans and long-term deposits as a result of Basel III, the low interest rates imposed by the ECB

hinder these strategies. Although these aforementioned strategies are considered to be useful in order to cope with the Third Basel Accord, they cannot be applied at the moment. Specifically the fact that clients prefer short-term deposits due to low interest rates seems to be contradicting with the banks' desired strategies.

For Germany as part of the EU one can conclude that banks have actually revised their strategies and responded to Basel III by amending their business models. If such a reaction can also be observed in other European countries needs to be further investigated.

3.2 Reactions Regarding Selected Financial Aspects

This section discusses the impact of Basel III on exemplary financial aspects of banks' capital structure and their revenue-generating activities. Furthermore, focusing on capital requirements this section investigates how banks have reacted to the new rules financially. Especially, arguments criticizing the introduction of the rules and already mentioned means to cope with the new requirements will be further investigated and elaborated.

The most plausible responses in order to meet the stricter capital requirements are a combination of the following possibilities: (1) banks can simply issue new equity, (2) increase their retained earnings by, for example, raising the margins between borrowing and lending rates respectively or (3) reduce their RWA or assets in general by, for example, decreasing the size of their loan portfolios, focusing on less risky assets or by conducting an asset sale (cf. MAG 2010: 10).

Lending Rates and Loan Portfolio

One argument against Basel III has been that banks are going to increase their lending rates which is followed by a decreasing volume of loans provided on the market in order to make up for the higher cost of capital and the higher cost of financing. Various studies have analyzed the effect of an increase of the level of equity on the interest rate and lending rate respectively and are presented hereafter.

For US banks and with respect to the predicted increase of lending rates, Douglas Elliott found out that an increase of the Equity/Loan Ratio from 6% to 8% would increase the interest rate from 5.17% to 5.55%. An increase of the aforementioned ratio to 10% would lead to an interest rate increase to 5.94% (cf. Elliott 2009: 7). Additionally, Cosimano/Hakura found out that the new capital requirements, i.e. the required increase (according to Basel III) in the Equity-to-Asset Ratio, will lead to an increase of the largest 100 banks' lending rates by 16 basis points (bps) (cf. Cosimano/Hakura 2011: 5).

In 2013, Šútorová /Teplý found out that a positive and significant relationship between the loan rate and the Common Equity Tier 1 Ratio exists for European banks. Moreover, increasing the Tier 1 Ratio by one percentage point increases the interest rate by 3.8 bps. Another finding is that the "reaction of lending rates to an increase in the Total Capital Ratio is significant, but is the lowest value of all the ratios […]." (Šútorová /Teplý 2013: 237) They state that these results indicate that cost and quality of capital are closely connected to each other. The higher the quality of capital (Common Equity Tier 1 Ratio (18.8 bps) in comparison to Tier 1 Ratio (3.8 bps) or Total Capital Ratio (2.9 bps)), the higher the cost of capital and thus the lending rates (cf. ibid.).[1]

Furthermore, the argument related to the predicted decrease of the loan volume could be confirmed for the EU. The "increase in the Equity-to-Asset Ratio required by Basel III is predicted to reduce loans for the 100 largest banks by 1.3 percent in the long run." (Cosimano/Hakura 2011: 6) Two years later, Šútorová /Teplý confirmed these aforementioned prediction: when increasing a bank's lending rate, a moderate drop in the demand for loans can be observed. This demand for loans is negatively inelastic to the lending rate (cf. Šútorová /Teplý 2013: 239).[2]

[1] Further studies support these results. Examples are the Long-Term Economic Impact Group (2010) and Roger/Vlcek (2011).
[2] Elliot (2009) observed the same effect in the US banking sector.

Šútorová / Teplý also assessed the overall impact of the stricter capital requirements on the European market. They predicted in 2013 that as soon as all the banks have fully implemented the new Basel III rules (by no later than 2019), the loan rate/lending rate will on average have increased by 54.945 bps (cf. ibid: 240). This increase will lead - due to the inelasticity of demand for loans - to a decrease of the level of provided loans of about 2% (cf. ibid.). Since this effect is going to find complete expression over the next years until 2019, the predicted effects will be rather small and the impact on the economy will be negligible (cf. ibid.). Nonetheless, although being unsubstantial, the change in the lending rate "could create significant incentives for regulatory arbitrage and a shift away from traditional banking activity to the shadow-banking sector." (Cosimano/Hakura 2011: 6)

Reduction of Assets

This paragraph discusses the threat of fulfilling the stricter requirements by just reducing a bank's asset value (see section 2.5). The question to be answered is if banks have reacted to Basel III by reducing their RWA or assets in general. The latter one would be indicated by a shrunken balance sheet. If so, it would mean that managers' risk-taking incentives are reduced due to stricter capital requirements and/or that an asset sale has been used to fulfill the stricter financial requirements.

The general view on the risk-capital relationship is diverging. Some studies have found a positive relationship[3] between capital changes and changes in asset risk whereas other studies have proved the opposite.[4] It has to be noted though that the investigation periods of the mentioned studies were not affected by Basel III.

Investigating this relationship under Basel III, a negative relationship could be observed (cf. Šútorová 2012: 61). To be more precise, a higher level of capital required to be held by banks is followed by a reduction of risky assets relative to total assets.

[3] Examples for studies having found a positive relationship are Jokipii/Milne (2011) and Teplý/Matejasak/Cernohorsky (2009) (for Europe).
[4] Examples for studies having found a negative relationship are Zhang/Wu/Liu (2008) and Heid/Porath/Stolz (2004) (for Europe).

This facilitates the fulfillment of the Basel III requirements. Furthermore, the IMF reported an accumulated decrease in the value of the balance sheets of large EU-based banks of EUR 2.5 trillion (cf. IMF 2013: 45). "About 40 percent of the reduction by the banks in the EU as a whole was through a cutback in loans, with the remainder through scaling back noncore exposures and sales of some parts of their businesses." (ibid.) Additionally, the IMF showed that banks have reduced their RWA by "reducing capital-intensive businesses, holding greater proportion of assets with lower risk weights […] and optimizing risk-weight models." (ibid)

Consequently, it can be observed that banks have reacted to Basel III, at least in the EU, by shrinking their balance sheets in order to fulfill the requirements which could also impede their lending activity and economic growth.

Profitability

Another argument mentioned under section 2.5 is that higher capital requirements under Basel III might lower banks' profitability. In general, some studies have also confirmed this predicted relationship. For example, Goddard/Molyneux/Wilson reported this negative relationship between capital ratios and profitability ratios for European banks in 2004 but, of course, without reference to Basel III (cf. Goddard/Molyneux/Wilson 2004).[5]

Contrarily, various empirical studies have even observed a positive relationship between a bank's capital ratio and its profitability. Possible presented reasons for the existence of this relationship are the fact that these banks might have access to cheaper sources of funds (cf. Bourke 1989: 76) or that higher capital levels represent a bigger portion of retained earnings due to a higher profitability (cf. Berger 1995: 21-22).[6]

[5] Another study reporting the same effect is Ngo (2008) for US banks.
[6] Further examples of studies which have found a positive relationship and have focused on Europe include e.g. Athanasoglou/Delis/Staikouras 2006, Pasiouras/Kosmidoua 2007.

Consequently, it needed to be investigated whether the prediction holds true under Basel III which Šútorová did in 2012. She studied a sample of almost 600 banks during the time period 2006-2011. Using the Return on Average Assets (ROAA) as a profitability measure, she confirmed the predicted negative relationship. Similar to the case of lending rates, the Common Equity Tier 1 Ratio had the greatest effect on banks' profitability whereas the effects of the Total Capital Ratio and the Tier 1 Ratio on banks' profitability were smaller. Consequently, the "capital of higher quality enhances the degree of the negative relationship between capital and profitability." (Šútorová 2012: 58) A possible reason for the aforementioned findings is that equity capital is more expensive and thus income and profitability are lowered due to higher financing costs. Another reason could be the fact that banks have lowered the volume of provided loans.

To conclude and to connect the aspect of lending rates and profitability, Šútorová states that "an increase in the interest rates […] will not be big enough (in spite of inelastic demand) to keep the level of profitability of European banks at least stable." (Šútorová 2012: 59) Consequently, a higher increase of the interest rate would be necessary to achieve the desired level of profitability. As mentioned before, ECB's monetary policy is not helping banks to achieve these goals at the moment. The weak profitability of European banks makes it even harder for them to raise their capitalization with the help of retained earnings (cf. IMF 2013: 44). A projection shows that some institutions will not be able to meet the requirements through the accumulation of retained earnings but have to reduce their balance-sheets, RWAs or have to raise capital eventually (cf. ibid: 45).

Reduction of Banks' Market Value

Another argument which needs to be discussed deals with the fear of a declining market value due to the negative investor perception of regulatory reforms and of a possible equity issuance on the market. Although this aspect is not a reaction actively manageable by a bank, it still illustrates the impact of Basel III. Furthermore, it shows whether

the fear and reactions of bank managers regarding a possible necessary equity issuance is justified.

Although according to the Modigliani-Miller-theorem, "the market value of any firm is independent of its capital structure," (Modigliani/Miller 1958: 268) the main findings of a study published in 2014 are that investors consider higher capital ratios as negative although they actually indicate a lower risk of their investment. It could be observed that "the level of profitability that is decreased by keeping more capital is a cardinal decision factor […] [for investors] and significantly positively influences the value of a bank." (Šútorová /Teplý 2014: 155) This effect could be observed for all components of a bank's capital. For example, it was proved that increasing the Common Equity Tier 1 Ratio by one percentage point leads to a market capitalization decrease of 13.3% (cf. ibid: 158).[7]

Another study came to the same results and showed that the shareholders of European banks have experienced a loss in wealth due to the introduction of new liquidity standards as a part of Basel III (cf. Bruno/Onali/Schaeck 2014: 7). The results indicate that investors "seek regulation that increases security prices, and they avoid regulation which decreases security prices." (ibid: 5) Interestingly, Bruno/Onali/Schaeck found out that geographical location also matters and that the magnitude of the reaction was stronger in Germany than in countries with a distressed economy, i.e. Greece, Ireland, Portugal, Italy and Spain (cf. ibid: 7). Furthermore, they observed that shareholders of banks with a higher liquidity ratio experienced a smaller loss in wealth and that shareholders of banks with a lower Tier 1 Capital Ratio reacted not as negatively as their counterparts, i.e. shareholders of banks with a higher Tier 1 Capital Ratio (cf. ibid).

To conclude, one can state that managers' behavior regarding (1) the avoidance of an equity issuance to fulfill the stricter capital requirements and (2) the fear that new regulatory reforms will decrease banks' market capitalization seems to be justifiable.

[7] Furthermore, increasing the Tier 1 Ratio as well as the Total Capital Ratio by 1% leads to a decrease of market capitalization by 3.7% and 4.5% respectively.

4 Conclusion

Some researchers think that "Basel III regulation is not sufficient and will not prevent financial markets from future crises due to its expected calibration, delayed implementation and strong pressure from the bank lobbyists." (Šútorová /Teplý 2014: 157)

It can be observed that banks have reacted to the introduction of the new Basel III requirements in various ways: many of the institutions affected by the new regulatory reforms have already overthought their business models and have adapted them to cope with the new challenges or are at least planning to do so. Additionally, many banks have increased or are at least planning to increase their lending rates as well as to decrease their volume of provided loans. In order to fulfill the capital requirements, a shrinkage of banks' balance sheets and a reduction of RWA can be observed. This indicates, on the one hand, that banks have become more risk-averse. On the other hand, it could also mean that they are artificially trying to fulfill the new capital requirements since a pre-crisis level of profitability cannot be maintained. Hence, their means to use retained earnings to fulfill the requirements are limited.

Although Basel III has improved the security and credibility of the banking sector, in the author's opinion these new rules will not be enough to prevent a possible future crisis. The rules had been developed too quickly and some of the flaws of Basel II have not been improved by the new reforms. Most of the arguments criticizing Basel III are justified.

Nonetheless, if policy makers continue to improve the already existing reforms, the trustworthiness of the banking sector will be restored. Furthermore, the outbreak of a possible future financial crisis will be hindered or at least the related impact on the real economy mitigated.

Bibliography

Accenture (ed.) 2011: *Basel III and Its Consequences. Confronting a New Regulatory Environment*. 2011.

Accenture (ed.) 2012: *Basel III Handbook*. 2012.

Admati, A. et al. 2011: *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive*. Rock Center for Corporate Governance at Stanford University Working Paper No. 86.

Angelini, P./Gerali, A. 2012: *Banks' reactions to Basel-III.* Termi di discussion Number 876 – July 2012. Banka D'Italia.

Asquith, P./Mullins, D. 1986: *Equity Issues and Offering Dilution*. Journal of Financial Economics, Volume 15, 61-89.

Athanasoglou, P./Delis, M./Staikouras, C. 2006: *Determinants of Bank Profitability in the South Eastern European Region.* Munich Personal RePEc Archive No. 10274.

Bank of England (ed.) 2013: *Capital Requirements Directive IV*, URL: http://www.bankofengland.co.uk/pra/Pages/crdiv/default.aspx, accessed on 22 April 2015.

BCBS (ed.) 2011a: *Basel III: A global regulatory framework for more resilient banks and banking systems*. Basel 2011.

BCBS (ed.) 2011b: *Summary Table.* URL: http://www.bis.org/bcbs/basel3/b3summarytable.pdf, accessed on 19 April 2015.

BCBS (ed.) 2014: *Implementation of Basel standards – A report to G20 Leaders on implementation of the Basel III regulatory reforms.* Basel 2014.

Berger, A. 1995: *The Relationship Between Capital and Earnings in Banking.* The Wharton Financial Institutions Center, Working Paper 94-17.

Bourke, P. 1989: *Concentration and other determinants of bank profitability in Europe, North America and Australia*. Journal of Banking & Finance, Volume 13 (Issue 1), 65-79.

Bruno, B./Onali, E./Schaeck, K. 2014: *Market reaction to bank liquidity regulation.* Milan 2014.

Cosimano, T./Hakura, D. 2011: *Bank Behavior in Response to Basel III: A Cross-Country Analysis*. IMF Working Paper 11/119, International Monetary Fund.

Demirguc-Kunt, A/Detragiache, E./Merrouche, Q. 2010: *Bank Capital: Lessons from the Financial Crisis*. IMF Working Paper 10/286, International Monetary Fund.

Elliott, D. 2009: *Quantifying the Effects on Lending of Increased Capital Requirements.* The Brookings Institution, 2009.

EU Commission (ed.) 2013: *Capital Requirements – CRD IV/CRR – Frequently Asked Questions*, URL: http://europa.eu/rapid/press-release_MEMO-13-690_en.htm?locale=en, accessed on 22 April 2015.

Fama, E. 2012: *An Experienced View on Markets and Investing*, Chicago 2012.

Goddard, J./Molyneux, P./Wilson, J. 2004: *Dynamics of Growth and Profitability in Banking*. Journal of Money, Credit and Banking, Volume 36 (Issue 6), 1069-1090.

Greenspan, A. 2011: *Regulators must risk more, intervene less*. URL: http://parasadenwala.blogspot.com/2011/07/alan-greenspan-regulators-must-risk.html, accessed on 23 April 2015.

Härle, P. et al. 2010: *Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation*. McKinsey Working Paper on Risk, Number 26, November 2010.jio

Heid, F./Porath, D./Stolz, S. 2004: *Does capital regulation matter for bank behaviour? Evidence for German savings banks*. Discussion Paper, Series 2: Banking and Financial Supervision, Deutsche Bundesbank.

Horváth, R./Seidler, J./Weill, L. 2012: *Banks' Capital and Liquidity Creation: Granger Causality Evidence*. Journal of Financial Services Research, Volume 45 (Issue 3), 341-361.

IMF (ed.) 2013: *Global Financial Stability Report: Transition Challenges to Stability*. World Economic and Financial Surveys, October 2013.

Jenkins, P./Masters, B./Barker, A. 2011: *EU banks could shrink to hit capital rules*. URL: http://www.ft.com/cms/s/f2e62f82-f4f2-11e0-9023-00144feab49a,Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2Ff2e62f82-f4f2-11e0-9023-00144feab49a.html%3Fsiteedition%3Duk&siteedition=uk&_i_referer=#axzz3Y3wpI5O8, accessed on 24 April 2014.

Jokipii, T./Milne, A. 2011: *Bank capital buffer and risk adjustment decisions*. Journal of Financial Stability, Volume 7 (Issue 3), 165–178.

Lessenich, P. 2013: *Basel III: Die neuen Eigenkapital- und Liquiditätsregeln für Banken*, Hamburg 2013.

Long-Term Economic Impact Group (ed.) 2010: *An assessment of the long-term economic impact of stronger capital and liquidity requirements*. Bank for International Settlements, 2010.

MAG (ed.) 2010: *Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements*. Interim Report, Bank for International Settlement, August 2010.

Mehran, H./Thakor, A. 2009: *Bank Capital and Value in the Cross Section*. Staff Report No. 390, Federal Reserve Bank of New York.

Miller, M. 1995: *Do the M&M propositions apply to banks?* Journal of Banking & Finance, Volume 19 (Issue 3-4), 483-489.

Pasiouras, F./Kosmidoua, K. 2007: *Factors influencing the profitability of domestic and foreign commercial banks in the European Union*. Research in International Business and Finance, Volume 21 (Issue 2), 222–237.

Reuters (ed.) (2010): *Reaction to Basel III rules for banks*. URL: http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/7999913/Reaction-to-Basel-III-rules-for-banks.html, accessed on 20 April 2015.

Roger, S./Vlcek, J. 2011: *Macroeconomic Costs of Higher Bank Capital and Liquidity Requirements*. IMF Working Paper 11/103, International Monetary Fund.

Šútorová/Teplý 2013: *The Impact of Basel III on Lending Rates of EU banks*. Czech Journal of Economics and Finance, Volume 63 (Issue 3), 226-243.

Šútorová, B./Teplý, P. 2014: *The Level of Capital and the Value of EU Banks under Basel III*. Prague Economics Papers 2/2014.

Šútorová, B. 2012: *The Impact of Basel III on European Banks*. Master's thesis, Institute of Economic Studies, Faculty of Social Sciences, Charles University Prague.

Teply, P./Matejasak, M./Cernohorsky, J. 2009: *The Impact of regulation of banks in the US and the EU-15 countries*. E+M Ekonomie a Management (Issue 3), 58-68.

The Economist (ed.) 2010: *Third time's the charm*. URL: http://www.economist.com/blogs/freeexchange/2010/09/basel_iii, accessed on 23 April 2015.

Zhang, Z./Wu, J./Liu, Q. 2008: *Impacts of Capital Adequacy Regulation on Risk-taking Behaviors of Banking*. Systems Engineering – Theory & Practice, Volume 28 (Issue 8), 183–189.

Zimpel, R. 2014: *Geschäftsmodelle unter dem Einfluss von Basel III*. Die Bank, Volume 20 (Issue 04), 70-73.