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Basel III

- What is Basel III, why do we need it and what will the consequences be?

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Abstract

The magnitude of the financial crisis in 2008 can be compared to the financial downturn and the great depression in the 1930's. Even though we are currently in a situation where we are recovering from this crisis it is most likely that we will experience a financial crisis again. Basel III is constructed in order to ensure that the impact of future crises not becomes as severe as the previous one. Will the Basel III accord manage to do this? In this paper the Basel III framework will be presented and its impacts be analysed, focusing on the Swedish financial system. We will also provide the reader insights from Länsförsäkringar Bank on how they apprehend on the Basel III accord.

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1 Introduction

1.1 Purpose

The purpose of this paper is to present the Basel III framework. We will also provide an answer to what factors forced the decision makers to create such a system and how the system is constituted. We will explain what the consequences will be for the Swedish banking industry, using the FIR report by Jaffee and Walden.

From improving the stability of the financial sector, which is the main objective of Basel III, the implementation will consequently lead to changes in the banks constitution of assets, capital and liquidity. We will see if these changes substantially will affect the costs for Swedish banks and how these changes will affect Sweden's GDP, both in the transitional period and in medium-long run.

As an example on this matter we will provide insights from Länsförsäkringar Bank. We find this bank especially interesting since it, in comparison with the other - larger - business banks in Sweden, is relatively young. As for many other banks, its future depends much on access to funding and capital.

1.2 Delimitations

Along with the implementation of the Basel III regulations there is an ongoing parallel adoption of the Solvency II directive. Solvency II is a framework created by the EU member states aiming to unite and harmonize the EU insurance market in order to increase customer protection. Since the banking industry and insurance sector often co-operates, and especially in our case of Länsförsäkringar Bank which alone operates in both areas, the Solvency II directive will most likely make a significant impact. However, due to the scope of this paper and the complexity of the Basel frameworks we choose not to include the Solvency II directive in our study, and choose instead to focus on the Basel frameworks and its outcomes. Further, the Basel III framework is supposed to affect all of the member countries banking systems. Although, we will limit this paper to examine the effects only in the Swedish bank system. Finally, when describing the financial crisis of 2008, this cannot be done without having a global perspective.

1.3 Sources and method

The literature used in this paper is primarily reports and documents published by international and national economic organizations such as the Bank of International Settlements (BIS), the International Monetary Fund (IMF) and the Swedish Financial Markets Roundtable, along with articles from private consultancy bureaus and economic journals. In the section intended for Länsförsäkringar Bank we will render information obtained from Länsförsäkringar Bank on how they apprehend Basel III through an interview with credit manager.

1.4 Structure of the paper

In order to do give answers to the question stated in the purpose section we will begin by presenting a short retrospect on the financial crisis in the 1930's and the Banking Act of 1933, which serves as a predecessor to the modern regulations on banking. Then we will describe the concepts of capital and liquidity in banking since these are essential concepts in this paper, followed by a presentation of the Basel Committee of Banking Supervision (BCBS) and the previous frameworks of Basel I and Basel II. We will then continue to describe the financial crisis of 2008. We will explain what factors caused this state of the world economy and in what way the constitution of the financial system ultimately led to this crisis. This section will also cover the phenomena of shadow banking, which along with the earlier regulations failed to manage a sound approach regarding lending and borrowing in banks and financial institutions, which in turn led to the crisis in 2008. Noticeable is that the shadow banking system mostly has afflicted the financial systems in the US, Great Britain and France, while Sweden has managed to evade this development. Still, as the shadow banking system in part caused the financial crisis which then reached the Swedish economy, we stress that this information is necessary to provide.

Considering the above we will then map out the intended objectives of Basel III regulation, conducted by the G20 members in 2009. We will describe the main purposes, time table and the actual framework of Basel III. We will also provide information on the major areas of disagreement. As much of the literature we will address the following changes and specify how they will impact the banking system; increased quality of capital, increased quantity of capital, reduced leverage through introduction of backstop leverage ratio, increase in short-term liquidity coverage, increased stable long-term balance sheet funding and strengthened risk capture. In this section we will also provide insights on the Basel III framework from

Länsförsäkringar Bank, which will serve as an illustrative example on how one of the Swedish banks agrees to the regulation. Finally, before the paper's conclusion we will provide a summary of the debated critique against the Basel III accord.

2 Background

2.1 The Great Depression and the Banking Act of 1933

Studies performed on the great depression shows on, and focus on, a multitude of sources for the immense downturn in U.S. economy in the 1930's, such as decreased consumer demand, financial panics and default in acting from the U.S. government. However, due to the topic of this paper we will only briefly elucidate the most debated causes for the crisis, and rather focus on the correlation of the U.S. banking system and the crisis.

One debated contributive factor to the crisis is the stock market crash in 1929. In the fall of 1929 stock prices had reached levels that were not realistic in terms of future earnings. The concern of an upcoming stock market bubble, and in order to lower the stock market prices the U.S. government chose to increase the interest rates. This caused the aggregated spending in construction and automobile industry to decrease, and which soon had spread to affect the overall production in the country. The consequences of falling prices and the decreasing confidence among investors were the panic selling on *Black Thursday*, October 24 in 1929, where stock prices fell by 33 % from the peak in September the very same year.

The panic among investors was soon transferred into bank panic occurring in the commercial banking system which experienced the first of a number of bank runs in the fall of 1930, forcing the commercial banks to liquidate loans and other credits in order to raise the required cash. Bank runs occurred during 1930 through 1932, and as a result President Franklin D. Roosevelt declared *bank holiday* on March 6 in 1933 which closed all banks and allowed them to re-open first after being audited and valued solvent by government representatives. The banking climate in U.S. at the time was dominated by small undiversified banks due to government regulatory and fear of larger banks and trusts. Studies show that this climate contributed to the possibility that these bank runs occurred and was spread.

As the currency-to-deposit ratio increased among U.S. citizens, it followed that the money supply decreased by 30 % between 1929 and 1933 (Bernanke, 1983). The decreasing money supply affected aggregated spending negatively and the market response was declining expectations in prices and wages that led to a decrease in willingness to borrow money even though nominal interest rates were low. The fact that a large number of banks went bankrupt also contributed to lower rates in borrowing due to decreasing levels of capital available for finance investment.

The *gold standard* not only contributed to the magnitude of the crisis but also allowed it to spread to the rest of the world. The gold standard created international gold flows due to imbalances in trade or asset flows and once then U.S. economy seemed to improve large gold inflows to U.S. followed due to the deflation which made U.S. goods attractive to foreign countries. At the same time the American citizens decreased their demand for foreign goods and services due to decreasing income levels. This combination led to a large trade surplus for the U.S, and in turn forced central banks around the world to increase their interest rates in order to stem the gold outflows. Inevitable, this fact caused a massive decline in output and prices throughout the world.

Hence, the combination of large withdrawals of deposits, insolvent debtors, illiquidity of assets, declining asset prices which caused the loan default rate to increase and the Fed's reluctance to act properly along with a massive decline in expectations for tomorrow's economy explains how the crisis were able to emerge. Regarding the U.S banks, one third of them had ceased to exist in 1933.

As for sources of recovery one can deduce the currency devaluation by exit from the gold standard and monetary expansion. There is an obvious correlation between one country's currency devaluation, which allowed the country to increase the money supply without concerns about their exchange rate, and increase in aggregated output. The increase in money supply throughout the world led to decreasing interest rates which in turn led to increasing demand for credit and higher expectations on prices and wages in the future (Bernanke, 1983).

The Banking Act of 1933

The Banking Act of 1933 which was established in the aftermath of the Great Depression implied various banking reforms and inauguration of a number of regulative institutions, aiming to stabilize the U.S. banking industry and to avoid similar crisis in the future. According to Preston (1933) the main features of this act were the following;

- *The separation of investment and commercial banking.*
- *Restrictions upon the use of bank credit for speculation.*
- *Limitations upon private banking.*
- *Deposit insurance was introduced.*
- *Minimum capital requirements for new national banks.*
- *Legislation upon branch banking.*
- *Removal of bank officers or directors.*

In the aftermath of World War II the financial system was once again threatened. This was one of the reasons that caused the world's leaders to agree on the Bretton Woods system which included the establishment of the International Bank for Reconstruction and Development, which was later grouped into the World Bank (WB), Bank for International Settlements (BIS), and the International Monetary Fund (IMF). The implementation of these institutions combined with the main features in the Banking Act of 1933, is viewed as the predecessor of our modern financial system and its regulation.

2.2 What is capital in banking?

Before we begin presenting the Basel frameworks it is necessary to define the concepts of both *capital* and *liquidity* in banking since these concepts are central in our study. The word capital, in banking, is often misunderstood or misinterpreted. The correct definition of capital in banking is simply the amount of funds the bank has received from owners or shareholders, along with any profit the bank has made, which is summarized to *equity*, and not to be seen as a bank reserve or as a *rainy day* reserve. Capital can also be referred to as *unborrowed money*, since it is acquired without any binding on making payments in the future. The opposite to unborrowed money would be *borrowed money*, which is represented by the deposits performed by the banks customer, and where the bank is obliged to make payments to the customers at any given time (Admati & Hellwig, 2013). When banks make their investments,

e.g. issue loans, they are able to use both *unborrowed* and *borrowed* money, and the capital requirements that is introduced later on in this paper just tells how large share of the funds should come from *unborrowed money* in order to absorb losses if the loan turns out faulty (Elliot, 2010). Further, the concept of *capital* should not be mistaken for *cash reserve*. While capital is not an asset, cash reserve is, in form of *vault cash* or a *reserve balance* at the central bank, and banks are required to hold a specific amount of cash reserve in order to cover customer withdrawals. Cash reserves cannot be used for investments. Apart from stabilizing the banking system, the capital requirements can also be used to decide the banks safety and soundness compared to other banks.

2.3 What is liquidity in banking?

In the Basel III framework that currently is being implemented, *liquidity* is a key factor. A general definition states that liquidity is the ability to convert assets into cash by selling them. In banking the liquidity refers to the ability to fund the banks contractual commitments on regular basis, i.e. lending and investment obligations, and to fund liabilities that has reached their due date as well as deposit withdrawals. When measuring the liquidity of a bank one should consider its obligations relative to its funding sources. A bank that holds highly liquid assets with short maturities is considered quite liquid because it is able to convert the assets into cash on short notice to cover losses, so is a bank with less liquid assets if its funding sources are of the long maturity type. However, banks with less liquid assets that are funded through short maturity sources, e.g. deposits or short-term debt, faces big risk if it were to experience a bank run.

2.4 Basel Committee on Banking Supervision

As a result of the collapse of the German-based Bank Herstatt in 1974 a group of ten nations decided to form BCBS which mandate is “...to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.” (BCBS, 2013). Today BCBS consists of Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States which each were represented in the committee by its central-bank governor. The member nations are invited to quarterly based meetings to discuss the status and propose regulatory changes to the international banking system. However, the committee does not hold any formal authority, and its

proposals do not have, and have never intended to have, any legal force. Instead the goal is to formulate supervisory guidelines and to encourage synchronization towards common standards for the member states by exchange information on the development in the banking sector, address regulatory and supervisory gaps that hold risk to financial stability, sharing supervisory issues and techniques, and monitor the implementation of the standards carried out by the committee. Thus, it is up to each member state to implement and interpret these recommendations (BIS, 2013b).

2.5 Basel I

Due to the banking crisis in the early 1980's that followed from the collapse of the petrodollar boom, and due to the fact that internationally active banks were able to avoid regulatory authorities by relocate to countries with more loose regulations, the Basel Committee member states started outline a common banking capitalization standard in order to stabilize and supervise banking activities. In 1988, after six years work, the *International Convergence of Capital Measurements and Capital Standards*, now known as Basel I, came to power.

The standards were constructed in such way to fit and to be implemented only within the member states, which all were viewed as developed states with relative sound economies, and therefore not optimal for emerging markets due to specific risks and regulatory problems in these states. Further, the framework was created to provide adequate capital in order to protect the bank only from risks in their own loan book positions' credit rating. It was not constructed to guard against external risks related to changes in the state currency or interest rate, nor against other macro economic problems. Instead the Basel Committee suggested that each member state should construct their own sub-framework to better fit these types of issues which often differed from state to state. As the name suggest the focus on this reform is on capital measurements and standards. It is divided into four pillars; *Minimum Capital Requirements*, *Risk Weighting*, *A Target Standard Ratio* and *Transitional and Implement Agreements*.

The first pillar, *Minimum Capital Requirements*, states what kind of capital that should be included in the bank's reserves and how much of each type the bank is required to hold. These types of capital are divided into two tiers. The first tier, *Tier 1 capital* or *core capital*, includes capital arising from sales of stock and preferred shares (bank equity), and cash reserves. The second tier, *Tier 2 capital* or *supplementary capital*, includes several types of capital such as

holdings of subordinated debt, reserves meant to cover potential loan losses, hybrid debt/equity instrument holdings and potential gains from future sales of assets. The Basel I require the bank to hold equal amount of tier 1 and 2 capital.

The second pillar, *Risk Weighting*, regulates the risk-weighting of the bank's asset, i.e. loan book and is divided into of five sub-groups that cover all assets in the balance sheet. The first one weights assets at 0 % of the assets value, or as "riskless", and includes cash hold by bank, sovereign debt hold and funded in domestic currency and debt and other claims on OECD central governments. The second sub-group is weighted at 20 %, i.e. "low risk" assets, and covers assets such as multilateral development bank debt, bank debt produced by OECD banks and non-OECD bank debt with maturity of less than 12 months. The third category is the "moderate risk" assets and includes only residential mortgages, weighted at 50 %. The fourth is thus the "high risk", weighted at 100 %, covers assets such as claims on the private sector, non-OECD bank debt with maturity of more than 12 months and equity assets appertained to the bank. The last category is the "variable" one and covers assets from the internal public sector, and depending on the central bank these assets can be weighted at 0 %, 10 %, 20 % or 50 %.

The third pillar, *A Target Standard Ratio*, defines the minimum requirements needed to protect banks in the member states from credit risk and combines the first and second pillar. It states that 8 % of the bank's risk-weighted assets are to be covered by tier 1 and tier 2 capital reserves. Further, tier 1 capital must cover 4 % of the bank's risk-weighted assets.

The last pillar called *Transitional and Implementing Agreements* defines the stages in which each member state's central bank is requested to implement strategies in order to supervise and control so that the Basel I accords are being fulfilled.

The BCBS member states succeeded in implementing the accord during the 4 years period that was planned, except from Japan that was suffering from a financial downturn in the late 1980's and was given 4 more years to complete the implementation. So, in 1992 and 1996 respectively, all BCBS member states fulfilled the requirements stated in Basel I.

However, criticism were raised to this first accord, focusing on the limitations to credit risk and the fact that only the G-10 states were included to implement the accord. Further criticism was aimed at the banking authority's inability to translate and expound the accord, aside the

wish to implement it quickly which caused the regulators to over-generalize the accord. Due to the width of risk weighing, banks were able to elude part of the standards given by the accord. For example, as the long-term non-OECD debt is weighted at 100 % and the short-term non-OECD debt is weighted at only 20 %, there was an incentive to swap long-term holdings into a series of short-term holdings. This resulted in, on the paper, a low risk profile while in fact the bank faced the same real risk from default in unstable emerging markets.

2.6 Basel II

Due to the occurring banking crisis in the 1990's and the above criticism on the first accord, the Basel Committee in 1999 decided to revise the Base I standards. This new accord, officially named *A Revised Framework on International Convergence of Capital Measurements and Capital Standards* and unofficially known as Basel II, maintained the most of the contents in Basel I but gave the framework more depth and coverage to better deal with the risk banks were exposed to and to become accustomed with securitization¹ of bank assets.

Pillar 1

The first pillar, as before known as *Minimum Capital Requirements*, created a more sensitive measurement in risk weighting in order to eliminate the possibility to bypass the minimum capital requirements stated in Basel I. This revised accord now included regulation on assets hold by subsidiaries to international active banks, and thus abolished the incentive for banks to hide capital in order to indicate less risk taking then the bank really takes, and to measure the financial status of the entire business including subsidiaries.

In addition, two alternative approaches were introduced in order to weigh the credit risks, and Basel II allowed banks to choose one of the two when calculating their capital requirements. The first one, called *The Standardized Approach*, implied that the credit risk were measured in a standardized manner affirmed by market based and authorized rating agencies². These measurements now run, for claims on sovereigns, from AAA to AA- (weighted at 0 %), to

¹ The process where the issuer is combining any type of financial assets and sells the new repackaged instrument in different tiers to investors.

² The committee uses the methodology affirmed by Standard & Poor, but do not express any preferences on this specific institution and states that measurements affirmed by any other authorized institution might as well be used.

below B-(weighted at 150 %). All unrated debts are weighted at 100 %. The below table summarizes assessments:

Claims on sovereigns and their central bank

| Credit Assessment | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|--------------------|---------------|-------------|-----------------|--------------|-------------|---------|
| Risk weight | 0 % | 20 % | 50 % | 100 % | 150 % | 100 % |

Source: BIS

For claims on banks there now exist two options which the national supervisors are able to choose one of and apply on all banks. The first option implies that all banks in a specific country will receive a risk weight one category less favorable the one received for claims on the sovereign of the specific country. The second option is to receive the risk weight affirmed by the external credit agency for the specific bank itself. This option also applies a risk weight one category more favorable to claims with a maturity of three months or less, but with a minimum of 20 % (BIS, 2006). The below tables summarize:

Claims on banks, option 1

| Credit Assessment of Sovereign | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|-----------------------------------|---------------|-------------|-----------------|--------------|-------------|---------|
| Risk weight | 20 % | 50 % | 100 % | 100 % | 150 % | 100 % |

Source: BIS

Claims on banks, option 2

| Credit Assessment of Banks | AAA to AA- | A+ to A- | BBB+ to BBB- | BB+ to B- | Below B- | Unrated |
|---|---------------|-------------|-----------------|--------------|-------------|---------|
| Risk weight under option 2 | 20 % | 50 % | 50 % | 100 % | 150 % | 50 % |
| Risk weight for short-term claims under option 2 | 20 % | 20 % | 20 % | 50 % | 150 % | 20 % |

Source: BIS

Further, claims on security firms, subject to regulatory, are treated the same way as banks. Claims on corporates, are managed as below:

Claims on corporates

| Credit Assessment | AAA to AA- | A+ to A- | BBB+ to BB- | Below BB- | Unrated |
|-------------------|---------------|-------------|----------------|--------------|---------|
| Risk weight | 20 % | 50 % | 100 % | 150 % | 100 % |

Source: BIS

The second approach, *the Internal Rating Based Approach (IRB)*, encourage banks to create their own risk weighting system, with help from regulators, by increase the required risk weighted reserves by 6 %if the bank chooses to apply the *Standardized Approach*. Only banks that have received approval from supervisory agencies are allowed to use their own internal risk weighting system. IRB is divided into two different methods, *Foundation IRB (FIRB)* and *Advanced IRB (AIRB)*. FIRB allows approved banks to create their own risk weighting system, but with probabilities of default set by external regulators. AIRB on the other hand allow banks themselves to set the specific probability of default for each category of assets. Due to complexity the AIRB approach is applicable only to the largest banks.

Basel II was also extended to measure the capital needed to protect banks from operational risk, which is defined “*as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events*” (BIS, 2006). There are three methods available and the committee encourages banks to move along these methods as they develop more refined operational risk measurement systems. The first, *the Basic Indicator Approach (BIA)*, simply states that a bank should hold capital equal to 15 % of its average gross income during the last three years.

The next method, called *the Standardized Approach*, splits the bank into business segments which all holds a specific percentage of profits needed in reserves. The percentage amount depends on the riskiness in the specific segment, where more risky segments are required to hold a higher percentage of profit than less risky ones. The table below shows the distribution set by the committee;

Operational risk – the Standardized Approach

| Business segment | % of profits needed in reserves |
|--------------------|---------------------------------|
| Corporate finance | 18 % |
| Sales & trading | 18 % |
| Retail banking | 12 % |
| Commercial banking | 15 % |
| Settlement | 18 % |
| Agency services | 15 % |
| Asset management | 12 % |
| Retail brokerage | 12 % |

Source: BIS

The last method used to protect banks from operational risk is called *the Advanced Measurement Approach* (AMA), and encourage banks to develop their own calculations in order to hold sufficient capital. Like the above mentioned IRB method this approach is used to incorporate self-surveillance and market discipline into the banking system and thus reduce the incitement for banks to elude the regulations (BIS, 2006).

Aside operational risk, banks are required hold sufficient capital in order to protect themselves from market risk, defined as “*the risk of losses in on and off-balance-sheet positions arising from movements in market prices.*” (BIS, 2006). The Basel II framework separates market risk arising from fixed incomes and market risk arising from equity, commodity and exchange in foreign currency. The market risk is then divided then interest rate risk and volatility risk. For fixed incomes a method called *value at risk* (VAR) can be used, and implies that banks are able to develop their own capital calculation methods in order to protect themselves from interest rate risk and volatility risk. This method goes in line with the above mentioned IRB approaches and the *Advanced Measurement Approach*, and is required to be approved by regulators. For banks that not are able to implement the VAR method, there are two other methods proposed in Basel II. The first regulates the risk weighting for fixed income assets. Further, for interest rate risk, banks are recommended to tie the required capital to the maturity of fixed income assets, as the below table;

Interest rate risk weightings

| Time to maturity | Risk weighting |
|------------------|----------------|
| 1 month or less | 0.00 % |
| 6 month or less | 0.70 % |
| 1 year or less | 1.25 % |
| 4 year or less | 2.25 % |
| 8 year or less | 3.75 % |
| 16 year or less | 5.25 % |
| 20 year or less | 7.50 % |
| Over 20 years | 12.50 % |

Source: BIS

For risk associated to volatility in fixed income assets the risk weighting is affiliated to the risk rating in underlying banks assets, and ranges from 0 % for AAA to AA-, to 12 % for below B-, while unrated assets are given an 8 % risk weighting.

The other method regulates the risk weighting measurement for other assets than fixed income, e.g. equity, commodities, foreign currency and hybrid instruments. In order to rate these kinds of assets banks are able to use three different approaches. *The Simplified Approach* rates the bank's asset by looking into the nature of the asset, maturity, volatility and origin and which risk weighting ranges from 2.25 % to 100 %. *The Scenario Analysis* allocates risk weights depending on possible scenarios the specific asset may encounter in its market. This approach is more complex than the earlier mentioned *Simplified Approach*, but on the other hand it can be more profitable for banks. The third approach, *Internal Model Approach* (IMA), goes in line with VAR and IRB and encourages banks to create their own market risk calculation model.

Pillar 2

The second pillar, *Supervisory Review Process*, strengthen the position of the regulators and increase the regulator – bank interaction. The position of the regulators are strengthened by giving them authority to look into banks internal risk calculation methods and, if necessary, change them to more conservative, standardized approaches. The regulators mandate to penalize is also increased in Basel II, e.g. when banks fail to report their risk calculation management. If the regulator suspects the bank to bypass the capital requirements it is also allowed to claim that the bank creates an additional buffer capital. The last change in the

supervisory process aims to avoid severe crisis by giving regulators mandate to stipulate action much earlier than before if the capital reserves fall below minimum requirements.

Pillar 3

The third pillar, *Market Discipline*, suggest banks to publish their capital and risk-taking positions so that it is available to the general public instead of just the regulators as before. Recommended positions is, e.g. the aggregated amount of both Tier 1 and Tier 2 capital, reserve requirements for credit, both operational and market risk, risk-weighted capital adequacy ratios. The committee's aim with this is to increase the shareholders influence on banks in such way that if a bank takes on too much risk relative their reserves shareholders will penalize it.

3 The way to Basel III

3.1 The financial crisis of 2007-2008

Before we analyze the Basel III accord and all that comes along with this, it is necessary to get a quick review of the crisis of 2007-2008, which clearly showed the regulators and the financial industry that weaknesses existed in the system. We know that the financial crisis of 2007-2008 is not an uncomplicated issue. Due to limitations of this paper it is impossible to include all of the intricate situations and problems that caused the crisis, but we will aim to provide information on the key issues for the crisis in order to clarify the origin of the Basel III accord.

In the years that lead up to the financial crisis the markets were characterized by economic growth and large credit expansion. Even though the Basel II accord existed it could not prevent the crisis. One main problem of the Basel II was that it allowed banks and other financial organizations to get around the framework by using shadow banking. This initially created high yields for the banks but was also leading to a greater interconnection between parties on the financial markets.

The origin of the financial crisis of 2007-2008 can be derived back to the situation that existed in the US financial market. There was an optimism regarding the housing prices which later were leading up to the crash on the housing market. This optimistic view on the housing market was combined with the subprime-loans that were performed by the investment banks in combination with the institutions Freddie Mac and Fannie Mae. But in 2006 the US market

experienced an economic downturn that resulted in a lowered employment rate, falls in housing prices and salaries that did not increase as predicted. These factors caused the home loan market to collapse and this spread on to other financial markets, sectors and nations. Since the subprime loans were given by the investment banks to individuals that not had been able to obtain mortgages and other credits without these form of loans, the investment banks was facing massive credit losses. The confidence towards these investment banks and the Shadow banking system that they were operating through was now badly damaged. The *money mutual funds* (MMF) and the repo funds that were used as funding in these situations collapsed, which in turn lead to a bank panic in the shadow banking system. This was followed by a situation where the trade for bonds and derivatives stopped.

Since the Shadow banking system is dependent on repo-loans and in order to obtain these fundings the entities inside the system had to emit bonds as securities. These bonds were too small in order to cover the obligations that the investment banks had towards its lenders. With a shortage of high quality collaterals the system did not obtain more funding. In order to cover their positions the investment banks had to sell of stocks in order to obtain cash. FED was lending out liquidity that stopped the crisis but the financial markets are still suffering from the real effects. Compared with the crisis in the 1930's which can be seen as a crisis where there was a flight to currency, the crisis in 2007-2008 can be seen as a crisis where there was a flight to quality, such as liquidity, government bonds and cash.

Basel II did not manage to regulate the financial risks taken by the companies which lead to a situation where increased risk-taking was rewarded with possibilities of large earnings. Fannie Mae and Freddie Mac and the creation of housing sub-prime loans, combined with the credit rating institutions and their failure to rate assets and loans correctly, creating further problems during the origin of the crisis. If we look at the interest rates in America during this time it can be concluded that they were extremely low, this in combination with low risk premiums and low volatility, increased the society's general desire to invest which created a situation where individuals obtained credit to invest in assets such as housing, shares, obligations etc. Regarding the capital ratios in the Basel II accord which were too low in order for them to work effectively, and the pro-cyclical regulations that were comprised in the accord, made it favorable for the banks to hold low levels of quality capital when the economy was in a boom (Wissén & Wissén, 2011).

It is also hard to create regulations that can be applied to globally. This means that if one country implements a type of regulation there is a possibility that the capital mitigates to sovereigns or areas where this type of regulation does not exist, a problem which the Basel II framework did not regulated. For example, neither hedge funds or *structured investment vehicles*³ (SIV) were regulated by the Basel II and investment banks was only partially included in the framework. This resulted in a situation where unregulated business took on the role of regulated organizations, which gave business banks opportunities to pass on some of their operations to the so called *shadow banking system*. By doing so the bank increased the level of integration between organizations on the financial markets, which amped up the systemic risk in the financial system and later caused bank runs on a number of levels. A factor that could be seen as a reason for speeding up the bank runs was products such as *Credit Default Swaps*⁴ (CDS).

The reasons for the CDS's impact on the financial crises are many but the problems surrounding this type of asset was mainly that AAA ratings was given to assets that faced massive losses. It can also be stated that the *over the counter* (OTC) trade of the CDS's was too unregulated and actually contributed to the situation where buyers of these assets could manipulate it. By manipulating the market the investors could make some of the institutions on the market to appear weaker than they actually were and therefore being a threat to the economy and therefore amping up the demand for CDS's. Finally, the situation that existed in the years of the financial crisis was the enlarged systemic risk that the trade contributed to. This since the trade increased the interconnection on the financial markets (Schultz, 2009).

During the pre-crisis period banks were focusing on creating shareholder value. This resulted in increased risk-taking since shareholder value is created by giving the shareholder large profits through dividends. The new demand for dividends created incentives for the financial institutions to implement bonus-systems for their employees to take on more risk than allowed to maximize shareholder return.

All these aspects led to the financial crisis 2008 but the main issue that led up to the crisis was the systemic risk that had been built up inside the financial system. It was not the sub-prime

³ A combination of investment assets that profits from credit spreads between short-term debt and long-term structured finance products.

⁴ A swap designed to transfer the credit exposure of fixed income products between parties.

loans or the shadow banking per se that sank the financial system, but rather a combination of large systemic risk and bank-panics.

3.2 The shadow banking system

The shadow banking did not affect the Swedish market and does not exist to a large extent on the Swedish market. Its parties are to a certain extent affected due to issues that will be introduced later on in the paper, but due to the shadow banking system significance when discussing the issues behind the financial crisis as a whole we have decided to incorporate this section in our paper.

During the financial crisis in 2008 and under its aftermath it became clear that the financial markets were severely affected by the role that the shadow banking had and that the interconnection between the regular banks and the shadow banking system was much greater than what the authorities thought.

Shadow banking is not the same as commercial banking activities. In commercial banks the borrowers and lenders meet at the same place with a common intermediary. This is not the same in the shadow banking system. In the shadow banking system the borrowers and lenders do not interact in this way. The shadow banking system is built up by several different entities that are conducting different parts of the business, parts that normally is conducted under the same roof in a commercial bank (Adrian, et al., 2010). The shadow banking can be done by one company or several companies that work together. And to be able to call the activity shadow banking it has to take place outside the normal banking system (FSB, 2011). Shadow banking system is not conducting the fund raising in the same way that funds are raised in the normal banking system. Where the commercial bank raises funds by functioning as an intermediary between lenders and borrowers. Since the shadow banking system is based around many non-banking companies this form of obtaining funds is not possible. Instead the shadow banking system obtains its funds by issuing short-term company treasury bonds to private companies and savers (Adrian, et al., 2010).

In 2007 just before the outbreak of the crisis the shadow banking system was, in terms of liabilities, larger than the commercial banking sector; liabilities worth USD 22 trillion were held by the shadow banking system compared to USD 14 trillion held by the commercial banking system. When trying to describe the shadow banking system it is necessary to see

that the system is built up around many entities that play different roles within the credit process. The system can be divided into three main groups (Adrian, et al., 2010):

Government sponsored shadow banking sub-system

This part of the shadow banking system comes from the reforms that were implemented in the US in the 1930's. Types of shadow banking entities that are included in this section are Fannie Mae and Freddie Mac. These are called *Government Sponsored Enterprises* (GSE). When looking at commercial banks the funding originates from the possibility for the bank to be the holder of deposits. This is not the case with the GSE's. Their business is instead depending on that there exist a credit to maturity mismatch in the financial system. The GSE's are issuing short and long term debt securities on the market. By considering these facts it is not possible for the GSE's to have the same working pattern as a commercial bank. Instead, when taking a closer look at these entities it has shown that the companies are building their business around an interconnection between several parts within the GSE system (Adrian, et al., 2010).

One of the largest changes in the banking system has been evolving over the last 30 years. This is the change from earlier operations based on low *return on equity* (ROE) towards the new system of high ROE. These changes has caused the modern banking to be more market risk intensive, fee based, less credit risk intensive and whole sale funded than before. Since the system has changed there was a demand created for a new type of asset management. This new system made the transition towards increased lending even though the inflow of capital has been considerably reduced.

This type of operations magnifies the ROE for the banks and the holding companies. Operations such as these have led to new approaches regarding the funding and management of risks, compared with how the earlier banks worked. This can be described as follows:

- *Financial Holding Companies* (FHC) creates loans in the banks affiliate. This is a whole sale funded operation conducted in the whole sale funding markets and the liquidity comes from the bank. Warehousing and accumulation of loans then becomes an off-balance operation handled by the affiliate broker dealer.
- The securitization of loans occurs when the affiliation transfer the loans into a *Structured Investment Vehicle* (SIV) that is bankruptcy remoted.
- Operations such the one above is central when funding the safest structured assets for

credits in the off-balance sheet *Asset Backed Securities* (ABS). The ABS is then managed by the subsidiary and this becomes backstopped by the investment bank.

This has become the leading way of how the lending has been conducted in the US. There has been a transition from the business banks towards shadow banking, increasing the impact on the market and mortgages. Now shadow banks, asset managers, and broker dealers are the largest groups involved with creation of credits. These are all components in the FHC and funded by the American and global capital markets. The impact of this has not only been negative it has also led to a capital efficient lending characterised by high ROE, higher fees, a larger amount of ABS investors and structurers. This transformation, due to the diversification by investment banks/ holding companies the banking system should become more stable since these types of companies can retain revenues not only from their banking operations (Adrian, et al., 2010).

The shadow banking system has played a significant role in the structural problems that led to the financial crisis of 2008 (Adrian, et al., 2010). This has resulted in new backstops created initially when Lehman Brothers defaulted, which in turn created the need for the Federal Reserve to overlook and control the different parts of the shadow banking system. There is hard to control the systemic risk within the system but it is necessary in order to prevent future crisis. This problem of the systemic risk could be dealt with by excessive monitoring and new regulations, but it is not clear that this will be possible due to the complexity of the shadow banking system (FSB, 2011).

4 Basel III

4.1 Main purposes

According to BCBS, the objectives of Basel III is to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking industry; and to improve the banking sector's ability to absorb financial and economic shocks and prevent spillover of such shocks to real economy.

The Basel III framework will be binding and imposed in all of the countries that together compose the BCBS. These are representatives from each of the 27 nations that are members in the committee. All representatives are individuals either working in central-banks or

national regulating authorities. Members of the BCBS (Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States) (BIS, 2010a).

4.2 Time table

When developing the Basel III the BCBS has settled a time table for the imposition of the framework. These directions shall be followed by all of the members although differences can occur for nations which are non-members as well as for members. BCBS timetable for introduction of the different regulations shall work as guidelines. All of the regulations should be in use in 2019, and initiated by the 1/1-2013 (BIS, 2010a)

4.3 Framework

Basel III uses Basel II as a base and has been adjusted to better handle types of crisis as seen in 2008. It uses the same basic structure as the earlier framework but imposes harder regulations on minimum capital requirements and liquidity requirements.

4.3.1 Pillar 1

The first pillar, *Enlarged minimum capital requirements and liquidity requirements*, is regulating the minimal capital requirements which shall be followed by the regulated parties. When overlooking the different changes in the new framework it becomes clear that there is a focus on increased capital control. Changes in the pillar 1 in Basel III compared with the earlier frameworks Basel I and II are:

- The common equity needs to be 4.5 % of the risk-weighted assets.
- Total amount of Tier 1 capital has to be as a minimum 6% of the risk-weighted assets.
- The total sum of Tier 1 and Tier 2 capital must be 8% of the risk-weighted assets.

In Basel III the Tier 1 capital is divided into 2 subparts, *Common equity Tier 1 capital* and *additional Tier 1 capital*. The *common equity Tier 1 capital* shall according to the BCBS be consisting of common equity, a capital conservation buffer, countercyclical buffer and a systemic addition for financial institutions (BIS, 2010a)

Common equity

Common equity has the same meaning as in Basel II but is now raised to a new minimum level of 4,5% of risk weighted assets.

The common equity consists of:

- *Retained earnings*
- *Common shares that has been issued by the bank.*
- *Surpluses that come from issuing shares that classifies as Tier 1 capital.*
- *Common shares that is issued by subsidiaries*
- *Adjustments that comes from regulatory calculations of Tier 1 capital.*

(BIS, 2010a)

Capital conservational buffer

This is an addition to the Basel II framework that has been implied in Basel III. This part of the Tier 1 capital consists of funding that has been obtain in periods without financial stress and shall work as financial reserves under periods of crisis or financial stress. The banks shall hold buffers and increase this buffer over all time-periods lacking financial stress. When the buffer is depleted the banks shall find ways of rebalance their assets so that the buffer can be reconstructed. In the Basel III it is stated that the capital conservational buffer shall be 2,5% above the minimal tier 1 capital requirements. The buffer shall consist of common equity (BIS, 2010a). Banks will have to face different ratios when the capital is falling below different ratios of tier 1 capital, as shown below;

Individual bank minimum capital conservation standards

| Common Equity Tier 1 | Ratio Minimum Capital Conservation Ratios (expressed as % of yearly earnings) |
|-----------------------------|--|
| 4.5 % - 5.125 % | 100 % |
| >5.125 % - 5.75 % | 80% |
| >5.75 % - 6.375 % | 60% |
| >6.375 % - 7.0 % | 40% |
| > 7.0 % | 0% |

Source: BCBS

Countercyclical buffer

This subpart of the Tier 1 capital is tended to work as a defense against system wide stress. This means that the banks shall build up enough money in reserves to sustain during times where the macroeconomic climate puts financial pressure on the markets. This shall primarily

be a buffer that is constructed for preventing future losses rather than losses that can be actualized in the present, while the acquired level of this is much vaguer than the limit for the conservational buffer. Since this buffer is required to meet macroeconomic changes and therefore depends on the economic climates in the actual country that the bank is conducting its operations. Due to this, the size of this buffer is determined by the national agencies when analyzing the economic situation and the size of the credit volume existing in the actual country. The size of the countercyclical buffer shall therefore according to the Basel III lie within the range of 0-2.5% depending on the macroeconomic situation of the nation.

Systematical addition

The systematical addition to the Tier 1 capital will be applied to banks that is so large that they has a fundamental impact on global and national financial markets. This capital will be regulated depending on the banks size and how well it is connected to other financial actors and markets. The earlier criteria's will be looked upon when deciding how large the additional capital shall be but it will most likely be within the range of 1-2.5 %.

Additional Tier 1 capital

This form of capital is capital that shall be a complement to the Tier 1 capital that consists of common equity. Additional tier 1 capital is therefore built up by capital from in Basel II this capital could be 2% of Tier 1 capital but with the Basel III this is restricted to be 1.5 % (BIS, 2010a). When analyzing the quality of the capital that is included in the Tier 1 additional capital, there is no large difference in the quality of the capital between this capital and the common equity Tier 1 capital. The largest difference for the additional tier 1 capital is that this capital has no maturity date upon issuing date. If necessary the bank can buy back these instruments after a time-period of 5 years. But this operation can only be conducted if the supervisory authorities allow it.

Tier 2 capital

Apart from the tier 1 capital the new capital requirements also comprise the tier 2 capital. This capital shall be used to absorb losses on a gone concern basis. Tier 2 capital shall be the capital that is used if the bank should face threats of liquidation, or when the bank applies for the same. The ratio of Tier 2 capital is 2 % in Basel III framework (BIS, 2010a).

Instruments that is included in Tier 2 capital has a minimum maturity of five years and can be

redeemed but this action need, as for the additional tier 1 capital, to be authorized by the national supervisory organ (BIS, 2010a).

There are many types of capital that qualifies into the category of Tier 2 capital, e.g. stock surpluses that earlier was possible to incorporate into Tier 1 capital and Provisions that are held as general loss-loan reserves. These assets should be valued used the standardized approach to credit risk. This approach is the same as the approach that we have shown in the Basel II section (BIS, 2010a).

The second part of Pillar 1 is treating the problems with risk coverage and how the banks shall deal with the risk that they faces when conducting their operations. Basel III outlines three specific risks that the framework shall be regulating; *credit risk, operational risk, market risk*.

Credit Risk

Credit risk is defined as risk that occurs when a counterpart can't fulfill the obligation it has against the bank. Exposure to these types of risk can lead to severe financial damages to banks in times of financial stress, such as the previous crisis.

According to the frameworks of both Basel II and III the bank needs to use one of two methods to evaluate their exposure to credit risk, again *The Standardized Approach* or *The Internal Ratings Based Approach*. Which one of the methods the bank shall use is decided by the supervising organ for each nation. This is the same regulations as we discuss earlier in the section of Basel II.

Using one of these methods the bank has classified the credit risk for their counter-parties. A new element of the Basel III framework is the stress-test that shall be conducted for these types of assets. This is referred to as *Expected Positive Exposure* (EPE). EPE means that banks shall perform stress-test by using three years of both historical market data and market data from the current market. When using the historical data the bank needs to use three years of back-dated data. In addition to this requirement the data needs to be from periods of financial stress. Banking institutions needs to be able to constantly show that the tested assets have been looked upon in times of stress and that it occurs with times of higher credit spreads or *Credit Default Swaps* (CDS). A Credit Default Swap is a form of insurance between

parties. The contract has the purpose of eliminating risk of default of one company. It means that the holder of the swap is making payments on a regular basis to the seller as long as the contract has not passed its maturity date. In exchange the seller agrees to pay out an amount of money if the default of the company occurs (Hull, 2011). Credit spreads can for example include trades of loan spreads or bond spreads. This shall be done for a sample of counterparties with whom the bank has conducted trades of credit spreads. Each of these parties should also have been categorized using the IRB approach or the standardized approach (BIS, 2010a).

Operational risk

The procedure of dealing with operational risk in Basel III is similar to the framework of Basel II. Operational risk is defined in the Basel frameworks as: “*the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.*” (BIS, 2006)

The methods used for calculating and evaluating the operational risk involve the *BIA*, *standardized approach*, and the *AMA*. All of these models are discussed by us in the part of Basel II.

Market Risk

For the Basel III framework the BCBS recommends the same approach towards the market risk as the previous framework of Basel II. This means that the valuation of the market risk should be divided into risk from fixed incomes and market risk from commodities. The VAR approach should still be used for fixed incomes as in line with the Basel II accord.

Another component of pillar 1 which is new in the Basel III accord is the *enhanced leverage ratio*. This leverage ratio is necessary according to the BCBS since:

“One of the underlying features of the crisis was the build-up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while still showing strong risk based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in

credit availability.”

(BIS, 2010a)

This new leverage ratio is introduced into the framework in order to prevent the build up of high levels of leverage that can be harmful, not only to individual banks but to the financial system as a whole. Another reason for the introduction of the leverage ratio is the intended effect of the leverage ratio to work as a backstop measure. The leverage ratio for the Tier 1 capital is set to 3% by the BCBS. All of the new leverage ratios is based on the specific regulations regarding the Tier 1 capital from the Basel III accord.

To be able to see the effect on the banks exposure, this shall be done by the process of accounting measurement approach. This type of measurement can be divided into 2 parts. On-balance sheet items and off-balance sheet items. On balance sheet items are items such as derivatives and *Securities Financing Transactions* (SFT) (BIS, 2010a)

SFT are according to the Basel III agreement a secure form of financing. Due to this fact it is conducted as an important item on the accounting measures that are included in the leverage measurements of the bank.

4.3.2 Pillar 2

The second pillar of the Basel III framework follows mainly the same pattern as the Pillar 2 in Basel II but with enhanced requirements regarding the supervisory review of the process for firm wide risk management and capital planning (Moody's, 2012). The second pillar in Basel II aims to increase the bank's ability to overlook their operations and increase their coverage of internal capital assessments (BIS, 2006).

Changes to the second pillar in Basel III compared to Basel II

In the Basel III accord it is stated that the pillar 2 should have assets so that they surpass the minimum requirements of assets in Pillar 1. Regarding the supervisory responsibility the management should be aiming to recognise all the risks the bank is facing conducting its operations. A central component in the second pillar of Basel II & III is the *internal capital adequacy assessment process* (ICAAP). This form of supervisory process is necessary for the bank in order to prevent the situations of risk-exposure that was causing damage to the

markets in the financial crisis of 2008 (BIS, 2009)

The supervisory requirements of Basel III aim to manage some specific risks or topics.

Some of these topics are; risk concentrations, off-balance sheet exposures with a focus on securitization, reputational risk and implicit support, valuation and liquidity risks and sound stress testing practices.

Pillar 2 also aims to creating a sound management of the firm-wide risk. Sound firm-wide risk can be accomplished by an *Active Board and Senior Management Oversight* that is strengthened by giving the board and senior managers of the bank responsibilities for the risk of the operations conducted. This by identifying risks and make sure that the identified risk is accompanied by a limitations that will reduce the banks losses if a potential situation occurs. But the management of risk shall not only be limited to the risk that the market puts on the company but to include all of the risks that the bank faces. Another crucial aspect of this regulation is that the board and management of the bank shall be familiar with all of the business lines operated by the company. They shall have enough qualifications so that they can assess the financial markets and the risk associated with these types of markets and operations (BIS, 2009).

4.3.3 Pillar 3

The third pillar of the Basel III is built on the same framework as its predecessor Basel II. When looking at the third pillar it has the goal of creating a more resilient market discipline for the financial industry. Pillar 3 has the purpose of creating an environment where the banking industry should take less risk and become more overt. This by provide correct information to the market participants about the risk-exposure of the bank and the measurements used in order to obtain these measurements. In order to follow the Basel III accord banks shall provide enough information to their shareholders as well as public information. This in order to ensure that the bank has published enough information to enable that prepared decisions is made with the risk-exposure in mind (BIS, 2008).

The bank needs to provide the market with information regarding its disclosures yearly or more frequent. Information regarding the disclosure shall also be available in a document, if the information not is available in a specific document it is accepted that the bank shows

where the information can be acquired. Supervising organizations can also demand that the bank provides this type of information in table form in order to give a clearer picture of the banks situation (BIS, 2011).

4.3.4 Liquidity Standards

A new important part of the Basel III accord concerns the liquidity and the *liquidity coverage ratio* (LCR). The LCR is introduced into the Basel III in an attempt to increase the resiliency of the banking sector (BIS, 2013).

LCR is included with the purpose of decrease the banks short-term liquidity risk and the short-term liquidity risk profile of the bank. This is done by making sure that the bank has enough *unencumbered high-quality liquid assets* (HQLA). HQLA is defined as assets that can be easily transformed into cash. This since the Basel III states that banks shall have enough HQLA to be able to persevere a 30 day long liquidity stress-test (BIS, 2013c). This shall strengthen the banks possibilities to endure arising problems that involves liquidity stress regardless of the source of this stress and decrease the possibility of the economic shock to spread into the real economy.

By implementing the LCR the main objective is to make sure that the banks as entities has enough HQLA to cover their risk-exposure. An additional objective of the LCR is to create long-term stable funding and incentives for the financial sector to create resiliency by funding their activities with stable sources of funding. This with the supplementary requirements of the NSFR⁵ which states that the bank shall be able to survive for a year; the LCR shall be a way to create a more stable banking sector (BIS, 2013)

BCBS has developed a time table for the implementation of the LCR which starts in January 2015 and shall be finished in January 2019. The requirement and time table is shown in the below table;

⁵ “The NSFR requires a minimum amount of stable sources of funding at a bank relative to the liquidity profiles of the assets, as well as the potential for contingent liquidity needs arising from off-balance sheet commitments, over a one-year horizon. The NSFR aims to limit over-reliance on short-term wholesale funding during times of buoyant market liquidity and encourage better assessment of liquidity risk across all on- and off-balance sheet items.” (BIS, 2013)

LCR requirement time table

| | January 2015 | January 2016 | January 2017 | January 2018 | January 2019 |
|-------------|--------------|--------------|--------------|--------------|--------------|
| Minimum LCR | 60 % | 70 % | 80 % | 90 % | 100 % |

Source: BIS

When a bank is exposed to financial stress it has to use its HQLA in order to maintain a LCR of 100%. This leads to a fall in HQLA below 100%, which can be negative for the bank implying that such situations should be addressed by supervisors (BIS, 2013).

Decisions regarding the use of the HQLA the supervisors needs to, according to the BCBS, take some questions in consideration. Among these some are: address the crisis leading to a use of HQLA in an early stage, different actions towards a LCR below 100% can be taken with respect to the situation, and the actions taken shall be evaluated depending on the specific situation regarding the market and the firm specific conditions. If banks want to use their HQLA to recover their LCR, HQLA can be used both for systemic risk and idiosyncratic risk but these cases can be addressed differently (BIS, 2013).

The LCR is consisting of the HQLA stock and its value during stressed times and the total net cash outflow. How LCR is calculated is shown below:

$$LCR = \frac{HQLA}{Total\ net\ cash\ outflow} \geq 100\ %$$

Total Net Cash Outflow

The second component of the LCR is the *Total Net Cash Outflow*. This is defined as the total expected cash outflow minus total expected cash inflows during a specific one month period (BIS, 2013). The cash outflow in the liquidity standards of Basel III is divided into several parts of funding. These subparts can be described as different deposits from different types of clients some examples are: *retail deposits*⁶, *wholesale funding*⁷, and *secure funding*⁸. These

⁶ Deposits from “normal clients” such as private individuals. The retail deposits can be divided into stable deposits and less-stable deposits. Stable deposits will have a run-off rate of 5% where the less-stable will face such a rate of 10%. The difference between the stable and less-stable deposits is that the stable funds are guaranteed by public guarantees or insurance schemes (BIS, 2013)

⁷ Funding that comes from companies or other organisations. This type of funding can be divided into unsecured and secured wholesale funding. Unsecured wholesale funding is in a large extent consisting of commercial papers. The run-off rates for these types of deposits are much higher than for the retail deposits (BIS, 2013).

are all assigned a individual run-off rate, which is incorporated in the liquidity framework as a way of simulating periods of financial stress. The rate should be interpreted as the funding that will mature in a one-month period of economic stress that will not go away.

Cash inflow

The cash inflow for the bank shall only be calculated from contractual capital inflows and which a little risk of default over a one month period. To make the banks less dependent on anticipated incomes the Basel III liquidity standards states that the bank needs to have a minimum of 25% of HQLA in relation to the expected capital cash outflow.

The cash inflow can come from sources such as committed facilities, retail and business customer inflows, operational deposits and are monitored in the Basel III liquidity accord in order to ensure stable liquidity. For example loans that are being issued by the bank over a one-month period of high financial stress shall be 50% of the financial inflow from the retail and small businesses. This means that the contractual inflow is 50% of the contractual amount. When looking at the inflows from wholesale funding the inflow percentage is 100% for counter-parties such as central banks and a rate of 50% for counter-parties that are considered to be non-financial.

4.4 Major areas of disagreement

As with any accord or proposal made in the society it is hard to get everyone to comply with it or like it. This is the same for the Basel III accord, where there exists disagreement between the BCBS as regulatory party and the banking industry.

The largest areas of disagreement concerns the costs for the industry, where the banks claims that the costs aligned with implying Basel III are unnecessary high, which most probably will lead to higher costs for their customers. Industry parties have pointed out some areas where the industry does not agree with the BCBS regarding the level of regulations (Elliot, 2010). We are aware of, and stress that, not all banks, bank managers and industry parties share this pessimistic view of the framework and that there in fact is a large number of such parties and individuals that support and sympathize with the Basel regulations.

⁸ Funding that comes from assets that are collateralised and therefore assigned with legal rights towards the counterparts in case of default or insolvency. Due to the nature of these securities it has been given a run-off rate of 25% (BIS, 2013).

In Basel III there is a requirement that states that the capital ratios should be higher than in the Basel II, this is a change that the industry does not like and considers to be unnecessary high. Regarding liquidity, market actors are afraid that the imposition of the NSFR can be costly since it puts pressure on the self-funding of the bank and how it allocates its assets (Elliot, 2010). In Basel III the banks will also need to comply with a new leverage ratio. This leverage ratio can force European banks to act more like American banks. According to critics this is due to the fact that the European banks are more prone to focus on low risk assets than its American equivalents. But since this will impose costs on the banks it is also the main reason for the disagreement regarding the Basel III.

Other areas where the banks are less positive than the BCBS is regarding the common equity that shall be included in tier 1 capital. All parties recognize the common equity as the safest type of capital, the problem according to the financial agents are that this form of capital also is the most expensive capital to raise (Elliot, 2010).

All the disagreements are mainly due to the costs of implementing the Basel III. Of course no one operating on the financial markets likes the higher cost this will bring to their operations. But this is in fact the purpose of the Basel III accord, and it has to be taken into consideration that the costs have to increase in order for banks to act more responsible. So the different views that the parties has on Basel III has to be looked at with the real purpose of the accord in mind. The real question is not if it would bring costs to the banks operations and the financial industry but rather if these costs will be enough in order to offset bad financial decisions and make the banks less keen on undertaking large risks.

5 Basel III impacts

5.1 Impacts on the Swedish banking system

When examine the Basel III effects on Swedish banks it is important not to isolate specific banks but rather look at the system as a whole, from a so called *general equilibrium* (GE) perspective. The impacts of Basel III on Swedish banks, we will further look into, is primarily costs associated with the new capital requirements and liquidity and the Basel III ability to bring stability to the Swedish banking system.

5.1.1 The cost impact

Both academic studies and regulatory studies show that banks will, and are needed, to substitute equity for debt when facing the capital requirements. When examine the effect on the costs associated with Basel III the main approach in other academic studies is to use the concept of *total cost of capital* (TCOC)⁹, and further, as Jaffee and Walden (2010), to use the Modigliani-Miller (MM) theory. The MM theory states that a bank's TCOC is independent of the mix of equity and debt in the capital mix. The cost of capital is instead determined of the riskiness of the business. There is no doubt about that equity is more expensive than debt, but as the share of equity increases each unit of equity and debt holds less risk. Thus, as banks swaps equity for debt the TCOC remains unchanged. Apart from this theory that implies that Basel III would have *almost no impact on TCOC*, Jaffee and Walden (2010) present a number of other theories that may interfere with this view;

The tax shield

As dividends paid on equity shares is not tax deductible while interest paid on debt is there is a tax shield available and this may encourage banks to hold more debt as capital. The capital requirements proposed in Basel III and the following equity for debt swap may therefore decrease the utility of this tax shield and thus *increase the TCOC*. However, Jaffee and Walden argue that this impact will be *relatively small*.

New equity and asymmetric information

The cost of equity, and creation of new equity from emissions, can increase if it signals to the market that the outlook for future profits is worse than previously stated, and implying that the ones that decide on emissions have asymmetric information. How serious this impact will be depends on the markets general view on the specific bank, and could be quite serious and costs quite high if the bank is recognized as unstable with unsound financial status. Again, as Basel III will be implemented on all Swedish banks simultaneously, and the markets awareness of this, the impact is estimated to be relatively modest. Jaffee and Walden (2010) also states that most of the needed adjustments will be fulfilled through retained earnings, which also speaks for *small changes in TCOC*.

⁹ The weighted average of the debt and equity costs of capital.

The value of deposit insurance

In most of the countries that are implementing the Basel III framework the government provides deposit insurance. This insurance is often paid in full by the government which implies direct utility to both the banks and their depositors. Since Basel III and its increased capital requirements will lower the risk for bankruptcy the deposit insurance will decrease in value for banks, which can be viewed as an *increase in TCOC*.

The debt overhang issue

The debt overhang issue refers to the fact that if a bank with a high debt to asset ratio finance new investments with new capital, the benefit from this investment accrue to the banks debt holders, which in turn causes the bank to avoid new investments. This cost, for avoiding investments, decreases when banks is required to hold more equity relative to before, and therefore this will cause the *TCOC to decrease* when implementing the new framework.

The above four theories are academic theories, conducted on an academic level. These theories estimate the impacts to be of a minor nature (Jaffee & Walden, 2010).

There are also a number of theories, or studies, conducted on a regulatory level, carried out mainly by the Basel Committee. The committee has examined outcomes both for the new capital requirements and for the new liquidity requirements, focusing on the two liquidity ratios (LCR and NSFR) explained in chapter 4.3. The main aim in these reports is to measure the impact of Basel III on a country's aggregated output. Further, the committee applies both the long-term impacts perspective and the transitional period impacts perspective. These studies show that the long-term effects and the transitional effects are very analogous, and why they can be explained all in one. The approach used in the reports is first to measure the impact on lending spreads¹⁰ and volumes followed from the new capital and liquidity requirements, and then to measure the effects on GDP from changes in lending spreads and volumes (BIS, 2010b).

The impact on lending spreads from the suggested increase in capital is calculated to be an increase of 13 basis points¹¹, which will affect TCOC by the same degree. After 4 years of transition BCBS estimates the change to be an increase of 16 basis points, and expects no further increase. As for impacts due to higher liquidity, i.e. the LCR and NSFR requirements,

¹⁰ The difference between the rate that a bank pays its depositors and the rate that it charges its borrowers.

¹¹ 1 basis point unit is equal to 1/100th of 1 %, e.g. 0.05 % change is equal to 5 basis points.

the committee measures it to be an increase between 14 and 25 basis points on lending spreads (BIS, 2010b).

As for the impacts on GDP followed from the above changes in lending spreads the committee uses a macroeconomic, general equilibrium, model. The results presented in these reports are a decrease in GDP between 0.09 % and 0.10 % for a 1 % increase due to the new capital requirements, and a decrease in GDP between 0.08 % and 0.13 % due to the new liquidity requirements. Since the capital and liquidity requirements to some extent will overlap the committee measures the combined effect to be an increase in GDP between 0.12 % and 0.16 % (Jaffee & Walden, 2010).

The committee also lists a number of other factors that most probably will create even lower values in terms of the calculated impact. First they state *monetary policy*, and the fact that each member country's central bank has the authority to decrease the repo rate in order to avoid increases in lending spreads. The committee also mentions *other bank adjustment*, and includes other actions that banks can execute in order to offset any increases in lending spreads, e.g. decrease its operating costs and increase its non-interest income. Finally the committee argues that other *financial market adjustments* also will contribute to lower impacts than the one stated above. These adjustments is said to occur from the fact that both household and business borrowers will demand new lending channels, e.g. non-bank lenders which will arise, and by this borrowers are not obligated to pay the full cost for the Basel III implementation and increase in lending spreads (BIS, 2010b).

5.1.2 The systemic risk impact

One of the goals with the Basel III is reducing the systemic risk in the banking sector and stabilise the financial systems. Measures that are taken towards this in the Basel III framework are higher quality controls of the capital with the Basel III requirement of core capital consisting of common stock, and a capital conservation buffer that can be used in times of financial stress which can occur when the systemic risk increases.

The new requirements regarding the debt maturity and the liquidity of assets will also help to prevent crisis that origins from systemic risk. Debt maturity and asset liquidity are items that can lead to financial stress for a bank. This is occurring when the bonds issued by a bank is

funded through short-time loans by using commercial papers or repo agreements. The loans issued by the banks are rather long term agreements. In Basel III this is dealt with by introducing the NSFR, explained in chapter 4.3. According to the framework the NSFR and its components of ASF and RSF are significantly reducing the risk that there will be a mismatch between the long- and short-term funding for the bank. The liquidity requirements in the Basel III shall be regarded as instruments used by the banks so that they can prevent future shocks that could arise from the ability to fund the banks legal obligations (Jaffee & Walden, 2010).

There are also other actions that can be taken in order to reduce the risks in the banking sector that are not included into the framework of the Basel III. In order to give a clearer overview of the problems surrounding the risks for the banking sector we have chosen to include these in our paper. These actions are;

Create a situation where the bank tries to increase their levels of new capital instead of getting rid of existing assets. This since both of these possibilities would allow banks to meet the new capital. If banks are using the method of selling of assets to meet the requirements this can create difficulties of systemic risk if it is not monitored.

Another way of dealing with the risk the banks could use *contingent capital*. Contingent capital means that the bank is issuing instruments that will be automatically recapitalized if periods of financial stress occur. This shall be combined with a strategy of assemble capital in good times when the cost of doing so is low. Examples of instruments that fall into this category are capital insurance, and reverse convertibles (Acharya, et al., 2010).

The last measure towards reducing risk can be to regulate the Shadow Banking system. Shadow banking system played a great role in the previous crisis this since this phenomenon increased the systemic risk within the financial system. The problem with this was that banks were connected to unregulated financial institutions that experienced liquidity problems and from there it was spread to business banks.

Swedish banks are exposed to two major sources of systemic risk according to Jaffe and Walden. The primarily exposure for the bank is due to the large amounts of mortgages issued by the Swedish banks. Therefore a crisis that results in falling prices on housing will be costly

for the banks and have an effect on the financial industry as a whole. With this in mind a shock occurring on either the housing market or in the banking sector could easily led to a situation like the financial crisis in the 1990. Swedish banks does are also holding a proportionally larger amount of mortgages than banks in other countries.

The second important exposure towards systemic risk for the Swedish banks comes from the fact that Sweden is a small open economy. Therefore it is likely that the markets will be affected by events or crisis occurring in other economies.

A requirement in Basel III that is of great importance regarding mortgages is especially the *Required Stable Funding Factor (RSF)* which is an amendment in the Basel III NSFR. The RSF for mortgages has been lowered from 100% in early stages, to 65% in Basel III. Regarding the mortgages held by the Swedish banks it can be concluded that the loans issued are of high quality. With high quality loans a possible scenario is that banks rather use covered bonds instead of securitisation, which is allowed in Basel III, in order to obtain funding for their mortgages. Even though the use of securitisation could be beneficial for the banks since it makes it possible to remove the mortgages from the balance sheets of the bank (Jaffee & Walden, 2010). This could seem strange since the Swedish banks are holding large items of mortgages on their balance sheets. This shall not be causing large concerns for the banks since high quality loans can be backing up covered bond issuance.

The situation of the Swedish banks shall not only be seen as good in the aspect of high quality loans. When looking at the increasing values on the Swedish market of housing and real estate this can create a possible real-estate bubble. This situation is not dealt with in the framework in Basel III. Instead to prevent a situation like this from causing damage to the nations GDP and the financial system it is important that the national regulators monitors the housing market carefully and intervenes when the risk of a bubble bursting increases.

Analysing the systemic risk of the Swedish banks Jaffe and Walden concludes that the Basel III takes care of many aspects of the systemic risk. But the two sources mentioned above will be the two exposures that are hardest to regulate. It can also be the case that the costs of implementing measures towards a decreased systemic risk can be higher than the intended benefits from the implementation of these measures (Jaffee & Walden, 2010).

Even though Basel III takes steps towards regulating systemic risk there are many types of this risk which the accord does not regulate. This could cause problems later on if not taken into consideration by regulatory parties. The efforts made in Basel III in order to reduce the systemic risk are aligned with small cost for the Swedish banks. Jaffe and Walden (2010) argues that the low costs of the implementation and the timetable for this in Basel III makes the effects on the Swedish financial system little.

5.2 Insights from Länsförsäkringar Bank

This part of the paper will serve as an illustrative example on how the Basel III framework is perceived in the Swedish banking industry. We have chosen Länsförsäkringar Bank for this matter, which is a relative young bank compared to the other four big banks in Sweden, and why we find their thoughts on Basel III particular interesting. Länsförsäkringar Bank is the fifth largest retail bank in Sweden, holding a business volume of SEK 290 billion on March 31, 2013. Länsförsäkringar Bank is a subsidiary of Länsförsäkringar AB, which in turn is owned by 23 regional insurance companies, including 130 branch offices, and constitutes Länsförsäkringar Alliance. Länsförsäkringar Hypotek AB, Wasa Kredit AB and Länsförsäkringar Fondförvaltning is subsidiaries of Länsförsäkringar Bank. The foundation for its bank operation constitutes from Länsförsäkringar Alliance's wide-ranging customer base and strong brand along with its local presence. In 2012, for the sixth year in row and eight out of nine years, Länsförsäkringar was granted with Sweden's most satisfied retail bank customers according to Swedish Quality Index. The number of customers is 964 000, the market share for retail and household mortgages was 4.9 % and for deposits the market share was 4.4 % in February 28, 2013.

Länsförsäkringar Bank's thoughts on Basel III is retained from their credit manager Göran Zakrisson, who is proficient and well informed on the Basel III implementation and its impacts on Länsförsäkringar Bank. Below follows our questions asked and responses from Göran Zakrisson;

1. What is Länsförsäkringar Bank's general perception of the Basel III framework, both for the case of Länsförsäkringar Bank and for the case of the Swedish banking system?
 - *"It is expressed by the Swedish Bankers Association that the hasty implementation creates a risk that there is not enough time for a long-term impact analysis. The aim of the Basel III framework is higher capitalization of banks and greater focus on liquidity. The problem lies probably not within the Swedish banks, but rather in other European banks and banking systems."*
2. How much work has been carried out to evaluate whether Basel III will affect Länsförsäkringar Bank's profitability? Are there any strategies to influence the outcome, and if so, do you have any examples of such strategies?
 - *"A substantial work has been carried out and will continue to do so regarding the implementation of Basel III. The liquidity coverage ratio (LCR) is a good example of how the pricing of borrowing and deposits is affected by this measure through the structure of LCR and what we can include in it."*
3. How could Basel III affect Länsförsäkringar Bank's growth forecasts?
 - *"All banks are reviewing their capital efficiency and when the capital requirement increases it follows that banks are conducting reviews on all areas where they intend to grow. Further, the situation must be seen more as a compression of the balance sheets rather than an expansion."*
4. Apart from Basel I and II, Basel III introduces liquidity requirements. How will this affect Länsförsäkringar Bank?
 - *"See above answer for LCR."*
5. As Basel III is currently designed, it is intended to reduce banks' risk-taking. With the current requirements on capital and liquidity, does Länsförsäkringar Bank believe the requirement of 4.5 % of core capital to be sufficient for this to happen?
 - *"I am convinced that the reduced risk-taking already exists regardless of the level of capital requirements."*
6. Regarding the available methods to weight credit risk, *standardized approach* or *the internal rating based approach* including *foundation IRB* and *advanced IRB*, which one of them is Länsförsäkringar Bank applying?
 - *"The bank uses the advanced IRB approach in virtually all portfolios except the liquidity portfolio and lending to bigger companies."*
7. What is Länsförsäkringar Bank's growth strategy and will Basel III affect that much?
 - *"See above answer."*
8. What is your opinion about the proposed capital requirement of 20-30 % that many economists argue is necessary to acquire in order to stabilize the banking system?
 - *"The current concern is the connection between the required amount of capital and its eventual affect on lending. There is an obvious worry about the fact that banks do not lend sufficiently, which could inhibit the macroeconomic growth."*

As previously stated in this paper Länsförsäkringar Bank agrees on the fact that Swedish banks are not fully exposed to the same risks as other European banks. However we argue that there is a potential spill-over effect, which comes from other European countries and will cause damage on the Swedish financial markets as well. As Göran Zakrisson states there is a

substantial amount of work undertaken in order to imply the framework of the Basel III and he mentions the LCR as a good measurement for evaluating these impacts.

Further, about the proposed capital requirements of 20-30% from a number of economists, we agree with Göran regarding the potential inhibition of the macroeconomic growth, but stresses the importance of a higher capital requirement ratio and a gradually implementation of it.

6 Basel III critique

The implementation of the Basel III accord shall be done in order to reduce all of the problems that brought down the financial system in the crisis of 2008. If the new framework is developed in order to increase the resilience of the financial system it is of great importance that it actually manages to do this. Basel III is often seen as a solution to many of the problems enlightened in the previous crisis, but is the status of the accord as good as many instances want us to believe? This is a question we will try to answer in this section, and also incorporate some of the largest areas of concerns about the Basel III framework.

Many of the academic reports that have been examining the effects of Basel III on the banking industry have in turn led to critique. This critique is often concerning the layout of the Basel III and if it actually regulates the problem areas that caused the crisis of 2008 to be as severe as it turned out to be. A lot of the criticism regarding the framework emerges since it is clear that the banks and regulators have different views on how to prevent situations of financial stress from emerging.

If it shall be possible to regulate the banking system it is necessary for the regulators to realize that the system should not be perceived as an area where it is acceptable to have fragility where the default of one actor affects the whole system (Admati & Hellwig, 2013). This since it allows banks to maintain their exposures to risk. This risk is in many situations uncalled for and expensive for the society. Talking about this risk it has to be stated that previous to the crisis, banks was relying heavily on borrowed assets to conduct their operations. In order to create a healthier banking industry BCBS has increased the capital ratios in Basel III (Admati & Hellwig, 2013).The increased capital requirements in Basel III are often criticized by the banks since they claim that this would increase their cost. In contrast to this there are studies that show that the capital ratios rather would be 20-30% instead of the current Basel III

requirements. If the ratio were set to a higher ratio it would not be aligned with higher cost for the banks but rather increases the benefits for the society (Admati & Hellwig, 2013).

Another area subject to criticism is that the increasing complexity of the Basel I, II and III accords rather contributes to a situation where it gets easier for the banks to bypass the regulations since there will be uncertainty how the requirements is designed and which types of organizations that is covered by the accord, we argue that this “bypass” can be both an intended and unintended action by the bank. For example this type of holes in the framework resulted in activities mitigating from regulated business banks to unregulated investment banks. Other ways around the framework, in particular Basel II, was that the rules regarding the banks risk weights made it possible for the banks to conceal their risk exposure from regulating organizations and investors (Admati, 2012).

When treating the capital ratios and levels of liquidity the Basel III only sets minimum levels of requirements. If the goal of a regulation is set to make the financial system more resilient, would it not be better to set high targets of requirement levels? This comes from the fact that if all nations is striving towards higher requirements it would bring more unity to the regulations (Admati, et al., 2011).

If a system is built around a valuation system of risk-weights it gives the banks reasons to actually hideaway risk and leverage, which possibly could lead to situations where the banks investments is done in assets with low risk weights but this does not say anything about the underlying risk. The system of risk-weights also contributes to cases where banks actively work to transfer away risk from its books. Since Basel III uses risk-weights it can contribute to the fact that banks will increase their use of CDS's or swaps of different kinds. These actions will increase the systemic risk of the financial system even more.

7 Conclusion

After reading this paper, it is not an understatement saying that the Basel III accord is a framework of complexity and ambiguity. We argue, that because of this, there is an imminent risk that the accord is being misinterpreted, and that only a small number of individuals will be well-informed of it. As we mentioned in the critique section this can lead to situations were

banks and bank managers tries to surpass regulation by interpret the accord as favorable as possible, even if this off-sets the intended purpose of Basel III.

However, we argue that the Basel III accord is in fact an important step towards a more resilient banking system, but stresses the fact that it needs to be revised in a number of areas. As many economists argue, we agree on the fact that the capital requirement should be even higher in the future, but accentuate the importance of a successive implementation where the macro-economic stability is not threatened. We would also like to see additional parts of the framework that more specifically addresses issues regarding both systemic risk and shadow banking. Another thing that should be revisited in Basel III is if the capital ratios are enough to actually have an impact on the banks so that they actually reduce their borrowing to conduct their operations. In fact the capital ratios could be much higher in order to maximize the social benefit of regulations.

The rhetoric used by banks often states that it is unreasonably high costs associated with the higher capital ratios and will therefore impose stress on the banks finances. As we saw in the impact section there is an exaggeration about these statements and a cost impact is fairly moderate in these cases. We argue that this rhetorical issue both depends on banks willingness to impose increased costs on to its customers and the fact that there is a lack of knowledge in concepts and definitions.

In order to give the regulations full and effective power, we argue that there is a need for a change in the role of the government and its financial support toward banks. The current structure, and the concept of *to-big-to-fail*, allows banks to take on more risk than desired to experience great profits on the upside whereas an eventual downside will be paid by the government, and subsequently the taxpayers. There is a large possibility that banks continues to act in a irresponsible way, maybe unintended, as long as this relationship exists and despite new requirements on capital and liquidity.

Regarding the implementation of the Basel III accord in Sweden it can be concluded that it will decrease the systemic risk and that the cost aligned with this will be fairly low. We want to highlight the relatively long transition period which will help to recify for eventual unintended side effects of the Basel III accord implementation.

Finally we want to emphasize that the implementation of the Basel III accord needs to be carried out in an era that not suffers from financial crisis. This since there could be a need for banks to act as a catalyst for the economy and partly deviate from the regulations in less stable financial periods.

8 References

- Acharya, V. V., Kulkarni, N. & Richardsson, M., 2010. Capital, Contingent Capital, and Liquidity Requirements. In: *Regulating Wallstreet - The Dodd-Frank Act and the New Architecture of Global Finance*. s.l.:Wiley Finance, pp. 143-180.
- Admati, A. & Hellwig, M., 2013. *The Bankers' New Clothes: What's Wrong With Banking and What To Do About It*. Princeton, NJ: Princeton University Press.
- Admati, A. R., 2012. *Examining the Impact of the Proposed Rules to Implement Basel III Capital Standards*, s.l.: Stanford University.
- Admati, A. R., DeMarzo, P. M., Hellwig, M. F. & Pfleiderer, P., 2011. *Fallacies, Irrelevant Facts and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive*, s.l.: Stanford University.
- Adrian, T., Ashcraft, A., Boesky, H. & Pozsar, Z., 2010. *Shadow Banking*, s.l.: Federal Reserve Bank of New York.
- Balin, B. J., 2008. *Basel I, Basel II, and Emerging Markets: A Nontechnical Analysis*, Washington DC: The Johns Hopkins University School of Advanced International Studies.
- Bernanke, B. S., 1983. Non-Monetary Effects of the Financial Crisis in the Propagation of the Great Depression. *NBER Working Paper Series*, January.
- BIS, 2006. *International Convergence of Capital Measurements and Capital Standards - A Revised Framework, Comprehensive Version*, s.l.: Bank for International Settlements.
- BIS, 2008. *Principles for Sound Liquidity Risk Management and Supervision*, s.l.: Bank for International Settlements.
- BIS, 2009. *Proposed Enhancements To the Basel II Framework*, s.l.: Bank for International Settlements.
- BIS, 2010a. *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, s.l.: Bank of International Settlements.
- BIS, 2010b. *An Assessment of the Long-Term Economic Impact of Strong Capital and Liquidity Requirements*, s.l.: Bank for International Settlements.
- BIS, 2011. *Pillar 3 Disclosure Requirements for Remuneration*, s.l.: Bank for International Settlements.
- BIS, 2013a. *Basel Committee on Banking Supervision: Charter*, s.l.: BANK FOR INTERNATIONAL SETTLEMENTS.
- BIS, 2013. *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, s.l.: Bank for International Settlements.

BIS, 2013b. *History of the Basel Committee and its Membership*. [Online]
Available at: <http://www.bis.org/bcbs/history.htm>
[Accessed 8 April 2013].

BIS, 2013c. *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*,
s.l.: Bank for International Settlements.

Elliot, D. J., 2010. *Basel III, the Banks, and the Economy*, s.l.: Brookings Institution.

FSB, 2011. *Shadow Banking: Scoping the Issues - A Background Note of the Financial
Stability Board*, s.l.: Financial Stability Board.

Gorton, G. B., 2012. *Misunderstanding Financial Crises: Why We Don't See Them Coming*.
s.l.:Oxford University Press.

Hull, J. C., 2011. *Options, Futures, and Other Derivatives*. 8th edition ed. s.l.:Pearson Global
Edition.

Jaffee, D. & Walden, J., 2010. *The Impact of Basel III and Solvency II on Swedish Banks and
Insurers*, Stockholm: FIR - Swedish Financial Market Roundtable.

Moody's, 2012. www.moodyanalytics.com. [Online]
Available at: [http://www.moodyanalytics.com/~media/Insight/Regulatory/Basel-
III/Thought-Leadership/2012/2012-19-01-MA-Basel-III-FAQs.ashx](http://www.moodyanalytics.com/~media/Insight/Regulatory/Basel-III/Thought-Leadership/2012/2012-19-01-MA-Basel-III-FAQs.ashx)
[Accessed 5 May 2013].

Preston, H. H., 1933. The Banking Act of 1933. *The American Economic Review*,
December.XXIII(No. 4).

Schultz, R. M., 2009. *Credit Default Swaps and the Credit Crisis*. [Online]
Available at: <http://nber.org/papers/w15384>
[Accessed 26 Juli 2013].

Westerfield, R. B., 1933. The Banking Act of 1933. *Journal of Political Economy*, December,
41(No. 6), pp. 721-749.

Wissén, P. & Wissén, U., 2011. *Finanskrisen Förklarad*. Stockholm: Fores.