2012

The impact of new financial regulations on financial markets instruments within banks

Sjoerd Borrius - S0141089

University of Twente

27-8-2012

Preface

From September until the end of June, an internship program has been performed at Accenture Nederland, located in Amsterdam. Accenture is a global management consulting, technology services and outsourcing company, with more than 249,000 people serving clients in more than 120 countries. The internship comprised the organization of the first BeLux Innovation Awards for Financial Services, combined with a master thesis about the impact of recent financial regulations on the financial instruments within banks, which serves as a final part of the master industrial engineering and management at the University of Twente.

It has been argued that due to the many regulatory changes in the banking industry, banks are facing new regulatory boundaries that force banks to alter their balance sheet (i.e. financial instruments portfolio). At the moment, the impact of many of these new regulations remains unclear, and so far there is no overview of what to expect from these new regulations. This master thesis is written to create insights in the upcoming regulatory changes regarding financial market instruments within banks, and to provide an overview of the upcoming changes that banks can expect in the near future.

I own a lot of gratitude to Mr. Van Alen from Accenture, who was of great support during my internship at Accenture, both with my thesis, and the Accenture BeLux Innovation Awards. I also own a lot of gratitude to Ir. Kroon of the University of Twente, who supervised me writing this thesis.

Table of Contents

Abbreviations

ABS	Asset Backed Securities
AIF	Alternative Investments Fund
AIFMD	Alternative Investments Fund Managers Directive
ANNA	Association of National Numbering Agencies
BIS	Bank for International Settlements
BPM	Balance of Payments and International Investment Position Manual
CAR	Capital Adequacy Ratio
CCP	Central Counterparty
CDS	Credit Default Swap
CESR	Committee of European Securities Regulators
CRD	Capital Requirements Directive
CSG	Client Service Group
DGS	Deposit Guarantee Schemes
EC	European Committee
ECB	European Central Bank
EMIR	European Market Infrastructure Regulation
ESA	European Market Infrastructure Regulation
FATCA	Foreign Account Tax Compliance Act
FFI	Foreign Financial Institution
FMI	Financial Market Instrument
FRA	Forward Rate Agreement
FS	Financial Services
IASB	International Accounting Standards Board
ICS	Investment Compensation Scheme
IFRS	International Financial Reporting Standards
LCR	Liquidity Coverage Ratio
LMS	London Market Systems
MAD	Market Abuse Directive
MBS	Mortgage Backed Securities
MiFID	Markets in Financial Instruments Directive
MMF	Money Market Funds
NAV	Net Asset Value
NSFR	Net Stable Funding Ratio
OTC	Over-the-counter
PROSP	Prospectus Directive
RWA	Risk Weighted Assets
SEC	Securities Exchange Commission
SNA	System of National Accounts
TD	Transparency Directive
TREM	Reporting Exchange Mechanism
UCITS	Undertakings for Collective Investment in Transferable Securities

Executive Summary

In the aftermath of the financial crisis many new financial regulations have been created and existing regulations have been revised. Many of these regulations are designed to regulate financial market instruments, which are the building blocks of a bank's portfolio. It's therefore very likely that these new regulations will have a profound impact on a bank's portfolio and consequently its operations.

Despite these potentially large affects for a bank as a whole, most of the current research focuses on the impact of a specific regulatory change in relation to one singe instrument, while ignoring the total picture. Therefore this research aims to get a better understanding of the total impact of the regulatory changes related to financial market instruments within banks. The objective is to:

Identify bank specific opportunities and challenges for eight larger banks within Gallia for the coming years, following from changing regulations regarding financial market instruments, by getting insight in the regulatory changes regarding financial market instruments, identifying bank specific characteristics in the use of financial market instruments and analyzing the consequences of these changes for the portfolios and operations of those banks.

This research covers fifteen regulations in total: thirteen European Directives and Regulations, and two U.S. Acts, along with eight pre-selected banks over which these regulations will be analyzed.

The fifteen regulations are:

- Alternative Investments Fund Managers Directive
- Basel III/CDR IV
- Dodd–Frank Wall Street Reform and Consumer Protection Act
- European Market Infrastructure Regulation
- Foreign Account Tax Compliance Act
- Guarantee Deposit Schemes
- Investment Compensation Schemes
- Market Abuse Directive
- Markets in Financial Instruments Directive II
- Minimum Reserve Requirements
- Money Market Funds regulations
- Prospective Directive
- Short Selling Directive
- Transparency Directive
- Undertakings for Collective Investment in Transferable Securities V

The eight banks that were selected for this research are:

- ABN Amro
- BNP Paribas
- Crédit Agricole
- Dexia
- ING
- KBC
- Rabobank
- Société Générale

Defining financial market instruments

The first part of this research defines financial market instruments, and categorizes them in instrument categories, to allow for structured analysis. The categorization is largely derived from the "Statistical classification of financial markets Instruments" of the European Central Banks, but slightly simplified to accommodate the related regulations. The classification is presented in the table below

Financial Market Instruments classification

Category	(Sub-)Classes	Instruments	Related regulations
Debt instruments	Un-securitized debt	Deposits and loans	Guarantee Deposit Schemes Investment Compensation Schemes Minimum Reserve Requirements
	Debt securities	Sovereign debt securities	Lamfalussy Directives (MAD, MiFID II, PROSP, TD)
		Other securities	
Equity instruments	Stocks	Equity	Basel III/CRD IV
	Funds	Money market funds	Money Market Funds regulations
		Investment funds	UCITS V AIFMD
Derivatives		Interest Rate derivatives	EMIR MiFID II Short selling directive
		Credit Default Swaps	
		Commodity derivatives	
		Other derivatives	

New and changing financial regulation

Part II of this research is split up according to the instrument classification as shown above, and outlines the details of the fifteen regulations and specifically addresses issues with financial market instruments related to banks. A summary of the main issues, impact areas and consequences for banks in general, as analyzed in part II can be found in tables 9-12 on pages 94-97.

This initial analysis already displayed serious issues and impact areas for several regulations. For example the introduction of Deposit Guarantee Schemes will increase the cost of funding by at least several base points. MiFID II will force market makers and brokers have to make structural changes in systems and procedures to comply with reporting obligation, and retail banks with non-professional investors have to become more prudent advising clients. Additionally Basel III/CRD IV will cause the need for extra Tier 1 capital and adversity against high RWA instruments. This is reinforced by the need for more (low risk) liquidity. On the other hand the leverage ratio increases requirements for low RWA portfolios as the leverage ratio is non-risk-weighted. The derivative markets are also affected by Basel III/CRD IV, EMIR and MiFID II as all three regulations promote the shift to CCP clearing and exchange traded markets or other organized- and multilateral trading facilities.

Part II also shows that the Investment Compensation Schemes, the Minimum Reserve Requirements, the Market Abuse Directive, the Transparency Directive and the Alternative Investments Fund Managers Directive have lesser impact on banks in general, as changes are either insignificant or they only indirectly affect banks.

Analysis of the U.S. Dodd–Frank Wall Street Reform and Consumer Protection Act show similar but slightly stricter regulatory changes in the U.S., but have a very limited effect on European banks, as they are bound to U.S. banks and bank holding companies and U.S. markets. A more serious regulatory change is the initiation the Foreign Account Tax Compliance Act. This new Act forces Foreign Financial Institutions to either comply with extensive administrative and reporting requirements of their customers' U.S. source income or pay a 30 percent withholding tax over all their customers' U.S. source income.

Bank characteristics

The third part of this research comprised an extensive analysis to characterize the eight selected banks, in order to identify bank specific opportunities and challenges related to the regulatory changes identified in part II. This paragraph summarizes the main observations during this analysis.

It stands out that the three French banks (especially BNP Paribas and Credit Agricole) are by far the largest of all. The three French banks all have major corporate and investment banking activities, with assets and liability allocations of more than 50 percent of their total assets and liabilities, with the fast majority of this tight up in derivatives, and (sovereign) bonds.

The Dutch and Belgium banks are very different from the French ones. They have large retail operations focusing on deposits and mortgages and only have little to none investment banking activities. Were they do have some corporate and/or investment banking activities, they focus on their domestic market or some niche market within the investment banking market like ABN Amro and Rabobank.

ING on the other hand has little to no investment banking activities, but rather focus on cash management and corporate finance for their commercial clients. Their retail operations are relatively widespread compared to ABN AMRO and Rabobank, due to ING Direct, which combines online retail operations with (life) insurance operations across Europe and Canada.

Dexia and KBC are both two different stories. KBC has a large intertwined retail network of banking and insurance operations in Belgium and Central and Eastern Europe, profiling their self as "Bancassurer". Dexia engages in retail, commercial, and wholesale banking, providing deposits and mortgages to retail clients and focusing on corporate loans with their wholesale banking, but is overshadowed by their non-performing legacy portfolio, grouping together € 134 billion worth of assets.

Bank specific conclusions

The following paragraphs will present the conclusions of the impact assessment as performed in part III of the research for each of the eight banks. An overview of the banks specific challenges and opportunities can also be found in table 17 on page 151.

ABN AMRO

ABN AMRO is for most part a retail bank with a strong focus on their domestic market. Their large mortgage portfolio places a large burden on their required stable funding, but this is no problem as their NSFR is already 100 percent and is likely to increase further.

However, the strong retail focus and ABN AMRO's mortgage portfolio does indirectly causes the low LCR. Loans and mortgages are long term assets, and do not contribute to the liquidity position of the bank. That's why they need to attract more liquid assets, such as cash and marketable securities

ABN AMRO Clearing will have to undergo the large reforms, as the MiFID II, EMIR and Dodd-Frank act are slowly starting to change the derivatives market. ABN AMRO has to adept their transaction processes the regulated OTC trading with central counterparty clearing. This is at the same time a big opportunity for ABN AMRO as a whole to reestablish themselves as a global player. With upcoming mandatory CCP clearing ABN AMRO can lead the way as a clearing facilitator for global corporations and other banks, especially within the energy, commodities, and transportation business.

BNP Paribas

BNP Paribas is the largest investment bank in this research and have a riskier business model than most banks. This means they are likely to pay more contributions to the DGS (possibly up to three times more). This is the price they pay for funding their investment banking activities with deposits. On the other hand, the global presence of BNP Paribas can be exploited to the search for other (stable) funding opportunities to keep the cost of funding manageable.

Although BNP Paribas' debt securities are strongly affected by MiFID II and PROSP and requires some structural changes across the whole securities value chain, their large securities portfolio also has an important advantage. Due to the fact that these securities (bonds and treasury bills) are eligible as high quality liquid assets it should be easier for BNP Paribas to reach the LCR requirements.

BNP Paribas is also one of the world leaders in derivatives trading and will be significantly affected by the MiFID II and EMIR, but also the Dodd-Frank act. They will have to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties. This will require a major process transition within the next few years. Combing the facts that BNP Paribas is seeking to reduce their RWA and their required stable funding, and the upcoming market and procedural changes in the derivatives market it is decision time for BNP Paribas, as they have to change course with their derivatives business.

Crédit Agricole

Crédit Agricole is a very large co-operative retail bank with a very large derivatives portfolio. With many domestic and foreign retail clients their estimated DGS contributions are by far the largest of the banks discussed in this research. This large deposit base ensures a large amount of stable funding. On the other hand, like BNP Paribas, they have immense stable funding requirements due to the large derivatives and loans portfolio. To meet the NSFR requirements, Crédit Agricole either needs to raise extra funds, or divest a large part of their derivatives portfolio.

The CAR is not really a problem at this point due to the co-operative structure they have enough regulatory capital to meet the Basel III/CRD IV requirements, as long as the minority interest in the regional banks are recognized as Tier 1 equity. The RWA will also decrease as a result of their announced divestments in their derivatives portfolio, which makes it even more likely that they will meet the requirements.

These divestments are necessary, as their derivative portfolio hinders Crédit Agricole to meet the Basel III/CRD IV requirements and causes an estimated leverage ratio of 2.17 percent is the disproportionate derivatives portfolio. The problems with their derivatives portfolio reach far further than implementation issues of MiFID and EMIR. The fact that these financial instruments do not contribute to a better LCR or NFSR, and carry a high risk weight combined with the lack of stable funding and liquidity makes this a real issue. Solving this will require serious restructuring of Crédit Agricole's balance sheet along with procedural and operational changes required by MiFID II and EMIR.

Dexia

Dexia is by far the worst bank discussed in this research. Dexia's assets and liabilities have no structure and are spread across several non-strategic investments. Their assets are tight up in their legacy portfolio, and public and wholesale activities, and they've sold the largest part (DenizBank) of their only profitable business, leaving the rest of their retail operations for sales.

Issues about new regulations like the CAR, LCR, NSFR, leverage ratio, but also regulations like MiFID for example are not relevant at this point in time. Dexia first has to try to pay off their debts and divest their legacy portfolio. When this is done they can inventory the remaining assets and liabilities, and see whether there is basis for a going concern or they need to continue to dismantle the bank.

ING

ING Bank is a textbook example of a straight forward retail bank, with geographically dispersed activities. They are almost exclusively funding by deposits and have a large mortgage portfolio. This combination carries very little risk, which results in a healthy capital ratio that ING intends to improve by strengthening their capital base, and divesting high risk weighted assets from their relatively small trading portfolio.

Their NSFR and LCR are almost at target level and are likely to increase by attracting additional funding and replacing maturing non-eligible assets with eligible ones respectively, along with the planned increase in capital and the divestments

Since ING has little to no securities and do not actively trade in derivatives they are hardly affected by new regulations such as the Lamfalussy directives, EMIR or the Short Selling Directive. Also the fact that ING recently sold their U.S. Banking operation makes that they experience no effects of the upcoming U.S. regulations.

KBC

KBC is just like ING a bank with a very homogeneous portfolio, which is combined with insurance operations. KBC is also almost entirely funded with deposits and has therefore has to pay significant contributions to the European DGS for a small bank. These funding costs can further increase when they need to attract extra deposits to meet the Basel/CRD IV requirements.

Their current CAR is very healthy, but expected to drop significantly as minority interests and large sums of deferred tax assets will partially fall out the Common Equity Tier 1 capital requirements. This is especially troubling because they have a very high RWA of 44 percent. Therefore KBC has already revised their strategy and will divest high-risk weighted assets such their ABS and CDO portfolio to reduce the total RWA.

KBC's NSFR on the other hand should be easy to manage, as they have access to large amounts of available stable funding with their deposits activities. Additionally un-collateralized customer loans that might require too much stable funding can be divested. This will also help to further decrease the RWA. The LCR is more of a concern for KBC. With relatively few high-quality liquid assets and large potential cash outflow it will be difficult to reach the LCR requirements. They certainly need to attract more liquid assets, which can be financed via the disposal of high-risk non-liquid assets.

KBC also has a large asset management division, which will be affected by MiFID II, PROSP, and TD. They also need to realign their investment strategy, as the dispersed European funds market is expected to merge, which will result in larger and more stable funds as a result of the new Master-Feeder structures and the EU passporting proposed in UCITS V and AIFMD.

Rabobank

Rabobank is the best-positioned bank of the eight that were reviewed. They have the highest CAR, one of the highest leverage ratios, and good indicators for a healthy LCR and NSFR with large amounts of cash and available stable funding. Also the fact they already have amended their Member Certificates to make them eligible Common Tier 1 Capital signals a pro-active and transparent attitude.

Currently there are no signs that Rabobank should worry about their NSFR and LCR. When necessary, stable funding can be raised via commercial deposits from food & agri related corporations as they have extensive knowledge of the food & agri market and are therefore the preferred bank for many food &

agri corporations worldwide. Also liquidity increased can by attracting marketable sovereign debt securities, which are eligible as high-quality liquid assets, carry little risk and help diversify Rabobank's portfolio, as they have virtually no debt securities.

Given their global approach, Rabobank will also be affected by the U.S. Dodd-Frank Act, and particularly the derivatives reforms. Fortunately the U.S. derivatives reforms are focused on swap clearing, and do not particularly affect the commodity business. Rabobank will be concerned with additional transparency and reporting requirements, along with an additional set of rules of business conduct. Ideally Rabobank should align these new requirements with the new European regulations such as EMIR and MiFID II, which will require standardizing as many contracts as possible and shift part of the derivatives trading to exchanges and Organized Trading Facilities.

Another U.S. issue for Rabobank is FATCA. Rabobank will be forced to enter the IRS agreement, as abandoning their customers is not an option because the U.S. market is too important for Rabobank. Also obligating customer to pay withholding tax will cause them to switch to competitors. Rabobank already recognized the situation and pro-actively indicates that they will take on these new responsibilities. It does however require swift action with regard to customer on-boarding in order to set-up the proper administrative and reporting processes.

Société Générale

Société Générale is a well-diversified bank in terms of operations, with significant retail banking, investment banking and asset management activities. Both in terms of geographical allocation and activities Société Générale is very comparable to Crédit Agricole.

Société Générale will encounter serious problems to reach the Basel III/CRD IV requirements with (apart from Dexia) by far the lowest capital ratio of the investigated banks. The problem lies in their high risk portfolio, as they have more than enough capital compared to other (larger) banks. This is probably one of the reasons that Société Générale intends to reach the capital requirements without raising additional capital. This implies that they need to increase their earnings and seriously need to lower their RWA in a relatively short period of time. The risk mainly lies in their large derivatives portfolio, and partially in their un-collateralized loan portfolio, which therefore both need to be reduced significantly.

The other serious problem for Société Générale is their low NSFR. Just like with the other French banks, their large derivatives portfolio, and their relatively few collateralized loans require enormous amounts of stable funding. This will also require them to reduce their required stable funding. As they also need to reduce their RWA they logically should seek to divest assets with both a high-risk weight and a high required stable funding factor.

The impact of MiFID II and EMIR, and also the Dodd-Frank Act will have significant impact on their derivatives operations. MiFID and EMIR together introduce structural market changes, which require them to change their derivatives trading processes. These changes, combined with the fact that they need to divest parts of their derivatives portfolio, will turn the investment bank upside down. The challenge for Société Générale is to formulate a new investment banking and derivatives strategy, whilst being selective in derivatives investments as they place a large burden on the regulatory requirements.

Regulatory trends and overall conclusion

The impact analysis of the eight banks has also let to great insight in the banking sector as a whole. Several commonalities between the different banks were found in terms of structure, regulatory issues, and in some cases even similar solutions to regulatory issues. As an additional final result, a final analyses has been performed, which took a stepped away from the bank specific issues to produce an aggregated view on the banking sector with regard to regulatory changes concerning financial market instruments. An overview of the main results can also be found in table 18 and 19 on page 158- 159.

This final analysis shows that the financial markets will be heavily regulated for the coming years. The financial reforms stretch throughout the entire financial sector, but particularly influence the high-risk instruments such as derivatives and un-collateralized loans. First of all Basel III/CRD IV severely limits the possibilities to carry large portfolio with these instruments which requires many banks to dispose parts of these portfolios. Secondly the derivatives are also influenced directly through EMIR and MiFID, which requires banks to standardize contracts, move the instruments to regulated markets and requires them the clear as many derivatives as possible through central counterparties. This is turning the whole OTC market upside-down and will force involved banks to seriously readjust their strategy.

Other regulations like for example the Deposits Guarantee Schemes, Investment Compensation Schemes, MAD and UCITS (V) are all very welcome changes for everyone, as they provide better protection to all banks and their clients, which stabilizes the market. Although some of these regulations, like the Deposit Guarantee Schemes, bring along extra costs, they are fairly distributed among the banks that receive the most protection and carry the largest systemic risk. Also MAD requires additional reporting and gives more power to regulators to intervene in bank's operations, but that is the price they pay for a fair and stable market without abuse by some banks. Others like UCITS V pave the road for new opportunities, and clear out administrative roadblocks that hinder banks to easily market their products across the European Union.

Finally it can be said that with over a dozen of new or changed regulations that need to be implemented the coming 3 years, these are probably the most turbulent times that banks have ever faced in terms of regulatory changes. After 2015 most of the regulations are entirely implemented except for Basel III/CRD IV and the Deposit Guarantee Schemes, which remain an issue until 2019 and 2020 respectively.

Many U.S. regulations like the Dodd-Frank Wall Street Reform and Consumer Protection Act are already slightly stricter that their European counterparts. Time will tell whether the European regulations will be superseded by even stricter regulations like their U.S. counterparts. If this will be the case, the European financial sector will be further tightened-up and banks might need to prepare for the second round of financial reforms. Another scenario is that after the recovery of the financial sector, regulations will be deregulated to some extend to stimulate the European economies by allowing to partially reinstated market mechanism.

Introduction and research description

Practical problem and its background

Accenture is a global consultancy, technology and outsourcing company with many clients, operating in many different industries. In order to manage this diverse set of clients, Accenture has creates Industry-based global operating units, responsible for: marketing, selling, and delivering services to clients; and profit and loss. A global operating group is comprised of operating units that contain groups of clients. Accenture currently has five operating groups: Communications, Media & Technology, Financial Services, Health and Public Service, Products and Resources. Each Operating Group consist again of one, or several Client Service Groups (CSG), which is a grouping of units, teaming together to serve a logical group of clients, based upon their needs. Client service groups are responsible for metrics related to leadership development, and financial metrics such as sales and revenue growth, value generation and margin. In addition, client service groups are responsible for managing and developing their people (Accenture, 2011).

Since the latest financial crisis, many new regulations have been, and are being made by different (governmental) groups and affect practically all banks. These regulations are imposed by international governments and governing organizations, such as for example BIS, the European Committee and the US States Congress, with Basel II/III, Solvency II and the Dodd-Frank Act. Many of these rules comprise the increase of capital requirements, especially for assets and instruments with a high risk profile. Implementations of these new rules will influence the entire banking sector all around the world and will set new standards in the way business is done in the banking industry.

These changes will also are of great importance to Accenture, as many of their clients within Financial Services (FS) will also have to comply with these upcoming changes. Within the CSG FS Gallia (Belgium, France, Luxemburg and The Netherlands) Accenture's clients are, amongst others: ABN AMRO, BNP Paribas, Credit Agricole, Dexia, ING, KBC, Rabobank, Royal Bank of Scotland, La Banque Postal and Société Générale. In order to serve their clients in the best possible way Accenture needs to have comprehensive knowledge about the changing financial environment, especially with regard to the new and changing laws and regulations. It is also of great commercial importance for Accenture to stay in the forefront of their clients' changing playing field, in order to spot, and capitalize on upcoming challenges and opportunities for Accenture herself, and their clients in the financial sector.

Accenture's current operations to map these regulatory changes and their impact are accommodated in a risk management taskforce. This taskforce has a strategy perspective and is mainly focused on the portfolio effects on consolidated bases (i.e. asset and capital requirements). This is foremost a technical matter and therefore remains rather mathematical. For CSG purposes it would be more interesting to get a more textual (less mathematical) insight in the most import effects of these on the current business model of several banks, caused by the regulatory changes. This can be achieved by analyzing the building blocks of these portfolios, and giving a chronological overview of the upcoming changes regarding "financial market instruments", and focusing on bank specific opportunities and challenges (i.e. translating the mainly mathematical based regulatory changes affecting the financial instruments into a comprehensive understandable overview).

Therefore the aim of this research will be to go one step back from this portfolio based view, and look at how financial markets instruments, the building blocks of financial portfolios, are individually affected by the *combination* of recent regulatory changes. With this knowledge at hand, business operations of the larger banks in Gallia (which are almost all clients of Accenture) can be analyzed on instrument basis, to identify specific opportunities and challenges, based on their current portfolio and field of operations.

This knowledge can then be shared with the Gallian CSG Financial Services and other stakeholders, in a presentable tool, which will quickly give insight in the upcoming changes in these building blocks of the financial industry, and also highlight specific challenges and opportunities for several Gallian banks.

Research Design

The research design for this research is guided by the framework of Verschuren & Doorewaard (Verschuren & Doorewaard, 1995). They provide a step-by-step approach to come to a research model. Stages followed are: objective formulation, research model design, and question formulation. The resulting research model is presented in the below.

Objective

The objective of this research is to identify bank specific opportunities and challenges for eight larger banks within Gallia for the coming years, following from changing regulations regarding financial market instruments, by getting insight in the regulatory changes regarding financial market instruments, identifying bank specific characteristics in the use of financial market instruments and analyzing the consequences of these changes for the portfolios and operations of those banks.

Research object

The research object will be the Financial Markets Instruments. As a starting point existing classifications on financial instruments will be examined to identify different classes of instruments classified. The main classification that will be reviewed is the one made by the ECB (European Central Bank, 2005). After these classes and associated instruments have been explored, these instruments need be grouped according to their origin and field of application (i.e. their use within banks).

Also the banking activities that are considered need to be outlined. This research will only focus on commercial & retail banking and parts of investment banking. This research will neglect any associated insurance operations performed by banks.

Research model

An in depth analysis of the financial market instruments classification, in terms of technical and mathematic properties of the subcategories and their according products, in combination with a literature research on the sub-categories and those according products, together with a literature research on new and changing financial regulations, gives a collection of analysis-objects, with which the impact of those regulations per FMI category can be analyzed.

On the other hand a literature research will be done on the business models and bank specific operations of several, in coordination with an Accenture risk-management and banking expert, preselected Gallian banks. This will generate bank specific characteristics on the use of the different FMI categories and its corresponding products.

With these two pieces of information, bank specific consequences of the new and changing regulations can be analyzed, and challenges and opportunities can be identified for each bank specifically.

After this stage there will be concluded with overall expected trends and recommendations for the banking industry within Gallia, to give an insight in the consequences of the upcoming regulatory changes in the banking industry. A graphical representation of the research model is depicted in Figure 1.

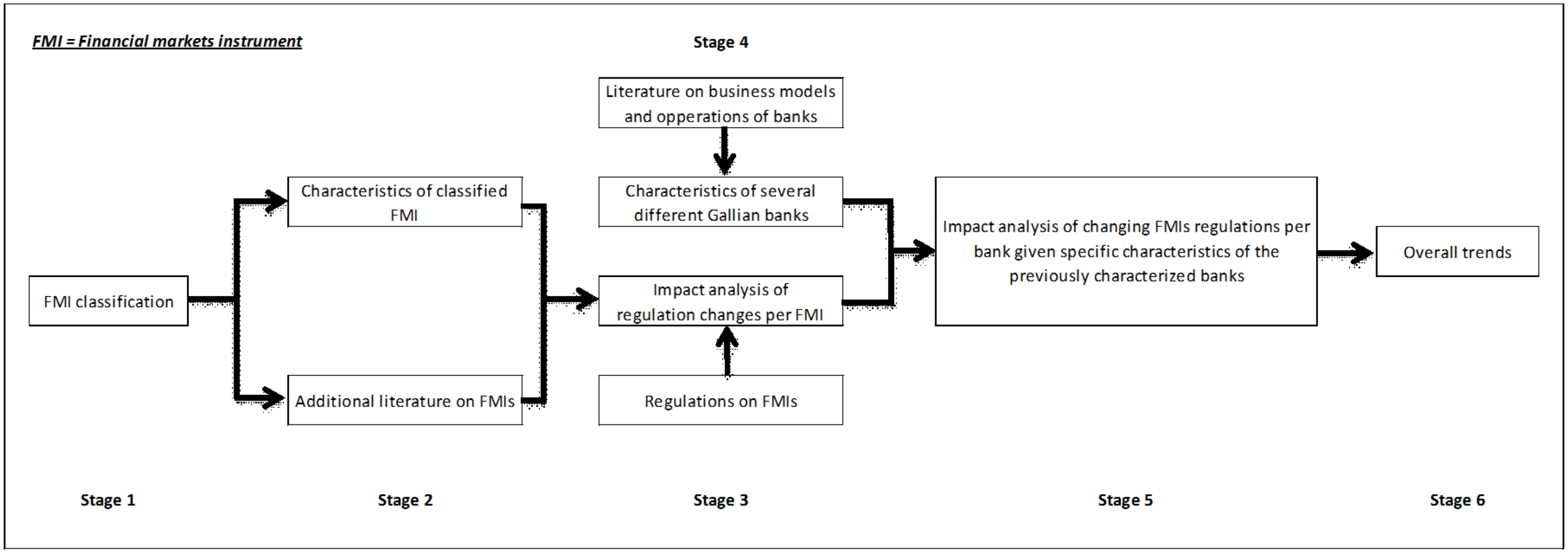


Figure 1: Research model

Research questions

The research questions are split up in a central research question, which covers the entire research model, supported by three main research questions for each part of the research, which are again further broken down in several sub-questions. The central research question is stated below.

Central research question:

What are the upcoming, bank specific, opportunities and challenges regarding the bank's business model and operations for the coming years, following from the new and changing regulations for financial market instruments, for eight larger banks within Gallia?

Three separate parts of the central research question can be identified, and will each have their own main research question, with all a set of sub-questions which lead the necessary information to answer the main, and finally the central research question. In the order of the research model three identifiable parts in the central research question are; 1) financial market instruments, which will be explored per category, 2) the new and changing regulations related to financial market instruments, and 3) the business model and operations of a selection of eight larger banks within Gallia. In the below the three main research questions are formulated, together with their according sub-questions.

Research questions:

1. What are the characteristics of each of the financial market instruments (sub-) categories and their associated financial products, which might be influenced by new and/or changing regulations?
    a. What are the financial market instruments (sub-) categories and their associated financial products?
    b. What are the characteristics of the financial market instruments (sub-) categories and their associated financial products?

2. How do the new and/or changing regulations affect each of the financial market instruments (sub-) categories and their associated financial products?
    a. What are the new/changing financial regulations?
    b. How will they be implemented the coming years?
    c. What does additional literature say about the influence of new and/or changing regulations on each specific financial market instruments (sub-) category and associated financial products?
    d. How do those changing regulations influence each of the financial market instruments (sub-) categories and their associated financial products individually in the coming years?

3. What opportunities and challenges are arising the coming years, following from the changing regulations for the financial market instruments, regarding the business model and operations of the individual banks?
    a. What does the business model of each of the selected banks look like?
    b. What are the characteristics of the operations within those business models related to the financial market instruments of the selected banks?
    c. How do the previously found influences of changing regulations on the financial market instruments and their associated products have impact on the business model and the operations of the selected banks the coming years?
    d. What are the bank specific opportunities and challenges that arise from the established outlook for each bank?

   To conclude and summarize the research there is a final research question, which be answered as well as possible with the obtained insights (i.e. it will be answered using the already known, so no additional research will be spend on this question).

4. What are the overall (expected) trends concerning the challenges and opportunities faces by the different banks?

Selection of eight banks

The eight banks that are selected for this research are evenly spread throughout Belgium, France and The Netherlands. The initial idea was to take the three largest banks of each country. This would result in the following banks:

- Belgium: BNP Paribas Fortis, Dexia, KBC
- France: BNP Paribas, Credit Agricole, Société Générale
- The Netherlands: ING, Rabobank, and ABN AMRO

Since the largest bank of Belgium BNP Paribas Fortis is a subsidiary of the much larger France BNP Paribas with more than 80 percent ownership of BNP Paribas Fortis will therefore not be reviewed separately, as otherwise the Fortis part would be reviewed twice: first included in the consolidated BNP Paribas and secondly as a separate bank. This requires much computational effort to separate the two in the consolidated annual report, and at the same time lead to confusion in an already complex analysis.

The next logical step would be to add the fourth largest bank of Belgium. This would be ING Belgium. However, ING Belgium is a 100 percent subsidiary of the ING Bank N.V, just like BNP Paribas Fortis is a subsidiary of BNP Paribas. Therefore additional Belgium banks were considered like Bank van de Post and Bank J. van Breda & Co. Bank van de Post is a 50-50 joint venture of (again) BNP Paribas and Bpost (the Belgium postal services). Therefore it is already included in the consolidated BNP Paribas reports, and besides that the annual reports of Bpost are focused on their postal operation rather than Bank van de Post, which makes it difficult to separate the banking operations from the rest. Bank J. van Breda & Co has only 4 billion of total assets, which makes is a total assets value of 1 percent of the next smallest bank considered: KBC. Therefore also Bank J. van Breda & Co. will not be taken into account in this research.

The final list of banks that will be analyzed in this research will therefore be: ABN AMRO, BNP Paribas, Credit Agricole, Dexia, ING, KBC, Rabobank and Société Générale.

Plan of approach

Activities and planning

The table with activities and planning can be found in Table 1 on the next page.

Deliverables

As already pointed out in the “Problem and its background” section, all the results will mainly be used as reference material within the CSG Financial Services, and might also be shared with other stakeholders (clients, suppliers, partners, et cetera) to gain more insights in the currently changing playing field in the banking sector, due to regulations. Therefore the findings and results of this research should at least include the following features:

- Timelines, indicating the implementation dates of the analyzed regulations;
- An overview of related regulatory changes and its implications per instrument;
- An overview of bank specific characteristics related to its business model and operations;
- An overview of bank specific opportunities and challenges related to their business model and operations;
- A general outlook indentifying market-wide trends.

Table 1: Research planning and actions

Planning and actions	Duration
Stage 1	
What are the financial market instruments (sub-) categories and their associated financial products?	
Search literature and regulation agencies to identify different classifications	2 weeks
Chose and describe best classification system	2 weeks
Stage 2	
What are the characteristics of the financial market instruments (sub-) categories and their associated financial products?	
Search classification documents and literature for details and describe this for each category	2 weeks
Search literature for trends and additional remarks and add this where applicable/useful	2 weeks
Stage 3	
What are the new/changing financial regulations?	
Search regulation agencies, and identify the applicable regulations per category (split up in geographical areas where necessary)	4 weeks
Identify the changes in these regulations for as far as known in the future	2 weeks
How will they be implemented the coming years?	
Provide insight through a timeline of implementations deadlines and key changes of the identified changes per category	1 week
What does additional literature say about the influence of new and/or changing regulations on each specific financial market instruments (sub-) category and associated financial products?	
Search literature for existing articals on the impact of regulations on the different FMI categories	2 weeks
How do those changing regulations influence each of the financial market instruments (sub-) categories and their associated financial products individually in the coming years?	
Combine relevant literature with the insights gained while researching the changing regulations	2 weeks
Stage 4	
What does the business model of each of the selected banks look like?	
Search in literature and describe the general business model of a bank	1 week
Add typical bank specific characteristics by reviewing the literature	2 weeks
What are the characteristics of the operations within those business models related to the financial market instruments of the selected banks?	
Search literature and Identify the general activities/operations in a bank regarding the use of financial market instruments	1 week
Add bank specific activities/operations regarding the use of financial market instruments by reviewing literature and bank info	2 weeks
Stage 5	
How do the previously found influences of changing regulations on the financial market instruments and their associated products have impact on the business model and the operations of the selected banks the coming years?	
Combine the previous and make an overview of how the specific banks will be influenced by the changing regulations on the financial market instruments	2 weeks
What are the bank specific opportunities and challenges that arise from the established outlook for each bank?	
State challenges and opportunities from the established outlook for each bank	
	1 week
Stage 6	
What are the overall (expected) trends concerning the challenges and opportunities faces by the different banks?	
Identify and state the overall perceived trends regarding the challenges and opportunities faces by the different banks	1 week

Part I – Defining financial market instruments

In the first part of this research the definition of financial market instruments will be explored and a proper classification system will be chosen to categories these instruments. The last chapter of part I will define the characteristics of chosen instrument categories.

Chapter 1 - Financial Instrument Classifications

The first part of this research will provide insight in definition of financial market instruments, the different classifications available for these instruments. When a suitable classification is chosen, the different instrument categories will be discussed in terms of characteristics and features together with the according instruments.

The classification systems that will be reviewed come from different international organizations, institutions, and platforms concerned with financial instruments. From all the options the most suitable classification will be chosen, and might be adapted additionally in order to optimize it for the use in this research. It must be noted that the purpose of the research is to analyze the impact on banks. Therefore a suitable classification would be one that covers the main instruments used by banks.

After such a classification of financial instruments is established, the included financial instruments will be discussed in detail. This will include definitions, characteristics, and comparison with related instruments and additional issues covered in the literature. This will lead to a set of financial instruments, particularly pointed towards the banking industry. These will then be used to analyze and predict the impact of the changing regulations discussed in part II on the selected banks.

Definition of financial instrument

In order to be able to identify an appropriate classification of financial instruments it is essential to have a clear description of financial instruments. A search through literature and regulations shows that a definition of a financial instrument is almost exclusively defined in the most of the prominent intuitions and regulations like IAS 32 (IASB, 2011), IFRS 7 (IASB, 2010), IFRS 9 (IASB, 2010) BPM6 (IMF, 2009), and ESA 95 (EC Council, 1996). On top of that, the regulations are very much intertwined when it comes to a definition, and almost all refer to IAS 32 (IASB, 2011) as the basis for the definition of a financial instrument. Also the ECB (European Central Bank, 2005) notes that: “The definition of financial markets instruments used … is based on two international standards that are relevant for financial markets and statistics: the International Accounting Standards (IAS) and the ESA 95”.

For convenience and the fact that the classification of the ECB will be used later on in this research, the slightly simplified definition of the ECB will be maintained during this research when referring to a financial instrument and is stated as follows: “*…a contract that gives rise to a financial asset of one entity and a financial liability (or equity instrument) of another entity, highlighting the fact that financial markets instruments represent a store of value without possessing an intrinsic value of their own*”.

This definition is extracted from IAS 32.11 (IASB, 2011), which states the following definition: “A financial instrument is any contract that gives simultaneously rise to a financial asset in one entity and a financial liability or equity instrument in another entity”, followed by an overview and definitions of a financial asset and liability. For completeness, this extensive definition can be found in Appendix B.

Existing classifications for financial instruments

To create structure in the large scope of financial instruments several institutions, regulation agencies, companies and collaboration partnerships have established several different types of classifications regarding financial instruments. All these classification serve a different purpose and are therefore quite different in essence. LMS (London Market Systems) recognizes four different purposes of classification systems (Londen Market Systems, 2010):

1. Regulatory reporting (and trading):
   i. ISO 10962 CFI: used by EU (CERS) for transaction reporting of securities and many national numbering agency (NNA).
2. Settlement and reconciliation messaging:
   i. The ISITC (North America) Classification: Used for settlements and reconciliation messaging;
   ii. The ISDA/FpML (Financial Products Mark-up Language): Product type code list: ISDA OTC Derivative contract identification;
   iii. The CESR Derivative type code list: Regulatory transaction reporting of derivatives, derived from ISO 10962 CFI.
3. Corporate reporting: Fair value of assets and liabilities.
   i. IASB: IAS 39 – Regulations on Classification and Measurement and the
   ii. IFRS: IFRS 7 & 9 (possible replacement for IAS 39).
4. Statistical analysis:
   i. European system of national and regional accountants 1995 (ESA 95): Used by ECB for statistical analysis of securities issued or held by euro area residents;
   ii. The Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6): used for worldwide accountant statistics.
   iii. BIS OTC Transaction Reporting Guidelines.

In addition to identified classification systems by LMS, there's also the classification of the world-level System of national accounts (SNA 1993) under the auspices of the United Nations (worldwide variant of ESA 95) which was updated in 2008. This classification is, like BPM6, also used for worldwide statistical purposes, and the two are very much alike.

Regulatory reporting classifications

The ISO 10962 was initiated by the Association of National Numbering Agencies (ANNA), and the 2001 version is approved as an International Standards and is adopted in most of the ISO members (Association of National Numbering Agencies, 2011). The purpose of this standard, as explained by ANNA is to solve problems like:

- Lack of consistent and uniform approach to grouping financial instruments;
- Use of similar terminology for instruments having significantly different features in the different countries;

- Inability to group securities in a consistent manner leading to reports of holdings being categorized differently.

ANNA also identified some key benefits of the ISO 10962 standard to support an efficient trading process:

- Definition and description for an internationally valid system to classify financial instruments;
- Provision of a set of codes to be used by all market participants in an EDP environment and permission of electronic communication between participants;
- Improved understanding of the characteristics of financial instruments will lead to a better understanding by investors.

The ISO 10962 CFI is used for the IT system called the Transaction Reporting Exchange Mechanism (TREM), introduced in 2007 by the Committee of European Securities Regulators (CESR) for transaction reporting as required by the Market in Financial Instrument Directive (MiFID). The MiFID commits competent authorities throughout the European Economic Area to detecting market abuse in OTC (over the counter) markets and maintaining the integrity of these markets (Committee Of European Securities Regulators, 2010).

Besides for regulating purposes the ISO standard is also used by many national numbering agencies (NNAs), the organization in each country responsible for issuing International Securities Identification Numbers (ISIN) as described by the ISO 6166 standard and the ISO 10962 standard. In Gallia these organizations are: Euroclear for The Netherlands and France; SIX Telekurs for Belgium; and Clearstream Banking for Luxembourg. The NNA is typically linked to the national stock exchange, central bank or financial regulator but can also cooperate with a financial data provider or clearing and custodian organization.

The codification system consists of a six alphabetic characters, where the fist character identifies the category of the instrument, and the second identifies the specific group within each category. The third to sixth character indicate the most important attributes of each group. A full overview of the ISO 10962 CFI classification is too extensive for the purposes of this report, but a short summery with some examples can be found in Appendix C.

Settlement and reconciliation messaging classifications

Most of the classifications based upon messaging systems, that are identified are only designed for and used within IT and software systems used for electronic settlements and reconciliations, and are either formulated in generic mark-up languages like XML, or are in fact a unique mark-up language themselves. Other classifications like the ISITC should more be seen as a code list for messaging purposes than a clearly defined classification system (ISITC, 2010). Therefore this type of classification is not suitable to be used as a basis for regulatory analysis of financial instrument, and will therefore not be discussed in detail.

Corporate reporting classifications

From the accountancy and reporting perspective companies have to comply with IASB and IFRS regulation. Both institutions have made dedicated documentation regarding the recognition and measurement of financial instruments: and IAS 39 (IASB, 2011) by the IASB, and its replacements: IFRS 9 (IASB, 2010). Both IASB and IFRS refer to the classification of financial instruments, but do not prescribe a classification themselves: as IFRS 9 states for example: "… (IFRS 9) requires an entity to classify financial assets as subsequently measured at amortised cost or fair value on the basis of the entity's business model for managing the financial assets." So although this would have been a starting point for a useful classification system form a regulations point of view, it turns out to be less useful than expected, as the IFRS only refers to the valuation of financial instruments, and does not make a distinction in types of financial instruments. Therefore this classification group is also not suitable to be used as a basis for regulatory analysis of financial instruments.

Statistical analysis classification

All over the world organizations (mainly governmental) keep track of all kind of statistical facts and figures. The most influential organizations that keep track of all the financially related statistics and more specific, financial instruments are the European Union (ESA 95), the IMF (BPM6), The United Nations (SNA 1993) and the Bank for International Settlements. The nature and purpose of each classification system of each institute will be discussed in short.

Probably the oldest statistical guidelines are the Balance of Payments and International Investment Position Manual (BPM), which were released in 1948 by the IMF (Heath & Dipperlsman, 2011). Since the fifth edition, which was released in 1993, it is harmonized with the guidelines of the System of National Accountants (SNA 1993), which is a combined initiative of the European Commission, IMF, OECD, UN and World Bank to provides a comprehensive, consistent and flexible set of macroeconomic accounts for policymaking, analysis and research purposes. Both guidelines are already revised in the meantime and are now titled BPM6 and SNA 2008 respectively. BMP 6 gives an overview of the two classification systems and their differences in and is depicted in Figure 4.

Besides BPM and SNA, there's also the European system of national and regional accounts (ESA). They issued an internationally compatible accounting framework – The 1995 ESA – "for a systematic and detailed description of a total economy (that is a region, country or group of countries), its components and its relations with other total economies" (EC Council, 1996). Also ESA 95 has stated to be fully harmonized with SNA 1993, and was therefore nearly identical to the classification system in SNA 1993 (which is already slightly revised in SNA 2008).

Altogether, the BPM6, and the more extensive SNA 2008 and ESA 1995 classifications are a starting point for a suitable classification for this research, as they are all meant to be used for research and analysis purposes and have a well specified distinction of each category. And although their original purpose is to cover monetary unions and national banks, they also cover all the possible aspects of relevant characteristics of a financial instrument you can normally expect in a commercial or investment-banking environment. This line of reasoning is also supported by the ECB as they also take this as a starting point to classify financial instruments for banks.

Table 5.3. *2008 SNA* Financial Instruments Classification (with Corresponding *BPM6* Broad Categories)
(Includes 2008 SNA codes)

2008 SNA Financial Assets and Liabilities Classification	Broad international accounts category (*BPM6*)
AF11 Monetary gold	
Gold bullion	}Other financial assets
Unallocated gold accounts	} and liabilities
AF12 Special drawing rights	Debt instruments
AF2 Currency and deposits	}Debt instruments
AF21 Currency	}
AF221 Interbank positions	}
AF229 Other transferable deposits	}
AF29 Other deposits	}
AF3 Debt securities	Debt instruments
AF4 Loans	Debt instruments
AF5 Equity and investment fund shares	}Equity
AF51 Equity	}
AF511 Listed shares	}
AF512 Unlisted shares	}
AF519 Other equity	}
AF52 Investment fund shares/units	}
AF521 Money market fund shares/units	}
AF522 Other investment fund shares/units	}
AF6 Insurance, pension, and standardized guarantee schemes	}Debt instruments
AF61 Nonlife insurance technical reserves	}
AF62 Life insurance and annuity entitlements	}
AF63 Pension entitlements	}
AF64 Claims of pension funds on pension managers	}
AF65 Entitlements to nonpension benefits	}
AF66 Provisions for calls under standardized guarantees	}
AF7 Financial derivatives and employee stock options	}Other financial assets
AF71 Financial derivatives	} and liabilities
AF711 Forward-type contracts	}
AF712 Options	}
AF72 Employee stock options	}
AF8 Other accounts receivable/payable	}Debt instruments
AF81 Trade credit and advances	}
AF89 Other accounts receivable/payable	}

Figure 2: 2008 SNA Financial Instruments Classification (with Corresponding BPM6 Broad Categories) (IMF, 2009)

The ECB shortened the classification slightly, because they follow the narrower definition derived from IAS 32. They excluded the category monetary gold and special drawing rights; because no counterpart liability exists as required by their definition. Moreover the financial asset categories currency, insurance technical reserves and other accounts receivable/payable (trade credits and the like) are also not included here, as these are normally not applicable for banks. On the other side, the ECB did include foreign exchange transactions and derivatives, and – as memo items – commodities (including nonmonetary gold). The latter are not financial markets instruments, but are regularly traded on financial markets (European Central Bank, 2005).

Since we already have adopted the definition of financial market instruments from the ECB, and they have derived their classification from the leading classification systems like SNA 2008 and ESA 95 after which they specifically tailored it for banks, the "Statistical Classification of Financial Markets Instruments" of the ECB is the most suitable to use for the analysis of financial instrument classes in this research. This classification will be addressed in detail in the next paragraph.

The Statistical Classification of Financial Markets Instruments by the ECB

The classification consists of five main categories plus the already mentioned commodities, as a memo items. The main categories are based on the market it's traded in. The five categories are:

1. Interest rate instruments;
2. Equity-related instruments;
3. Investment and Money market funds' shares/units and related instruments;
4. Foreign exchange and related instrument;
5. Commodity derivatives, credit derivatives and other financial market derivatives.

Each of the five categories is further divided into multiple layers of subcategories, which are shown in figure 5, along with the corresponding ESA 95 reference.

The first distinction that is made in each category is the separation of the core instruments from the derivatives applicable to that category, which belong to two broad categories: forward-type derivatives and option-type derivative. The most relevant types of derivatives are: options, swaps, warrants, futures, and forward rate agreements. As different regulations are applicable to derivatives, all the derivatives will be addressed in the last category, and will not be mixed with their underlying asset group. For each derivative the most commonly used derivatives will be addressed in that category. Therefore the fifth category "Commodity derivatives, credit derivatives and other financial market derivatives" will be replaced by a more general category:"

For each divined sub-category, the ECB also suggest a further potential breakdown on multiple possible features (each different per category). For the purpose of this research these further breakdowns will be left aside, as these are not relevant for the according regulations of the instruments, and purely serve a statistical purpose (like type of market/industry, currency, credit rating, counterparty industry, et cetera).

Further references to ESA 95 regulations, definitions and more details about each category will be addressed in the next chapter to bound the research, and create a better understanding of the differences between the (sub)-categories.

Statistical classification of financial markets instruments with links to the ESA 95

				Financial assets as defined in the ESA 95
1 Interest rate instruments	1.1 Deposits, loans and debt securities	1.1.1 Deposits and loans	1.1.1.1 [1] Short term (up to and including 1 year)	AF.22 Transferable deposits. AF.29 Other deposits. AF.4 Loans.
			1.1.1.2 [1] Long term (over 1 year)	
		1.1.2 Debt securities	1.1.2.1 Short term (up to and including 1 year [2])	AF.33 Securities other than shares, excluding financial derivatives.
			1.1.2.2 Long term (over 1 year [2])	
	1.2 Interest rate derivatives	1.2.1 Forward-type derivatives		AF.34 Financial derivatives.
		1.2.2 Option-type derivatives		
2 Equity-related instruments	2.1 Stocks	2.1.1 Quoted stocks		AF.511 Quoted shares, excluding mutual funds shares.
		2.1.2 Unquoted stocks		AF.512 Unquoted shares, excluding mutual funds shares.
		2.1.3 Other equity		AF.513 Other equity.
	2.2 Equity-linked derivatives	2.2.1 Forward-type derivatives		AF.34 Financial derivatives.
		2.2.2 Option-type derivatives		
3 Investment and money market funds' shares/units and related instruments	3.1 Investment and money market funds' shares/units	3.1.1 Money market funds		AF.52 Mutual funds shares.
		3.1.2 Bond funds [3]		
		3.1.3 Equity funds [3]		
		3.1.4 Mixed funds [3]		
		3.1.5 Real estate funds [3]		
		3.1.6 Hedge funds [3]		
		3.1.7 Other funds [3]		
	3.2 Derivatives on investment and money market funds' shares/units	3.2.1 Forward-type derivatives		AF.34 Financial derivatives.
		3.2.2 Option-type derivatives		
4 Foreign exchange and related instruments	4.1 Foreign exchange	4.1.1 First currency pair		
		…		
		4.1.*n* n-th currency pair		
	4.2 Foreign exchange derivatives	4.2.1 Forward-type derivatives		AF.34 Financial derivatives.
		4.2.2 Option-type derivatives		
5 Commodity derivatives, credit derivatives and other financial markets instruments	5.1 Commodity derivatives	5.1.1 Forward-type derivatives		AF.34 Financial derivatives.
		5.1.2 Option-type derivatives		
	5.2 Credit derivatives	5.2.1 Forward-type derivatives		
		5.2.2 Option-type derivatives		
	5.3 Other financial markets instruments			The allocation of instruments in this category to an ESA category of financial assets would have to be made on a case-by-case basis.
Memo item: commodities	Gold			Commodities are not financial assets.
	Oil			
	Other commodities			

1) Original maturity.
2) Residual maturity.
3) The type of funds and their definitions will be reviewed once the ECB has established its new approach for collecting statistics from investment funds.

Other financial assets as defined in the ESA 95	
AF.1	Monetary gold and special drawing rights.
AF.21	Currency.
AF.6	Insurance technical reserves.
AF.7	Other accounts payable/receivable.

Figure 3: Statistical classification of financial markets Instruments with links to ESA 95 (European Central Bank, 2005)

Chapter 2 - Characteristics of Financial Instrument Classes

In this chapter, the 5 different classes of financial market instruments, as identified in the previous chapter, will be discussed in greater detail and used to select a relevant set of financial instruments which are applicable to commercial & retail banking, and investment banking. As both types of banking are very broad, appendix A outlines retail & commercial banking, corporate & investment banking and the activities within private banking & assets management that will be incorporated in this research. For this chapter, the characteristics of each category will be discussed, with ESA 95 as a starting point. After definitions are set, some typical issues that are found in the literature will be addressed per class, as well as their place within the banking environment. With this information the most relevant financial instruments will be selected, and the focus of each category will be determined. At the end of this chapter an overview will be presented with the final classification, which points out the selected instruments and the focus each category will have. The derivatives category will already be addressed separately as a last category, as they often share the same characteristics.

Loans and deposits

Definitions as stated in ESA 95 (EC Council, 1996)

Loans: "The category loans consists of all transactions in loans that is financial assets created when creditors lend funds to debtors, either directly or through brokers, which are either evidenced by non-negotiable documents or not evidenced by documents."

Loans are characterized by the following characteristics:

(a) The conditions governing a loan are either fixed by the financial corporation granting the loan or negotiated by the lender and the borrower directly or through a broker;
(b) the initiative concerning a loan normally lies with the borrower;
(c) A loan is an unconditional debt to the creditor, which has to be repaid at maturity, and which is interest bearing.

The category "Deposits and loans" (here both deposits and loans) can be further subdivided into short-term and long-term. In general short-term is < 1 year to maturity and long-term loans is >1 year to maturity.

For the purpose of this research, deposits can be considered to be the same as loans. The only difference is that for a deposit, the lender takes the initiative. For the purpose of this research, there is no notable difference, as it's only relevant in this case that the source of income is interest. Also, ESA 95 also states "… the criterion of who is taking initiative is often a matter of judgment".

Modernization of the traditional business model

Loans and deposits form together the main ingredients of the classical business model of banks. Traditionally (commercial/retail) banks have been taking short, liquid, deposits and giving out long, illiquid loans ever since they exist. This is their primary source of revenue. The difference between the two should be sufficient to cover the administrative costs and the losses due to unplayable loans by defaulted lenders, while providing a satisfying return. This is referred to as the originate-to-hold model (Hull J. C., 2010), (Buiter, 2007). Today, large commercial banks are still relying on this core principle of a bank. To avoid systemically costly failures of solvent, but illiquid banks deposits authorities worldwide have introduced insurances. This already started in 1933 in the United States of America, but it took until 1994 to be adopted union-wide in the European Union. In 2012, this deposit insurance is set to a maximum refund of €100.000 per accountholder per bank in case a bank's default for Gallian banks (Dutch National Bank, 2012), (Beschermingsfonds voor deposito's en financiële instrumenten, 2011), (Fonds de Garantie des Depôts, 2011). In return for this protection banks were willing to accept regulations like minimal capital requirements, liquidity requirements and other regulations (Buiter, 2007).

This deposit guarantee schemes has become topic of many debates after several bank defaults during the financial crisis. As a result the European Commission adapted legislative proposal on 12 July 2010 for a thorough revision of the Directive on Deposit Guarantee Schemes (European Commision, 2012). This renewal will influence the financial (and economic) stability of the banking industry and will be the most influential change within the loans and deposits domain of commercial and retail banks as reviewed in this research. Therefore the main focus within this category will be the changes within the European Deposit Guarantee Schemes.

In addition to taking deposits, banks also started to enhance their liquidity by themselves from the 1970s onwards, by securitizing assets (loans, receivables, etc.) and selling them to off-balance sheet special purpose vehicles (SPV), or external investors. This changed the business from an originate-to-hold model to an originate-to-distribute model, where debt wasn't held till maturity, but could be made liquid at any time (of course against some risk premium). This new technique of securitizing opened the doors for more advance risk trading, diversification and hedging risk (Buiter, 2007).

Debt securities

Definitions as stated in ESA 95 (EC Council, 1996)

Securities other than shares, excluding financial derivatives: "Securities other than shares which give the holder the unconditional right to a fixed or contractually determined variable money income in the form of coupon payments (interest) and/or a stated fixed sum on a specified date or dates or starting from a date fixed at the time of issue."

Also, the category "Debt securities" can be further subdivided into short-term and long-term securities. In general short-term securities are < 1 year to maturity and long-term securities are >1 year to maturity.

Types of debt securities

Debt securities typically include government bonds, corporate bonds, certificates of deposits and collateralized securities, which payoff a predetermined fixed or floating interest rate. Issuance of government bonds is solely reserved for national and central banks, and will therefore not be relevant in this context. Investment banks can however facilitate in the issuance of corporate bonds of their customers, by underwriting and facilitating the issuance of new bonds. The bank's income is the price difference (spread) between the issuance price and the price they pay the corporation that issues the bond.

Certificates of deposits on the other hand are much like a savings account, except for the fact that they have fixed terms and (usually) a fix interest rate.

Collateralized securities are pooled securities, and derive their value from its underlying pool of assets. These pools typically consist of similar type small, illiquid assets, such as mortgages, car loans, credit receivables or other small debt.

Emergence and downfall of the securitization market

The creation of this last type of securities is called securitization and, as already mentioned, started in the 1970s when the U.S. government started selling securities backed by mortgage loans (mortgage-backed-securities). Later in mid-1980s these techniques were also applied to non-mortgage assets (asset-backed-securities). At first this didn't raise much of the financial world's attention, as the traded volumes were only a fraction of the total trades in the financial sector. It took until the mid-1990s before the ABS and MBS issuance experienced a major growth from an outstanding value of $404.8 billion to $2671.8 billion in 2008 (Community Development and Policy Studies Division of the Federal Reserve Bank of Chicago, 2011). At that time banks also started to pool these asset-backed into so-called Collateral Debs Obligations (various specific names depend on the nature of the underlying asset). After 2007 issuance declined as a result of the financial crisis. Suddenly the incorporated risk (and inherently the value) of ABS and MBS, and therefore also the pooled CDOs were questioned. This was due to a decline in value of the underlying assets and the debtors' inability to make the installment payments of the underlying assets.

Another interesting insight in the literature shows that there's, apart from credit and market risk, an extra risk involved in the securitization process within banks: moral hazard and adverse. Research has indicated that borrowers whose loans are sold in secondary market underperform their peers by 9 percent per year (Berndt & Gupta, 2009). It has also been identified, that this could have two reasons: impairment in the monitoring function of banks, thereby having a negative effect on the borrower, or an adverse selection of distributed loans due to the bank's superior information about the borrower (asymmetric information).

Since the financial crisis in 2008, the debate has been started about stricter regulations for the issuance and trading of these kinds of securities. The two aspects mentioned above are definitely worthwhile to keep in mind during the literature research on regulations, to see how this debate is transformed into action and how this will be addressed in the future. Given the fact that these debt securities are the main cause of the financial crisis, and many related regulations are under review, they will be covered in detail in this research. The focus will be on the regulations that affect the trading positions and on the other hand the capital requirements of the banks in particular (i.e. not necessarily independent traders or other institutions). In particular Asset-backed securities, Mortgage-backed securities, and the Collateralized Debt Obligations will be addressed, as these are the main instruments used in this category.

Equity related instruments

Definitions as stated in ESA 95 (EC Council, 1996)

Stocks, as defined in category 2, are shares and other equity, excluding mutual funds shares. These can be split up in three categories: Quoted shares (on stock exchanges), Unquoted shares (privately traded), and other equity. ESA 95 defines quoted and unquoted shares as the following:

Quoted and unquoted shares: "The sub-position quoted shares excluding mutual funds shares consists of all transactions in quoted shares excluding mutual funds shares and the sub-position unquoted shares excluding mutual funds shares consists of all transactions in unquoted shares excluding mutual funds shares. Shares cover beneficial interest in the capital of corporations in the form of securities, which in principle are negotiable. … (Quoted shares) covers those shares with prices quoted on a recognized stock exchange or other form of secondary market, and … (unquoted shares) covers those shares that are not quoted."

Other equity is defined as: "The sub-position other equity consists of all transactions in other equity that is all forms of equity other than those classified as quoted and unquoted stocks, and mutual funds shares."

Types of shares

A simplified definition of the definition of the ESA 95 definition of shares is: a unit of ownership interest in a company. This unit of ownership can manifest itself in several benefits. The most obvious benefit of shares is the payout of dividend. Another benefit could be voting right on corporate matters and the board of directors, but this depends on the type of shares that are owned. The most commonly used types are common shares, preferred shares, and redeemable shares.

A common share usually gives right to dividend and comes with a voting right. Although common shares usually tend to perform better that bonds or preferred shares, they are more risky, as common shareholders are the last to receive dividend after all preferred shareholders have received dividend, and they are also the last in line entitled to receive any remaining funds in case of bankruptcy.

Preferred shares usually have no voting right, but on the other hand they are entitled to preferred dividend payment, and also have preferred rights to receive any remaining funds in case of bankruptcy. This means that all entitled dividend needs to be paid to preferred shareholders before common shareholders are entitled to dividend. The same goes for any remaining funds left after all the debtors have been paid in case of bankruptcy. Preferred share can come in different forms, as there are cumulative and non-cumulative preferred shares, which refers to the fact whether a preferred share is entitled to accumulated back payments of dividend before common dividend is paid out, in case no dividend was received in previous periods. As normally preferred shares have a fixed dividend rate, participating preferred shares may receive a higher dividend if a company turns a larger than expected profit. Another type of preferred shares are convertible preferred shares. They give the right to convert these shares into a pre-specified number of common shares (InvestorGuide, 2011). Preferred shares are usually more expensive compared to common shares, and tend to perform less, relative to their value as they are less risky and provide more privileges to shareholders than common shares.

The last type of shares, redeemable shares, gives the company either the privilege or obligation, (depending on the type of shares), to repurchase the shares at a given moment. This can either be a fixed date or, time-interval, or in case of an event, such as death of the owner (Business Link, 2011) (LoveToKnow Corp., 2012).

Equity and banks

Equity and shares of corporations is interesting for a bank to the extent that most of the larger commercial banks provide transaction services for quoted stocks, for which they charge transaction costs. For unquoted stocks many banks, specialized investment banks and the larger commercial banks have merger and acquisition departments to facilitate unquoted equity transactions against some provision. Although both quoted and unquoted markets are therefore part, and sometimes the core, of the business model of many banks, this is not the most important way banks are faced with equity.

The most important equity is the bank's own. Although the possibility of a defaulting bank cannot entirely be eliminated, governments and regulators imposed regulations to minimize the probability of default in order to create a stable economic environment. One of the aspects in these regulations, are minimum capital requirements. Bank regulations require a bank to keep a certain amount of pre-specified capital, foremost equity, to ensure that the bank keeps enough capital for the risk it takes. This limits the risk that a bank can take, and has far stretching consequences for a bank's operations. Therefore the focus of the equity category will be on the regulations regarding capital requirements and its current developments.

Others equity

Other equity, as definite in ESA 95 include all forms of equity in corporations which are not shares (such as equity in partnerships, certain government investments in public enterprises or international and supranational organizations and capital investments in quasi-corporations and the financial assets that non-resident units have against notional resident units. These types of equity are of no special interest to banks in the light of this research, and will therefore not be addressed in detail.

Investment and money market funds' shares/units

Definitions as stated in ESA 95 (EC Council, 1996)

Investment and money market funds' shares/units are somewhat more divers. These can be split up in 7 different funds classes: Money market funds, Bond funds, Equity funds, Mixed funds, Real estate funds, Hedge funds, and Other funds. These are all the types the mutual funds shares excluded in the previous category: Equity and related instruments. The overall definition of mutual funds shares will be presented below. After that, the funds will be addressed separately. Although stated by the ECB that they is planning to review the data collection methods of investment funds, and thereby also reviewing the funds types and definition, no sign of changing categories is found, and in May 2011 the ECB confirmed the statistical categorization as provided here (European Central Bank, 2011).

Mutual funds shares: "Shares issued by a specific type of financial corporations, whose exclusive purpose is to invest the funds collected on the money market, the capital market and/or in real estate."

Investment and money market funds can in some way be considered as competitors for banks, as they are mayor participants of the so called shadow banking system, which runs parallel to the more standard banking system, and are restricted to different regulations than the typical commercial bank. Although all the types of funds are addressed under one (very small) section regarding mutual funds shares in ESA 95, they differ significantly in their use and application. Therefore a brief overview will be given of each type of funds and their purpose.

Money market funds

A money market fund is a financial intermediary that manages funds on behalf of investors who are typically interested in low-risk securities, with the ability to instantly withdraw their investments. The main function of such a fund is to maintain the value of the principal, while generating a low-risk premium. They only invest in short-term securities like commercial papers, certificates of deposits and Treasuries. In many ways it's similar to a bank deposit, because money can be withdrawn without a penalty. The main difference is that a money market fund has a slightly higher yield relative to a bank deposit, but the fact that the government does not insure these funds is the extra risk that comes with it (Acharya, Cooley, Richardson, & Walter, 2011).

Money market funds typically invest in government securities, certificates of deposit, commercial paper of companies, or other highly liquid and low-risk securities. They attempt to keep their net asset value (NAV) at a constant $1.00 per share – only the yield goes up and down. But a money market's per share NAV may fall below $1.00 if the investments perform poorly ("broke the buck"). While investor losses in money markets have been rare, some funds broke the buck in 2008, or needed cash injections to prevent them to (International Monetary Fund, 2010) (Financial Times, 2010). As this is a very rare situation, and investors got anxious to rely on money market funds, the new plans for new regulation regarding the money market funds will be addressed in chapter 6.

Bond funds

Bond funds invest primarily in bonds or other types of debt securities. Depending on its investment objectives and policies, a bond fund may concentrate its investments in a particular type of bond or debt security—such as government bonds, municipal bonds, corporate bonds, convertible bonds, mortgage-backed securities, zero-coupon bonds—or a mixture of types. The securities that bond funds hold will vary in terms of risk, return, duration, volatility and other features (U.S. Securities and Exchange Commision, 2010). The main advantages of a bond fund are diversification, professional management, liquidity and convenience, and they provide a steady income stream. Bond funds are also subjected to several forms of risk. Interest rate risk is the risk of fluctuating interest rates. When interest rates rise, bond prices usually decline. Credit risk another type of risk faced by bond funds, and is the risk that an individual bonds defaults. Credit risk is a bigger concern for funds investing in lower quality bonds. The last type of main risk is principal risk, and is the risk that the net-asset value of the underlying principal declines. When this occurs, losses are realized at maturity, when the principal is returned (Fidelity.com, 2012).

Equity funds

Equity funds are funds that mainly invest in stocks, and are contrasted with money funds and bond funds, as equity funds have the objective to gain long-term growth through capital investments. Although dividend is the traditional source of income, the returns, and therefore the valuation of such a fund are mainly based on the growth of the assets they invest in. Sometimes equity funds include some cash or securities, to adjust the portfolio for a desired risk-return policy.

Mixed funds

Mixed funds should create a best of both worlds scenario from money market and bond funds versus equity funds. While investing in both long- and short-term instruments it lowers the risk factor and maintains the flexibility. In this way it can also take advantage of favorable market conditions. The desired debt/equity ratios, and the possibility and extend to which these can be changed varies per fund, and depends on the fund's investment policy (Bangkok Bank, 2012).

Real estate funds

The most common form of a real estate fund is a real estate investment trust, or REIT. This is a company that owns, and in most cases, operates income-producing real estate. These funds mainly contain mortgages and equity. Some REITs also engage in financing real estate. The shares of many REITs are traded on major stock exchanges, but they REITs can also be private companies. These funds are mainly established for their tax benefits in most countries, and therefore require very strict country specific specifications to qualify as such. Because these types of funds do not exist in The Netherlands and in Belgium (and to a very limited extend in France), and also not (very) actively traded by banks, this type of funds will not be discussed in further detail.

Hedge funds

A hedge funds is similar to mutual funds in the way that is invests funds on behalf of clients. However, hedge funds can only accept funds from professional investors, and are therefore not required to register under U.S. federal securities law. This gives more freedom to hedge funds to develop more sophisticated investment strategies, like the use of unconventional derivatives and/or proprietary investment instruments (Hull J. C., 2009).

Investment & money market funds and banks

Funds as described above are used to offer equity-based investments, by (private) investment departments of banks, but also by smaller dedicated (private) investment groups that offer alternatives for wealthy individuals. In a way, these funds can be considered as competitors of the traditional banking models, as they tend to offer many of the same benefits. Money market and bond funds come with alternative offerings for short-term money deposits and interest rate instruments with similar characteristics like commercial banks offerings. On the other hand, equity, real estate and hedge funds are instruments used by the (private) investment companies can act as an alternative for traditional equity investments in the exchange market.

An upcoming type of fund is the UCITS (Undertakings for Collective Investment in Transferable Securities). This is an investment fund that has been established in accordance with UCITS Directive (adopted in 1985). Once registered in one EU country, a UCITS fund can be freely marketed across the EU (European Commission, 2012).

After the credit crunch in 2007 UCITS became more popular. Managing over €5 trillion in assets UCITS have proven to be successful and are widely used by European households. UCITS are also regularly sold to investors outside the EU where they are highly valued due to the high level of investor protection they embody and their requirements to be highly liquid and transparent (Financial Times, 2010).

In 2011 the European Commission implemented the new UCITS IV Directive, which will bring some key changes that should enhance the cross-border use of UCITS. Given these recent changes, and the fact that they are becoming fairly popular (also in the US), the focus of the Investment funds sector in chapter 6 will be these UCITS.

Foreign exchange and related instruments

To understand the foreign exchange instruments, it might be useful to first get some insight in the foreign exchange market. The foreign exchange market is the financial market in which currencies are traded (i.e. to exchange an amount of currency for another amount of different currency). The foreign exchange market is developed to facilitate International trades where currencies are required to be settled from the country of both the importer and the exporter. This system allows borrowers to have access to the International capital markets in order to meet their financing needs in the currency which is most conducive to their requirements. The foreign exchange market does not exist physically. It is a framework in which participants are connected by computers, telephones and telex (SWIFT) and operates in most financial centers globally. Most exchanges of currency are made through bank deposits that are transferred electronically from one account to another. The foreign exchange market is an over-the-counter market that is trading in financial instruments that are not listed or available on an officially recognized exchange, but traded in direct negotiation between buyers and sellers. In the complex world traders and merchants face several risks that need to be managed in order to ensure the success of their cross–border transactions. In order to do this, these companies apply hedging techniques using various foreign exchange instruments and products in order to negate the impacts of exchange rate fluctuations (Standard Bank).

As the foreign exchange market does not physically exist, and its instruments are not listed or traded on the exchange market, it is a very unique market with no generic products. All products are tailor-made and terms of agreements are negotiated on a one-to-one basis. Therefore the only instruments used in this market are derivatives. The main derivatives used are, forwards, (foreign exchange) swaps, (currency) futures and (foreign exchange) options. All these types of derivatives will be discussed in the next paragraph. As will be shown in the next paragraph, the use of derivatives by commercial and investment banks is very limited. Foreign exchange instruments are therefore also hardly used by banks and will therefore not be further discussed in this research.

Derivatives

This section will defer from the original ECB classification. In this section all the derivatives will be treated altogether (not only the commodity and credit derivatives), as this is a very broad category with many different instruments. Also "other financial markets instruments will be skipped, because this category is a mix of all non-classifiable instruments, for which no specific regulation can be appointed, and need to be assessed on case-by-case basis, and goes beyond the scope of this research. This category will therefore be renamed to "Derivatives" instead of "Commodity derivatives, credit derivatives and other financial markets instruments", as only derivatives will be addressed.

Definitions as stated in ESA 95 (EC Council, 1996)

Financial derivatives: "Financial assets based on or derived from a different underlying instrument. The underlying instrument is usually another financial asset, but may also be a commodity or an index."

ESA 95 defines 5 sub-categories of financial derivatives:

(a) **Options**, tradable and over-the-counter (OTC). Options are contingent assets which give their holders the right, but not the obligation, to purchase from (in the case of a call option) or to sell to (in the case of a put option) the issuer of the option (the option writer) financial or non-financial assets (the underlying instrument) at a predetermined price (the strike price) within a given time span (American option) or on a given date (European option). The purchaser of the option pays a premium (the option price) for the commitment of the option writer to sell or to purchase the specified amount of the underlying asset or to provide, on demand of the purchaser, appropriate remuneration. By convention, that commitment is treated as a liability of the option writer because the option price represents the current cost to the option writer of buying out his contingent liability;

(b) **Warrants**, they are a form of tradable options, which give their holders the right to purchase from the issuer of the warrant (usually a corporation) a certain number of shares or bonds under specified conditions for a designated period of time. There are also currency warrants, the value of which is based on the amount of one currency required to purchase another currency at or before the expiration date of the warrant and cross-currency warrants tied to third currencies. By convention, the issuer of the warrant is considered to have incurred a liability representing the current cost of buying out the issuer's contingent liability;

(c) **Futures**, but only if they have a market value because they are tradable or can be offset. Futures are commitments to deliver, or to take delivery of, a specified quantity of a standard grade of a commodity, foreign exchange, or a security at a fixed price and for a specified delivery date or period. Futures may also be based on an index rather than a specific financial or non-financial asset;

(d) **Swaps**, but only if they have a market value because they are tradable or can be offset. Swaps are contractual arrangements between two parties who agree to exchange, over time and according to predetermined rules, streams of payment of the same amount of indebtedness. The most prevalent varieties are interest rate swaps, foreign exchange swaps and currency swaps (also named cross-currency interest swaps). Interest rate swaps involve an exchange of interest payments of different character, such as fixed rate for floating rate, two different floating rates, fixed rate in one currency and floating rate in another, etc. Foreign exchange swaps (including all forward contracts) are transactions in foreign currencies at a rate of exchange stated in advance. Currency swaps involve an exchange of specified amounts of two different currencies with subsequent repayments, which include both interest and repayment flows, over time according to predetermined rules. None of the resulting payments is considered as property income in the system and all settlements are to be recorded in the financial account;

(e) **Forward rate agreements** (FRAs), but only if they have a market value because they are tradable or can be offset. FRAs are contractual arrangements in which two parties, in order to protect themselves against interest rate changes, agree on an interest to be paid, at a settlement date, based on a notional amount of principal that is never exchanged. The payments are related to the difference between the agreement rate and the prevailing market rate at the time of settlement. These payments are not considered as property income in the system but are to be recorded under the item financial derivatives.

Derivatives are very different from securities. Derivatives are mainly used to protect against and manage risks, and very often also serve arbitrage or investment purposes, providing various advantages compared to securities. Derivatives come in many varieties and besides from the product type they can also be differentiated by how they are traded, and the underlying they refer to. Derivatives can be traded on an exchange or over-the-counter. Exchange traded derivatives are traded on specialized derivatives exchanges and are standardized contracts that have been defined by the exchange. A derivatives exchange acts as an intermediary to all related transactions, and takes initial margin from both sides of the trade to act as a guarantee (Hull J. C., 2009). On the other hand you have the OTC traded derivatives. These contracts are traded (and negotiated) privately between two parties, without going through an exchange or other intermediary. Products such as swaps, forward rate agreements, and other exotic derivatives are almost always traded in this way. The OTC derivative market is the largest market for derivatives, and is largely unregulated with respect to disclosure of information between the parties, since the OTC market is made up of banks and other highly sophisticated parties, such as hedge funds. Reporting of OTC amounts are difficult because trades can occur in private, without activity being visible on any exchange. Relative size of the OTC market compared to the exchange market is depicted in figure 4.

Now the types of derivatives are defined, and how derivatives are traded, the next distinction can be made: the underlying of the derivative (e.g. the purpose of the derivative). Although the ECB and ESA 95 only focus on the type of derivative, the Bank of International Settlements also have identified four main categories, in which the underlying asset classes can be categorized: fixed-income (interest rate instruments), foreign exchange, credit, equity and commodities. To give an impression of the proportions of each category within the market, figure 4 gives an overview of the relative use of the underlying asset classes.

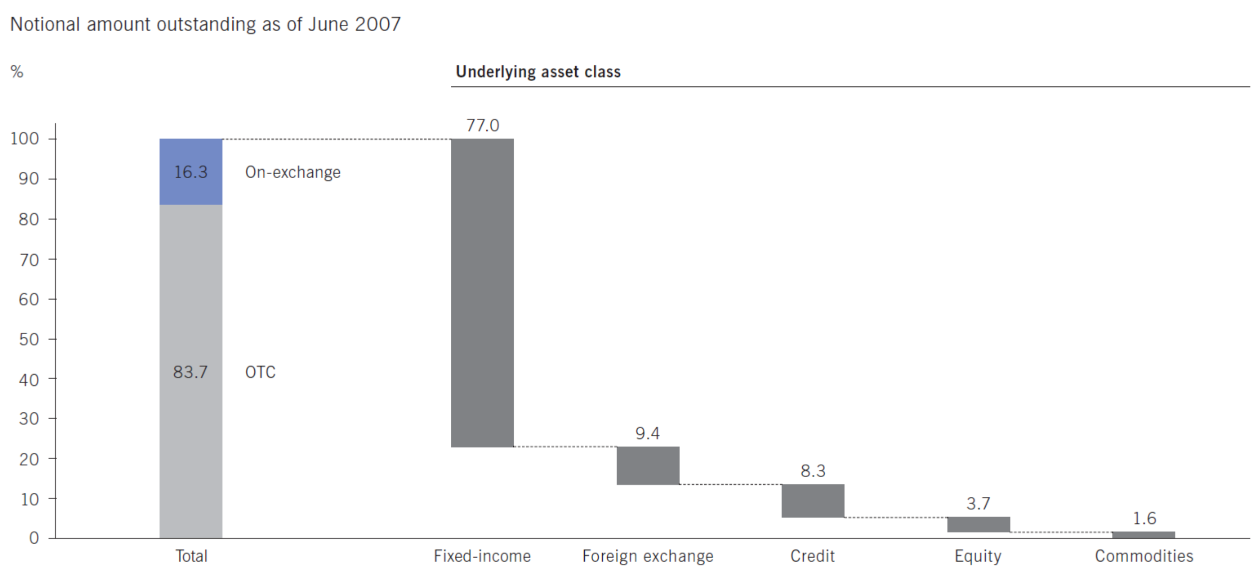


Figure 4: Relative nominal amounts outstanding in derivatives markets (Deutsche Börse Group, 2008)

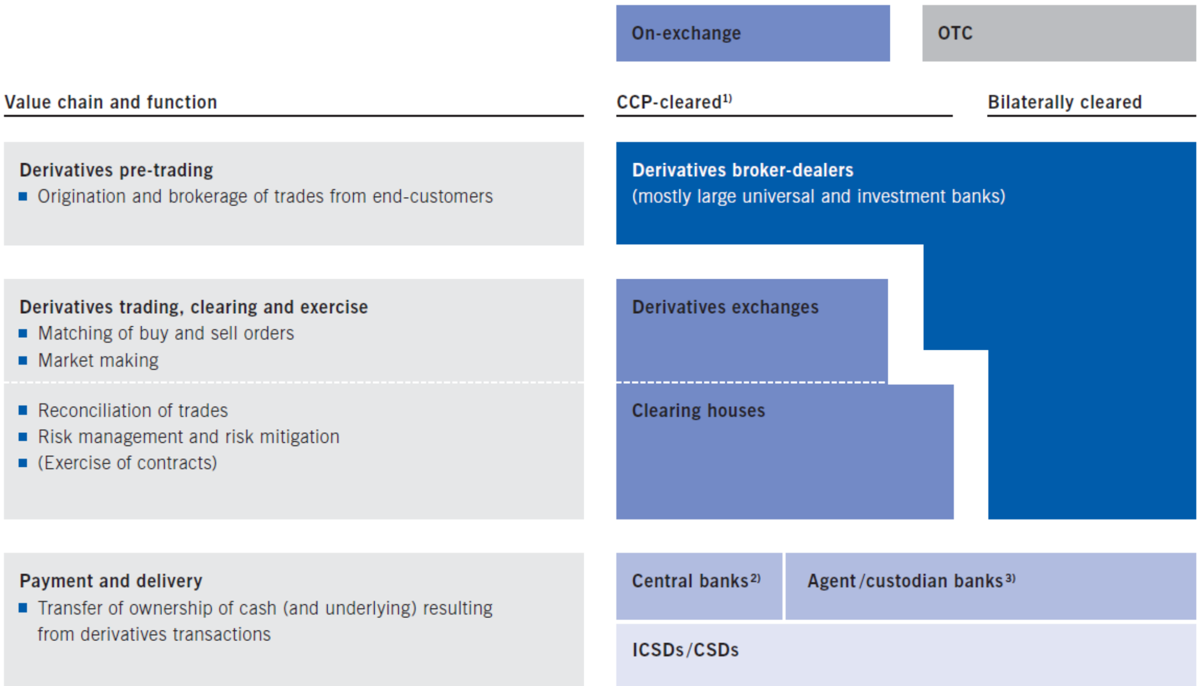
According to the Bank for International Settlements, the total outstanding notional amount of exchange-traded derivatives is US$82 trillion (as of June 2011). Of this total notional amount, 37 percent are futures contracts, and 63 percent are options contracts (Bank for International Settlements, 2011). According to the Bank for International Settlements, the total outstanding notional amount is US$708 trillion (as of June 2011). Of this total notional amount, 67 percent are interest rate contracts, 8 percent are credit default swaps (CDS), 9 percent are foreign exchange contracts, 2 percent are commodity contracts, 1 percent are equity contracts, and 12 percent are other (Bank for International Settlements, 2011).

A complete overview of the different type of derivatives, and their sub-categories can be found in Appendix D.

For the purpose of this research the categorization will be slightly different than suggested by ESA 95. This is because many banks do not specify their derivatives portfolio in such a detailed manner. Therefore they will be split up into four categories: interest rate derivatives, credit default swaps, commodity derivatives, and other derivatives. The first three are by far the most common and together account for more than 90 percent of the total derivatives market (Bank for International Settlements, 2011). The reason for this categorization is that banks often categorized their derivatives portfolio like this. This makes it easy to identify their type of derivative investments in this way. It also says a lot about their focus, or strategy, and their other product offerings. For example interest rate derivatives are used to hedge interest fluctuations and are acquired to hedge large amount of fixed rate deposits and mortgages. Credit default swaps on the other hand are there to hedge large positions in either sovereign or corporate debt securities. The commodity derivatives are used to hedge large quantities of natural resources, often in the energy of agricultural business. It can therefore be expected that these types of derivatives are used by agricultural banks and corporate banks with a focus on energy and resources. The last category is named ‘other derivatives’ and covers the remaining derivatives like future contracts, forward rate agreements and options, but are often not further specified within the annual reports.

Derivatives and banks

The derivatives market is predominantly a professional wholesale market with banks, investment firms, insurance companies and corporations as its main participants. As already mentioned in the beginning of this chapter, the OTC derivatives market is much larger than the exchange traded derivatives market. The several functions within the derivatives market is shown in figure 5 (Deutsche Börse Group, 2008).



1) Only a small portion (< 10%) of OTC derivatives is CCP-cleared.
2) Payments via central bank money
3) Payments via commercial bank money

Figure 5: Derivatives markets value chain and functions (Deutsche Börse Group, 2008)

This also shows that for the most part banks are active in the OTC market, where they act as market makers and brokered dealers, as explained in appendix A. Together with the fact that the OTC market is way bigger the exchange traded market, this research will focus on the OTC derivatives market. This choice is also supported by the prior knowledge that this market will undergo heavy regulatory reforming due to the Dot-Frank Act. This will be discussed in detail in the next chapter.

The classification made by the ECB will be slightly adjusted for the derivatives market. The ECB identifies five derivative categories: options, warrants, futures, swaps and forward rate agreements. This will be reduced to three categories: options, futures and forward contracts, and swaps. As already explained, warrants are actually not derivatives, and besides that traded to a very limited extent, and will therefore not be further addressed in this research. The other change will be combining the futures and forward contracts to one category. It is remarkable that the ECB classifies the (broad) futures category, and next to that the (very limited) forward rate agreement category, which is a specific type of forward contract. As futures and forward contracts share the same nature and purpose the two will be combined into one class within the derivatives category.

Specifying the classification system and focus of research

This chapter has provided details about the most common financial instruments that can be classified in the identified categories in chapter 1. A definition has been provided, and nature and purpose of these instruments has been made clear. Also the particular interest of each category and/or instruments to banks is discussed. This final paragraph will describe the choices that are made and how this deviates from the ECB classification. This will give a ready to use classification, with a clear overview of which financial instruments will be investigated on regulatory changes and is presented in table 2.

Table 2: Final Financial Market Instruments classification

Category	(Sub-)Classes	Instruments	Related regulations
Debt instruments	Un-securitized debt	Deposits and loans	Guarantee Deposit Schemes Investment Compensation Schemes Minimum Reserve Requirements
	Debt securities	Sovereign debt securities	Lamfalussy Directives
		Other securities	
Equity instruments	Stocks	Equity	Basel III/CRD IV
	Funds	Money market funds	Money Market Funds regulations
		Investment funds	UCITS V AIFMD
Derivatives		Interest Rate derivatives	EMIR MiFID II Short selling directive
		Credit Default Swaps	
		Commodity derivatives	
		Other derivatives	

Debt instruments

The first category, instrument rate instruments will be renamed to debt instruments. This is more in line with the overall structure (debt versus equity, plus the derivatives derived from the both), and relates to all types of instruments where (underlying) debt is the basis for interest rate payments. The first subclass will be un-securitized debt and consists of deposits and loans and makes a clear distinction from the other categories, which are all, consist of securitized instruments. The focus will be on the Guarantee Deposit Systems, which comprises the most relevant topic at this moment, as this has become a hot topic of debate since the latest financial crisis.

Debt securities consist of (corporate) bonds and collateralized securities. This is in line as classified by the ECB. Within this category we distinguish three types of securities, which will be investigated during this research: bonds, asset-backed securities, mortgage-backed securities, and collateralized debt obligations. The bond is the most traditional instrument of the debt securities, and in that perspective they will be treated in this research. It's a relatively straightforward instrument (compared to the other two) and is therefore not expected to be subjected to rigorous regulatory changes in the near future. The collateralized security types are split into asset-backed securities and mortgage-backed securities. Although MBSs can be considered to be specific type of ABSs, the distinction is made because MSBs typically have a long maturity compared to other ABSs, and also the underlying (real estate) is considered to be much more solid that for example credit card bills, student loans, or lease contracts.

Because of these specifics, there are some typical regulations specifically addressed for MBSs, which are worthwhile to address in this research.

Equity instruments

The equity instruments and the investment and money market funds' shares/units as classified by the ECB are put together in one category, but are accommodated in two different subclasses. This is done because the two are both based on equity, from a bank's point of view. Especially with the focus on how the equity contributes to the capital requirements of the banks, it's a logical resolution. Besides that, also the money market funds will be compared to the loans and deposits category, as these are two comparable alternatives, with both different regulatory requirements and the real estate funds will get specific attention, as there are specific regulations that they can be tax-exempt if certain criteria are met.

Derivatives

The last category, derivatives, has been changed the most compared to the initial ECB classification. This is because there is much discussion about the definition of a derivative, and also about how to classify the different types of derivatives. For the purpose of this research the derivatives are classified on their purpose. The three types of derivatives are specifically identified are: interest rate derivatives, credit default swaps, and commodity derivatives. They all address different types of risk and are mostly used for hedging purposes, but that can only be used for speculative purposes. The reason for this categorization is that banks often categorized their derivatives portfolio like this. As already explained it also says a lot about their focus, or strategy, and their other product offerings.

US regulations: Dodd-Frank Act and other US regulations

The research focuses on the regulatory impact of European banks. Inherently the focus is on European regulations, as these are of main importance to European banks. But as nearly all European banks have – to some extend – investments and/or operations in the United States it is also necessary to involve some specific U.S.-related regulations. Therefore chapter 8 will address two influential new U.S. acts that interact with European banks. The below will give a short introduction of two at the moment very influential U.S. related topics: The recently adopted Dodd-Frank Wall Street Reform and Consumer Protection Act, and the Foreign Account Tax Compliance Act.

Dodd-Frank Wall Street Reform and Consumer Protection Act

In response of the financial crisis President Obama signed the Dodd-Frank Wall Street Reform and Consumer Protection Act on July 21, 2010. This act initiated the biggest financial reforms since the regulatory reforms following from the Great Depression and stretches throughout the entire financial system and contains sixteen provisions all dealing with very different financial issues. In the light of this research it goes too far to review the entire Dodd-Frank Wall Street Reform and Consumer Protection Act, as the research focuses on European banks, and most reforms only affect US based banks. Therefore the regulations discussed are limited to those where internationally traded financial instruments are affected, or European banks are exposed. Each relevant part of the act will be discussed in the section of which it is most applicable.

Foreign Account Tax Compliance Act

The Foreign Account Tax Compliance Act (FATCA), enacted in 2010 as part of the Hiring Incentives to Restore Employment (HIRE) Act, is an important development in U.S. efforts to combat tax evasion by U.S. persons holding investments in offshore accounts.

Under FATCA, foreign financial institutions (FFIs) are required to enter into an agreement with the IRS, which requires the FFIs to report certain information about financial accounts held by U.S. taxpayers directly to the IRS. If the FFI refuses to enter into the agreement the accountholder will be subjected to a 30 percent withholding tax from any transaction of U.S. income to the foreign financial institution.

Since many European banks have U.S. clients that will be affected by this new regulation, it’s crucial that issues relate to FATCA are addressed properly to secure their U.S. client base. Therefore also FATCA will be discussed in detail in chapter 8.

Part II – New and changing financial regulation

Part two will outline all the new and changing financial regulations, which will influence European banks and are related to financial instruments.

Introduction to part II

Unfortunately the financial regulatory process is a very complex one with several regulatory bodies that issuing several different regulations that are very much intertwined. The main regulator in the European Union (EU) is the European Commission (EC), as the EC has the sole right to undertake legislative initiative. Therefore the EC is also concerned with drafting and enforcing most of the financial regulations. This is done either by Directives of Regulations. Directives are legislative acts that require Member States to achieve particular results without dictating the means of achieving the required result. Regulations on the other hand can be directly enforced on Member States, and do not need to be translated in national law.

Besides the European Commission there are also other bodies that affect (European) banks. The most influential ones are the Basel Committee accommodated by the Bank for International Settlements (BIS) and the European Central Bank. The Basel Committee is an intergovernmental organization of central banks that is responsible for the Basel Accord. This is a set of regulations to ensure a stable financial banking industry. Because neither the Basel Committee, nor the BIS is directly related to the European Union or national governments, the regulations must be incorporated in European or national legislations. In Europe this is done via the Capital Requirements Directive (CDR) and Regulation.

Other legislations that have a large impact on European banks are the financial regulations in the United States. A particularly interesting government body is one of the oldest regulation and supervisory commissions in the world: the Security Exchange Commission (SEC). The SEC enforces many regulatory Acts, under which the Securities Act of 1933, the Trust Indenture Act of 1939, the Investment Company Act of 1940, the Investment Advisers Act of 1940, and the Sarbanes–Oxley Act of 2002. A very recently enforced Act is the Dodd–Frank Wall Street Reform and Consumer Protection Act, which brought the most significant changes to the financial regulations in the U.S. since the Great Depression. Although this research mainly focuses on Europe, such U.S. regulatory reforms like the Dodd-Frank Act severely impact the U.S. operations of European banks and will therefore also be addressed in this research.

The following chapters in Part II of this research will focus on recent and upcoming regulatory reforms in the banking industry, related to the financial markets instruments as discussed in Part I. Table 3 gives an overview of the regulatory changes that will be discussed in part II. Chapter 3 will cover the changing regulations regarding Deposits Guarantee Schemes and Minimum Reserve Requirements. Chapter 4will comprise the outcomes of the Lamfalussy Process, which is a framework initiated by the European Union to develop and update directives and regulations related to the financial markets as part of the Financial Services Action Plan. Chapter 5 will give insight in the changing capital requirements imposed by the Bank for International Settlements (Basel II) and how they will be enforced by the European Commission (the Capital Requirements Directive (CDR) and Regulation). Chapter 6 will address some important fund related changes like UCITS and the Alternative Fund Managers Directive and some regulatory changing regarding the classification of Money Market Funds. Chapter 7 will cover regulatory that is mainly related to derivatives markets with EMIR and the Short Selling Directive. Chapter 8 will discuss U.S. regulatory changes relevant to European banks. This will particularly focus on the Dodd–Frank Wall Street Reform and Consumer Protection Act, but also the new Foreign Account Tax Compliance Act.

Each chapter will end with a timeline of with key event dates regarding the discussed regulations. Finally chapter 9 will give a schematic overview with the key issues and impact areas of each regulation, together with a combined timeline mapping all key event dates that will both combine all the previously acquired insight to produce an overall overview of all the expected changes for the coming years.

Table 3: Part II chapter preview

Chapter topic	Legislations/Directives/Regulations	Related instruments
3: Un-securitized debt regulations	Deposit Guarantee Schemes; Investment Compensation Schemes; and Minimum reserve requirements.	Loans; and deposits
4: Lamfalussy Process	MAD; MiFID; PROSP; and TD	All type of securities
5: Capital Requirements	Basel III; and CRD IV	All equity and debt instruments
6: Fund related regulations	MMF; UCITS; and AIFMD	Money Market Funds, Investments Funds
7: Derivative specific regulations	EMIR; and Short selling directive	Options; futures/forwards; and swaps
8: Relevant U.S. regulations	Dodd-Frank Act FATCA	All type of securities

Chapter 3 - Un-securitized Debt

As previously mentioned, the regulatory changes regarding un-securitized debt will focus on the deposit guarantee schemes, and the minimum reserve requirements imposed by the European Committee. Besides the Deposit Guarantee Schemes, there is also the Investor Compensation Schemes. This is a similar scheme, but then for investors, covering risk associated investments, like equity and derivative investments, in case of a bank default. Although this goes outside the scope of loans and deposits, it will be briefly addressed at the end of the chapter, as it shows many similarities with the Deposit Guarantee Schemes. The below will first describe the regulations concerning the deposit guarantee scheme, and after that the minimum reserve requirements will also be addressed.

Deposit Guarantee Schemes[1]

A Deposit Guarantee Scheme acts as a safety net for bank account holders in case of bank failure. If a bank is closed down, the scheme is to reimburse account holders of the bank up to a certain coverage level. A 1994 Directive ensures that all EU Member States have Deposit Guarantee Schemes in place (European Commission, 1994).

The Directive on Deposit Guarantee Schemes has not been changed substantially for about 16 years although financial markets have significantly changed since then. The 1994 Directive introduced minimum harmonization for Deposit Guarantee Schemes. This meant that there were only a few basic requirements for Member states to follow up. As a result, Deposit Guarantee Schemes between countries vary significantly on the level of coverage, the scope of covered depositors and products and the payout delay. Also, the financing of schemes has been left entirely to Member States. This has turned out to be disruptive for financial stability and the proper functioning of the Internal Market. For example, when the crisis deteriorated, many depositors shifted money in the UK from British banks to branches of Irish banks in the UK, since Ireland had unilaterally introduced unlimited deposit guarantees. This led to a severe and abrupt draining of liquidity from the British banks, making them very vulnerable.

Therefore, the Commission aims at harmonizing and simplifying the Directive in order to confirm the required level of deposit protection, reimburse account holders more quickly and ensure schemes are properly funded. These new funding requirements will improve the confidence of savers and ensure long-term financial stability.

When the financial crisis hit in autumn 2008, Member States decided that the level of deposit protection should be gradually but quickly increased in the EU. A Directive adopted in March 2009 required coverage to be increased from a minimum of €20.000 to at least €50.000 by June 2010 and to a uniform

[1] Note: part of the text in this section comes directly from *MEMO/10/318* (European Commission, 2010) by the European Committee, as it already perfectly covers many of the aspects concerning the deposit guarantee schemes.

level of €100.000 by the end of 2010. The EC impact study on the directive, confirmed the appropriateness of this number (European Commission, 2010). On the basis of a coverage of €100.000, 95 percent of eligible accounts will be fully covered, 7 percent more than before the crisis.

Deposits are covered per depositor per bank. This means that the limit of €100.000 applies to all aggregated accounts of one account holder at the same bank. So this will include his or her current account, savings account and other accounts he or she might have in any one bank. Deposit Guarantee Schemes will protect all deposits held by individuals and small, medium-sized and large businesses. However, deposits of financial institutions and public authorities will not be covered. The former do not need protection since they are professional market actors and the latter would have easy access to other sources of financing. Deposits in non-EU currencies will also be covered, which is important for small and medium-sized businesses acting globally. Some more complex products similar to bonds will not be covered. Structured products whose principal is not repayable in full will not be protected (e.g. products whose value is dependent on a share price index). This simplification and harmonization will contribute to more transparency for savers and to quicker reimbursement in the event of a bank failure.

Earlier, account holders must be paid within three months after a bank failure. By the end of 2010, this delay has been reduced to between four and six weeks. Today's proposal shortens the payout delay to one week. This is important as account holders can face important financial difficulties within a few days – for example when they must pay bills. Although a seven-day payout seems like a drastic shortening, this already happens in the United States. To make this seven-day deadline work, managers of Deposit Guarantee Schemes will be informed at an early stage by supervisory authorities if a bank failure looks likely. Banks will be required to mark eligible deposits in their books and to maintain up-to-date records. If a bank fails, no application from bank account holders will be needed; the scheme will pay out automatically.

When it comes to funding Deposit Guarantee Schemes, there have been shortcomings in some countries in the past. It is not feasible (and necessary) to provide schemes with an equivalent amount of money to all deposits. Banks will have to pay on a regular basis to the schemes, in advance, so a pot of money can be built up, and not (like in the past) only after a bank failure. Such 'ex-ante funds' will make up 75 percent of the overall funds in DGS. If it becomes necessary, banks will have to pay additional contributions, which will contribute a further 25 percent of the target funds. If this is still insufficient, Deposit Guarantee Schemes could borrow from each other ("mutual borrowing facility") up to a certain limit (again 25 percent of target funds) or use additional funding sources such as borrowing on the financial market, e.g. by issuing bonds. The amount of funds being lent using the mutual borrowing facility is equal to the ex-post funds at the scheme borrowing from the others. The borrowing scheme has to pay back to the lending schemes within 5 years. The funding process is show in detail in figure 9.

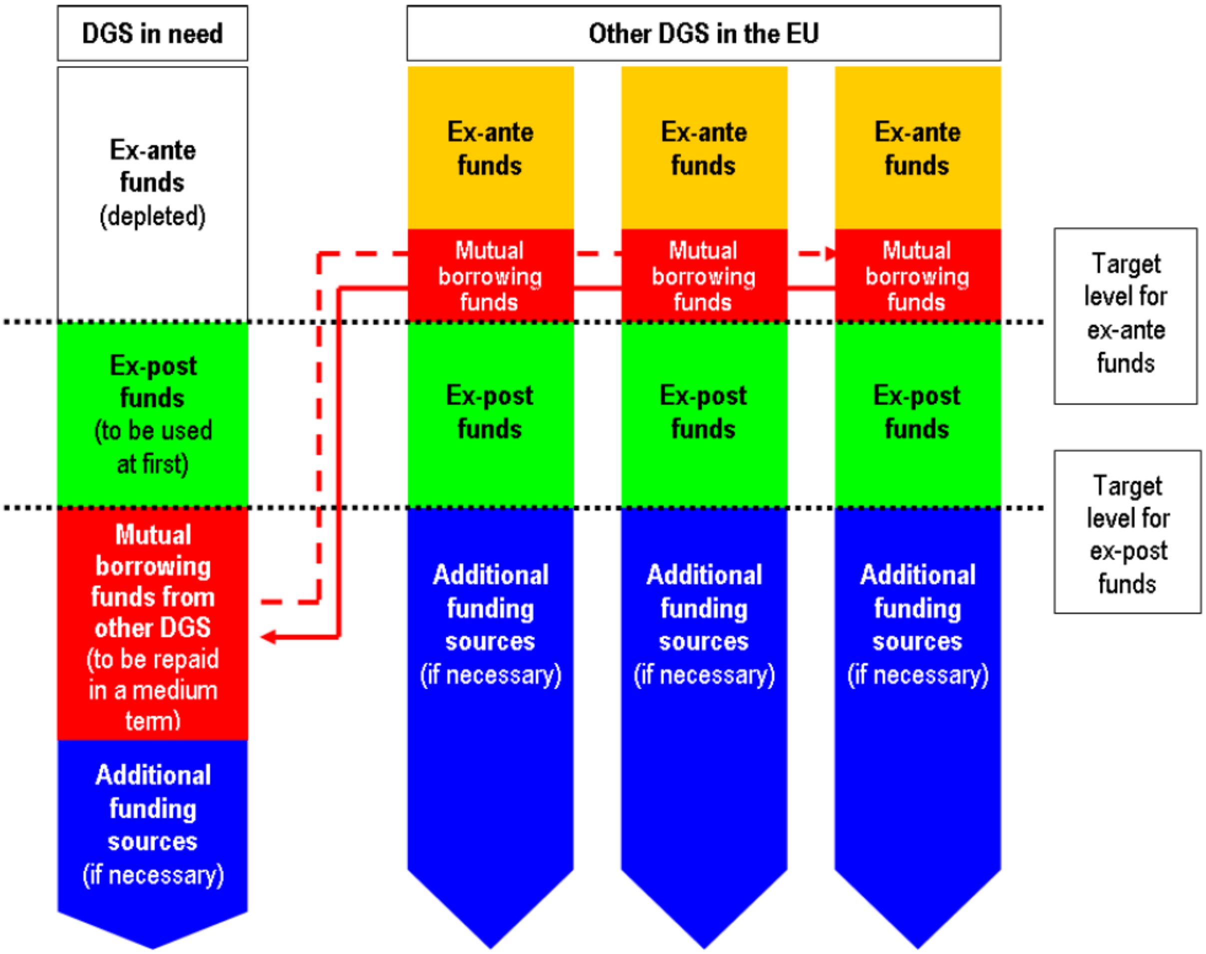


Figure 6: DGS funding overview (European Commission, 2010)

The new financing requirements will ensure that each scheme has enough funds in place to deal with a medium-size bank failure. This level is comparable to the existing well-financed schemes in the EU. These levels of funding will have to be achieved in all Member States by 2020. Banks having a riskier business model than others will pay higher contributions to Deposit Guarantee Schemes - up to about 3 times more.

Deposit Guarantee Schemes are part of the measures being taken to create a stronger crisis prevention and crisis management system so that taxpayers are no longer the first to pay out. Soundly financed Deposit Guarantee Schemes will mean that in case of bank failure, funds are there to pay out account holders without needing to have recourse to taxpayers. Furthermore, a scheme's funds can be used for certain resolution purposes - those that involve the transfer of deposits to another bank and are therefore equivalent to a payout. Also half of the target size of DGS funds can also be used for early intervention measures, i.e. measures aimed at helping a bank when it faces difficulties and avoiding it needs to be wound up, for example temporary liquidity support.

It is also opted to create a pan-European scheme. Such a single pan-European scheme would have two main advantages:

- First, the impact assessment estimates that € 40 million administrative costs per year could be saved.
- Second, it could better deal with bank failures. The impact of a single bank failure on a large scheme is lower than on a scheme only covering the banking sector of one Member State.

However, there are complicated legal issues, which would need to be examined. The idea of a pan-EU Deposit Guarantee Scheme remains a potential longer-term project. A more detailed report examining the options will be presented by 2014.

Under the new supervisory structure, the European Banking Authority will facilitate the functioning of Deposit Guarantee Schemes. The authority will be involved in stress tests and peer reviews of schemes, help settle any disagreements (for example in a cross-border case when two schemes have to coordinate their actions) and will ensure the consistent determination of contributions based on the risk of each bank.

Coverage can remain unlimited if it is linked to real estate transactions (for example selling your house) or to specific life events such as marriage and divorce. So, if you sell your house, the money from the sale is transferred to your account, and the bank fails the next day, Member States can ensure that you are covered for more than €100.000. In this scenario, depositors enjoy such coverage for up to 12 months after such an event if their Member State opts for such regime. But an unlimited higher coverage in general would jeopardize financial stability. When the crisis deteriorated, account holders shifted deposits to banks in Member States whose coverage was higher. This led to banks being stripped of liquidity in times of stress and made the crisis worse as it led to a near-liquidity crunch. Moreover, one scheme offering general unlimited coverage needed state aid because of the demands made on it.

Consumers will benefit from the Commission's proposal: interest will now be taken into account when reimbursing deposits, credits and installments can no longer be deducted from the amount to be reimbursed and savers at branches of banks in other Member States will not be referred to a scheme in a country they don’t live in. Depositors will be informed about the coverage on their statement of account. Businesses will also benefit. First, as explained above, the new proposal will extend coverage to all currencies, including, for example, US dollars, Swiss francs and yen, which is beneficial for businesses operating globally. Second, all businesses, whatever their size, will be now covered under the Deposit Guarantee Scheme. This is new as until now, some EU Member States exempted medium-sized and large enterprises from the existing rules on Deposit Guarantee Schemes.

Mutual Guarantee Schemes

Mutual Guarantee Schemes are schemes where banks support each other so they do not fail. By doing so, they contribute to financial stability in some Member States. On the contrary, Deposit Guarantee Schemes pay if a bank fails. The new proposals do not ask Mutual Guarantees Schemes to close down.

On the contrary, the new proposal acknowledges the stabilizing function of Mutual Guarantee Schemes and offers a lot of flexibility to them. Nevertheless, Mutual Guarantee Schemes are intended in the first place to save a bank as such and not the bank accountholders. The Commission believes that it is important that all banks participate in a Deposit Guarantee Scheme so as to give bank account holders the same level of protection - no matter where they are based in Europe. This would be an improvement for bank account holders, as under the current system account holders cannot make a claim if a Mutual Guarantee Scheme fails.

Under the Commission's new proposal, Mutual Guarantee Schemes can continue to exist. However, participating banks would be required to participate in a Deposit Guarantee Scheme or to establish a separate deposit scheme for themselves. Their lower risk factor can be taken into account when determining contributions.

The crisis has made clear that banks must take more responsibility and measures to strengthen financial stability are essential. But the Commission is also very aware of the cumulative effects of new rules on banks, which is why each proposal is accompanied by in-depth impact assessments. The calibration of measures is essential which is why banks will have 10 years to reach the target funding levels set out in the proposal.

Costs for banks and clients

It is unlikely that these new rules will lead to higher banking fees for clients. Since the market on financial products is quite competitive, banks are unlikely to transmit their costs completely to their customers. But even if they did, the European Commission estimated this would not exceed a 0.1 percent reduction in interest rates on saving accounts or an increase of bank fees on current accounts by about € 7-12 per account per year (European Commission, 2010).

Own calculations show a somewhat higher cost rate based on the € 7-12 and the retail customer base of the banks a min-max estimate was calculated, and shown as a percentage of the total amount of ‘due to customers’. Therefore this is already a low estimate as it’s assumed all retail clients have a deposit account and all ‘due to customer’ liabilities represent some form of cash deposit. On the other hand, the EC includes the fact that part of the refund will be paid for by the liquidation of assets of the defaulting bank, so the loss given default would not be 100 percent of the deposits. Besides that there are some customers (estimated 5 percent) who exceed the €100.000 threshold and will therefore not be reimbursed. Remarkable is the relatively high saving deposits of the Dutch banks. Given the calculation method higher average deposits automatically incur fewer costs relative to the total amount due to customers. The results of the calculations are shown in table 4 below.

Table 4: Impact calculations DSG

Bank	Retail Customers (x 1.000)	Min costs (x 1.000)	Max costs (x 1.000)	Min cost %	Max cost %	Average deposits
ABN AMRO	6.800	€ 47.600	€ 81.600	0,02%	0,04%	€ 31.414
BNP Paribas	23.000	€ 161.000	€ 276.000	0,03%	0,05%	€ 23.751
Credit Agricole	53.000	€ 371.000	€ 636.000	0,07%	0,12%	€ 9.918
Dexia	5.100	€ 35.700	€ 61.200	0,18%	0,32%	€ 3.808
ING	15.400	€ 107.800	€ 184.800	0,02%	0,04%	€ 31.128
KBC	9.400	€ 65.800	€ 112.800	0,05%	0,08%	€ 14.796
Rabobank	7.600	€ 53.200	€ 91.200	0,02%	0,03%	€ 43.407
Société Générale	24.600	€ 172.200	€ 295.200	0,05%	0,09%	€ 13.829
Total	**144.900**	**€ 1.014.300**	**€ 1.738.800**	**0,04%**	**0,07%**	**€ 17.898**

If any negative impact will follow from these new DGS measures, banks with relatively large retail banking operations, which are primarily funded with deposits from private individuals, will most likely be affected most. Whether they pay the fees themselves or charge it to the customers, the cost of funding increases: one way or another they have to pay the schemes. If they charge their customers their deposits will slightly decrease resulting in less capital, and when they pay the fee themselves their costs will increase.

Investment Compensation Schemes[2]

Investor Compensation Schemes protect investors using investment services by providing compensation in cases where an investment firm is unable to return assets belonging to an investor. This might occur for example where there is fraud or negligence at a firm or where there are errors or problems in the firm's systems. It does not cover investment risk: for example, when an investor has bought stocks,

[2] Note: part of the text in this section comes directly from *MEMO/10/319* (European Commission, 2010) by the European Committee, as it already perfectly covers many of the aspects concerning the investment compensation schemes.

which then fall in value. In the EU, Investor Compensation Schemes are covered under a Directive dating back to 1997 (97/9/EC). Investor compensation schemes are a last resort safety net.

The Commission is proposing a review of Investor Compensation Schemes. This initiative is part of a broader package on compensation and guarantee schemes that comprises the proposal for amendment of the Directive on Deposit Guarantee Schemes and a White Paper on the insurance schemes. Overall, the package represents a fundamental step towards restoring consumer confidence in financial markets.

The revision aims at increasing the protection provided to investors under the Directive and strengthening confidence in the use of investment services, updating and improving the practical functioning of the schemes and keeping pace with regulatory evolution. The main proposals, in line with the overarching objectives of the revision, are to:

The key elements of the proposal are as follows:

- Better coverage: the current minimum level of compensation for investors is €20.000. Under the Commission's proposal, this will be increased to €50.000 per investor.
- Faster payouts: under the current legislation, it can sometimes take up to several years for investors to receive any compensation. This is to change under the Commission's proposal, where investors will receive compensation at the latest 9 months after the investment firm's failure. Such a timeframe is however necessary in order to allow competent authorities to investigate the case and determine the positions of individual investors.
- Improved information: investors are to receive clearer and more extensive information about the extent to which their assets are covered. For example: investment risk – an investment losing value due to a declining stock market or bankruptcy of an issuer – is not covered under the Directive.
- Long-term and responsible financing: since 1997, there have been a number of cases in Member States where schemes have had inadequate funding to compensate lost assets of investors. Under the Commission's proposal, a minimum target fund level will be introduced which needs to be fully pre-funded. If necessary, schemes can borrow a limited amount from other schemes and other funding arrangements as a last resort ("mutual borrowing"). Contributions are to be borne by investment firms.
- Wider protection: currently, investors are not necessarily protected if the investment firm uses a third party custodian to hold the client's assets and the third party defaults without returning the invested assets. Similarly, unit holders in investment funds can suffer loss if there is a failure of a depositary or a sub-custodian of the fund. The Madoff investment fraud case in 2008 is a recent example. The Commission now proposes to also cover such situations.

The target fund level should represent at least 0.5 percent of the value of the assets covered by the protection of the schemes. The target fund level should be financed with regular contributions from members of the schemes (such as banks, investment firms, investment funds). When funds collected in anticipation of future claims are not sufficient to meet their obligations, the schemes should make additional calls for contribution to their members. The additional contributions shall not exceed 0.5 percent of the assets covered by the protection of the schemes.

Although not officially confirmed, the European Commission indicated that most improvements could already come in effect by end 2012 and would apply to all EU Member States as well as Norway, Iceland and Liechtenstein, once incorporated in the European Economic Area Agreement (European Commission, 2010).

Costs for banks and clients

Apart from the administrative advantages that will speed-up the payout process, the Investor Compensation Schemes will hardly have any effect on banks' investment banking operations. The fact that the scheme covers, although a minimum, €50.000, it will only sufficiently compensate small investments of private individuals, which is a relatively small client group for a bank, with little influence to the total operations. For the larger investors on the other hand the €50.000 is a relatively small reimbursement on their total investments in case the bank is unable to return their assets, which will do little to no good. Besides that these investors can be regarded as professional clients, if not eligible counterparties, and therefore are well aware of counterparty risk. This means they include such risk in their strategy and purchase decisions, which makes measures like Investor Compensation Schemes somewhat redundant for these types of investors, as they will slightly alter their price they're willing to pay, due to a decrease in counterparty risk and continue with business as usual.

Minimum reserve requirements

The Deposit Guarantee Schemes and Investment Compensation Schemes are put into place and harmonized European-wide to guarantee the safety of deposits and investments of individual clients of European banks. To make sure these schemes have to put into effect as little as possible (i.e. prevent banks from a default due to liquidity problems), the European Commission requires banks to hold a minimum amount of cash to safely meet cash and other liquidity withdraws. This minimum reserve requirement is based on reserve maintenance periods, which are two-week periods over which they have to keep the calculated reserve (European Central Bank, 2003).

The institution shall calculate the reserve base in respect of a particular maintenance period on the basis of the data relating to the month two months prior to the month within which the maintenance period starts. The European Union and the ECB aim to ensure that the minimum reserve system neither puts a burden on the banking system in the euro area nor hinders the efficient allocation of resources. For this reason, credit institutions' holdings of required reserves are remunerated (Deutsche Bundesbank).

The reserve base on which the minimum reserves are calculated are:

1. Deposits;
2. Debt securities issued;

Excluded from the reserve base are:

(a) Liabilities which are owed to any other institution not listed as being exempt from the ECB's minimum reserve system according to Article 2(3), and
(b) Liabilities, which are owed to the ECB or to a participating NCB.

A reserve ratio of 0 percent shall apply to the following liability categories (as defined within the ECB's reporting framework for money and banking statistics in Regulation (EC) No 2423/2001 (ECB/2001/13)):

1. Deposits with agreed maturity over two years;
2. Deposits redeemable at notice over two years;
3. Repos;
4. Debt securities issued with an agreed maturity over two years.

Institutions have to deduct a uniform lump-sum allowance of 100,000 € from their reserve requirement. This allowance is designed to reduce the administrative costs arising from managing very small reserve requirements.

A reserve ratio of 1.0 percent shall apply to all other liabilities included in the reserve base as of January 18th 2012 (2 percent before January 18th 2012) (European Central Bank).

Penalties

As the required holdings are remunerated, there's no financial setback on the reserves. The minimum reserve requirements only become an issue when a bank can't meet them. The ECB introduced a penalty for banks that fail to meet the minimum reserve requirements.

This is a direct penalty of 2.5 percentage points above the average, taken over the maintenance period in which the breach occurred, of the marginal lending rate of the European System of Central Banks, *applied to the daily average amount of minimum reserves the institution concerned failed to provide*.

The penalty will be calculated using the following formula:

$$P_t = \frac{D_t * n_t * \sum_{i=1}^{n} \frac{MLR_i + 2{,}5}{n_t * 100}}{360}$$

Where:

P_t = penalty to be paid owing to the lack of the required reserves for the maintenance period t

D_t = the amount of required lacking for the maintenance period t (as a daily average)

n_t = number of calendar days in the maintenance period t

i = the calendar day of the maintenance period t

$MLR_i =$ the marginal lending rate on day i

Should an institution subject to the minimum reserve requirements breach its obligation to hold the required level of minimum reserves more than twice during any 12-month period, it shall be deemed to have committed a repetitive breach. For each repetitive breach a sanction will be imposed, which shall be calculated in accordance with the formula mentioned above, as a penalty of five percentage points above the average, taken over the maintenance period in which the repetitive breach occurred, of the marginal lending rate of the European System of Central Banks, applied to the daily average amount of minimum reserves the institution concerned failed to provide.

Cost for banks

There are several reasons why the (changing) Minimum Reserve Requirements are of very little concern to banks. First of all, the requirements are decreased, which means that if they could comply before, they certainly still can after the reduction. Estimations indicate that all banks have more than enough cash at hand or otherwise available, ranging for 2.5 times to 14 times the required amount. These estimates are summarized in table 5 below.

Table 5: Estimates of minimum reserve requirements

Bank	Reserve base: deposits and debt securities < 2 years	Max reserve requirement (1%)	Cash and Balance at Central Banks	Cash/Requirements
ABN ARMO	€ 309.926	€ 3.099	€ 7.641	2,5
BNP Paribas	€ 670.155	€ 6.702	€ 58.382	8,7
Crédit Agricole	€ 629.650	€ 6.297	€ 28.467	4,5
Dexia	€ 98.898	€ 989	€ 4.845	4,9
ING	€ 585.001	€ 5.850	€ 28.112	4,8
KBC	€ 191.160	€ 1.912	€ 6.218	3,3
Rabobank	€ 501.705	€ 5.017	€ 70.430	14,0
Société Générale	€ 405.484	€ 4.055	€ 43.963	10,8

Secondly, the implementation of the Liquidity Coverage Ratio (LRC, will be discussed in chapter 5) is a much bigger burden for banks than the Minimum Reserve Requirements. This ratio requires a certain level of high quality liquid assets to ensure sufficient liquidity to cover the average net cash outflow for the next 30 days. As the main type of high quality liquid assets is cash, banks are already obliged to hold sufficient cash for the LCR, and are therefore likely to have no problem to comply with the Minimum Reserve Requirements. Should it occur that banks are threatened with insufficient cash, they can easily attract money in the money market against little compensation, especially considering the fact that the cash held as reserve is remunerated, which means banks only have to pay for the difference between the money market rate and the remuneration. And last but not least, in the unlikely event that no measures can help prevent a penalty, the penalty is only calculated over the amount of cash the bank was short on the minimum requirement, as long as this happens no more than once a year, there will be no long term consequences.

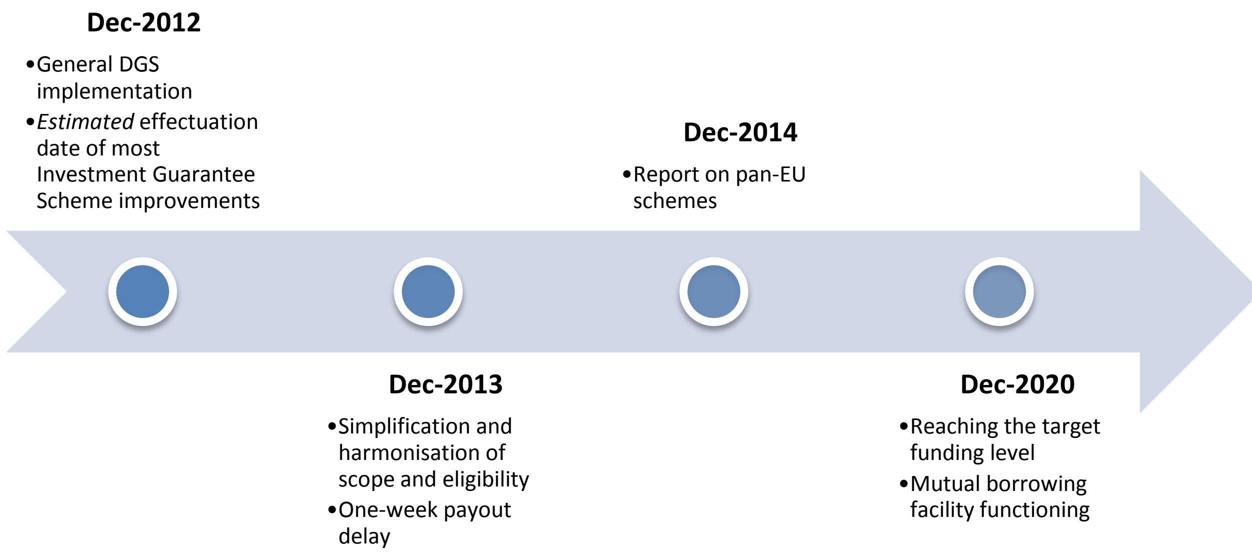


Figure 7: Timeline loans and deposits regulations

Chapter 4 - Lamfalussy Process

The next regulatory topic that will be discussed is the Lamfalussy process. This framework is part of the Financial Services Action Plan (FSAP), and brought forth four import directives that affect the financial markets and the banks discussed in this research. The following paragraphs will first shape insight in the FSAP and Lamfalussy Process, after which the individual directives will be discussed.

The securities market in Europe was one of the earliest markets to start with fundamental changes. This was initiated due to the fact that current regulations were perceived to be inefficient and outdated. Therefore the European Union initiated the Financial Services Action Plan (FSAP) in 1999. Its objectives were to create a single financial market and ensuring financial stability throughout the EU by establishing state of the art prudential regulations. The core of the FSAP is the Lamfalussy Process, named after the chairman of the EU advisory committee: Alexandre Lamfalussy. This Process consists of four Levels, with each it's particular focus on the implementation stages of the regulations. There are also four so-called Lamfalussy Directives that form the core of the FSAP in the area of securities regulation: the Market Abuse Directive (MAD), the Transparency Directive (TPD), the Prospectus Directive (PROSP), and the Markets in Financial Instruments Directive (MiFID) (Transposition of Lamfalussy Directives , 2012). These four directives all focus on specific measures, each with its own complementary objective. The MAD and MiFID have already been revised, and MiFID II is already in its implementation phase. More about this will be discussed in the next few paragraphs, where the Lamfalussy process with its four implementation levels and all the directives will be covered in closer detail (European Commission, 2006), (Christensen, Hail, & Leuz, 2011).

Lamfalussy Process

As already stated the main objective of the Lamfalussy Process is to create a single financial market and ensuring financial stability throughout the EU by establishing state of the art prudential regulations. The Committee reaffirms its view that there are significant gains from building an integrated financial market in the European Union, as it will create capital en financial services to flow freely throughout the EU (Lamfalussy, et al., 2001). Some microeconomic effects include enhanced competition and choice of capital, which will lower the cost of capital; consumers can easier and freely purchase financial services and securities throughout the EU; and also cross-border clearing and settlement should become cheaper. Furthermore, the Committee believes that the provide measures will spread the enhance benefits to all Member States (Lamfalussy, et al., 2001).

The four levels represent a top-down framework that is intended to straighten out the policy-making process in the securities market. At the first level the European Commission reaches an agreement about general principles and definitions of implementing powers and the adoption of general framework policies. At second level there are two new committees instated to assist the EC in determining how to implement the details of the level 1 framework. The first commission is the EU Securities Committee (ESC) and the second one is the EU Securities Regulators Committee (CESR). At the third level the CESR works on the enhanced cooperation and networking to ensure consistency by establishing guidelines and common standards to ensure consistent and equivalent transposition of Level 1 and Level 2 legislation.

The fourth level is comprised with the enforcement en compliance of all the Member States, legal action can be taken by the Committee if Member States seems to breach Community Law. An overview of the four-level Lamfalussy framework can be found in Appendix F

The Lamfalussy framework realized four complementary directives to regulate the securities market in Europe. The main objective was to create an integrated and transparent European financial market. Although the Lamfalussy Process is not directly related to financial instruments, parts of the directives have a large impact (one more important than the other) on the securities market as a whole and are therefore too embedded in the market to neglect. Therefore the four directives will be discussed briefly in the below, together with their impact on financial instruments.

Market Abuse Directive (MAD)

The Market Abuse Directive (MAD) aims to increase investor confidence and market integrity by prohibiting those who possess inside information from trading in related financial instruments ("insider trading"), and by prohibiting the manipulation of markets through practices such as spreading false information or rumors and conducting trades which secure prices at abnormal levels ("market manipulation").

The MAD creates some tools to prevent and detect market abuses, like insiders' lists, suspicious transaction reports and the disclosure of managers' share transactions. It also obliges issuers of financial instruments traded on a regulated market to make public as soon as possible inside information that they possess, with limited possibilities to delay (European Commission, 2011).

The MAD was first adopted in 2003 by the European Commission and amended 2008 and 2011. Currently the MAD is under revision (MAD II), which should fill in the gaps that were identified in the impact assessment, and will also broaden the scope of the MAD application area (European Commission, 2011). These include the application of the legislation to financial instruments traded on organized and multilateral trading facilities and OTC activities, including spot commodity markets and emissions allowances, which were previously not included. These revisions are likely to come into effect in 2013 (Mc Dermott Will & Emery, 2012).

The new 2011 draft Regulation provides for (CMS - Cameron McKenna, 2011):

- An extension to the scope of MAD to include additional financial instruments and markets, and covering financial instruments traded solely on multilateral trading facilities (MTFs) and organized trading facilities (OTFs);
- a new definition of inside information for commodity derivatives and new powers for regulators to request information on spot commodity markets;
- bringing emission allowances into the scope of the market abuse regime;
- a new offence of attempting market manipulation;
- broadening and clarifying the definition of market manipulation;
- amendments to the disclosure requirements; and

- strengthening of the investigative powers of regulators.

MAD Impact

The MAD was discussed as it specifically applies to many of the financial instruments discussed in this research (e.g. UTICS, Money-market instruments, and many derivatives). However the impact of the MAD (and the new MAD II propositions) on banks is very limited, as the main burden is of administrative and reporting nature. As a matter of fact the MAD does not interfere with the business-as-usual practices of banks, as the MAD specifically targets the excesses (i.e. abuse) of the financial market.

Markets in Financial Instruments Directive (MiFID)

The Markets in Financial Instruments Directive (MiFID) was drafted in 2004 and put into effect in 2007. It established a regulatory framework for the provision of investment services in financial instruments (such as brokerage, advice, dealing, portfolio management, underwriting etc.) by banks and investment firms and for the operation of regulated markets by market operators, with respective powers and duties of national competent authorities.

The overarching objective has been to further the integration, competitiveness, and efficiency of EU financial markets. It abolished the possibility for Member States to require all trading in financial instruments to take place on specific exchanges and enabled Europe-wide free competition between traditional exchanges and alternative venues. It also granted banks and investment firms a strengthened "passport" for providing investment services across the EU subject to compliance with both organizational and reporting requirements and comprehensive investor protection (European Commission, 2011).

In October 2011 the European Commission published the proposal for MiFID II, which will likely be put into effect in 2013. MiFID II tends to capture previously unregulated (or weakly regulated) areas. The below will first discuss the brief outlines of MiFID I and will then turn the MiFID II, and its expected consequences.

Key aspects of MiFID

Authorization, regulation and passporting: MiFID states that the when a firm has been granted a MiFID passport, the firm will be regulated in their home state, but can use the passport to provide services to clients in other Member States. Previously a service was regulated by the Member State in which the service is provided.

Client categorization: MiFID requires firms to categorize their clients. Categories are “eligible counterparties”, “professional clients” and “retail clients”. All with relative increased levels of protection respectively. This requires clear procedures to appoint clients to the appropriate category. Additionally, financial advice or transaction suggestions to a client also need to be verified appropriately before the advice is given.

Client order handling: MiFID obligates the firm to retrieve specific client information before executing transactions on the client's behalf in order to make sure that the firm is acting in the client's best interest.

Pre-trade transparency: MiFID requires operators of order matching systems to publish aggregated information on the best available buy and sell prices of liquid shares. Also for quote-driven markets the best bid and ask prices of the market makers must be published.

Post-trade transparency: MiFID also requires firms to publish the price, volume and time of all transactions related to listed shares.

Best execution: MiFID requires that firms take reasonable action to generate the best possible results in terms of execution price, costs, speed and likelihood of execution and/or settlement.

Systematic Internalizer: a last measure of MiFID concerns Systematic Internalizer. This is a firm that executes orders from its clients against its own book or against orders from other clients. MiFID categorizes Systematic Internalizers as mini-exchanges, which requires such firms to comply with the same reporting requirements as organized exchanges.

As these measures are already implemented, their impact will not be discussed, as this is not relevant for this research, but it shapes the context around the proposed MiFID II changes that will be discussed in the next paragraph.

MiFID II

MiFID II changes the financial playing field in a lot of areas. It changes the market structure and the conduct of business, and it tightens the transparency, and operational requirements. The key requirements are listed below:

Market Structures:

- Introduce Organized Trading Facilities (OTF) to capture new business models like Broker Crossing Networks (previously not included)
- Align Regulated Markets, Multilateral Trading Facilities and OTF organizational and market surveillance requirements
- Eligible derivatives are to be traded on regulated trading venues only

Transparency:

- Improve Pre- and Post-Trade Transparency by expanding scope for Equity instruments and including Non-Equity classes
- Improve post-trade quality and availability by launching Approved Publication Arrangement (APA) and European Consolidated Tape
- Launch Approved Reporting Mechanism (ARM) for Transaction Requirements

Conduct of Business:

- Removal of current exemptions, which bring non-complex products back in scope of MiFID II
- Changed requirements for Investment Advice and Execution Services
- Client Categorization has been fine-tuned and the execution requirements are strengthened.

Organizational Requirements:

- Detailed requirements Compliance, Risk & IAD
- Detailed requirements for Product, Service and Operational Approval
- Changed requirements to Conflict of Interest, Inducements and Asset Segregation

MiFID II Impact

The initial 2004 MiFID directive had already a significant impact on financial firms, mainly in respect of systems and processes, but also the organization as a whole, which needed to be modified to provide for the additional transparency and reporting requirements (both towards the market participants and the regulatory authorities).

When looking at the market structure the 2011 proposal, it again requires significant modifications to the systems, processes. Infrastructure needs to be aligned for the new OTF category and the conversion to regulated derivative trading. Besides the infrastructure, this also tightens banks' possibilities to create and sell specialized OTC contracts. This is especially relevant for investment bankers engaging in brokerage and market making, as many of products will be moved to regulated trading facilities, requiring more regulatory reporting and reducing the tailoring possibilities of the contracts.

The transparency regulations regarding pre- and post-trade transparency will not affect the financial instruments itself, but it does affect the investment bankers that trade them. For example market makers (and also brokers to lesser extend) need to provide far going insight in their pricing process and their transactions and settlements (i.e. their sales). This will place an extra burden on the infrastructure as firms continuously need to report to market participants and regulators (especially with automated and high frequency trading).

The new regulations regarding the conduct of business require market participants to be more prudent towards clients when it comes to investment advice and transaction processing. Banks need to maintain strict client categorization and provide appropriate information to the client's best interest. This will be especially true for retail banks with their relatively unknowledgeable clientele, for which the rules are most strict.

The organizational requirements will impact all the market participants subjected to MiFID II. The new organizational requirements comprise enhanced compliance, risk management and internal audit functions for banks in general. Specifically the organizational requirements for the launch of products, operations and services, the segregation of asset and conflicts of interest need to be disclosed in more detail.

Prospectus Directive (PROSP)

The PROSP was drawn up in 2003 and put into effect in 2005. Its objective is to "reducing administrative burdens relating to the publication of a prospectus in the case of offers of securities to the public and admission to trading in regulated markets within the Union" (European Commission, 2010). In late 2010 a revision was made and some alterations were made to fine-tune the directive. This new Amending Directive will come into effect no later than mid-2012. As it already states, it's about the prospectus requirements related to securities. This means that it only concerns an administrative matter, and will not influence the financial instruments themselves. Therefore also this directive will only briefly be discussed.

Offer and admission exemptions

Under the initial PROSP, debt securities with a minimum denomination €50.000 can be offered to the public without publishing a prospectus. The Amending Directive increases this minimum denomination €100.000 per security. On the other hand, an advantage is that under the Transparency Directive, issuers of these so called wholesale debt securities are exempt from the obligation to publish annual and half-yearly reports.

Another current exemption is that issuers of debt securities are exempt from publishing a prospective if an offer is addressed to less than 100 natural or legal persons per Member State. The Amending Directive increases the threshold of this exemption to 150 natural or legal persons per Member State.

Thresholds for offers outside the scope of the Prospectus Directive

The PROSP defines that certain offers of securities are outside of its scope. The new Directive increases these size-limits as follows:

- Offers of securities with less than €5 million over a 12-months period (currently €2.5 million).
- Issuance of non-equity securities, issued in a continuous or repeated manner where the total consideration of the offer is less than €75 million (currently €50 million).

Extension of the exemption for employee share schemes

Currently firms listed on an EU-regulated market are exempt from publishing a prospective for offers to employees. The Amending Directive also allows the exemption to companies with securities admitted to trading on an 'equivalent' third country market (Gallardo, Gibson, & Dunn & Crutcher LLP, 2010).

PROSP Impact

Although the PROSP doesn't directly effects financial instruments, it does have an indirect effect, as it decreases the eligible clientele that can invest in "non-prospective" instruments. With the doubling of the minimum denomination and the increase of the scope of investments to which PROSP applies, it suddenly captures a whole different range of investments. Especially the doubling of the minimum denomination to €100.000 will sharply reduce the number of retail clients and small investors that can invest in non-prospective instruments. Many investment banks were targeting retail clients with investments for €50.000 as this would greatly ease the reporting and prospectus requirements for the banks. Many retail clients that would invest in €50.000 will not be able to invest in €100.000, much of this target group will fall out of range of the prospective exemption, requiring the banks to comply with the prospective requirements when targeting these investors, or to find new easy to market and attractive investment opportunities in the €50.000 - €100.000 investment category to target to their retail clients.

A remarkable change in PROSP is the extension of the employees share schemes exemption. This extension now makes it possible to offer employees company securities listed in a third county without PROSP regulations. This will not be of large importance to European banks as they already could do this within Europe. Therefore it’s especially beneficial to for example U.S. banks with branches in Europe that want to offer U.S. listed securities to their employees. Although not directly relevant for this research this is a remarkable regulatory decision, as there is a hot debate since the financial crisis in several European countries to mitigate the allegedly excessive bonus-culture in the banking sector. This new exemption allows for the opposite, and will only create more reward schemes possibilities.

Transparency Directive (TPD)

The Transparency Directive requires issuers of securities traded on regulated markets within the EU to ensure appropriate transparency through a regular flow of regulated information to the markets. Regulated information consists of: yearly, half-yearly and quarterly financial information; on-going information on major holdings of voting rights; and ad hoc information disclosed pursuant to the Market Abuse Directive.

For the purpose of this research the TPD is the least interesting Directive of the four, as it only prescribes reporting obligations to issuers of securities traded on regulated markets and does not deal with financial instruments at all. Therefore the TPD will not be further discussed in this research.

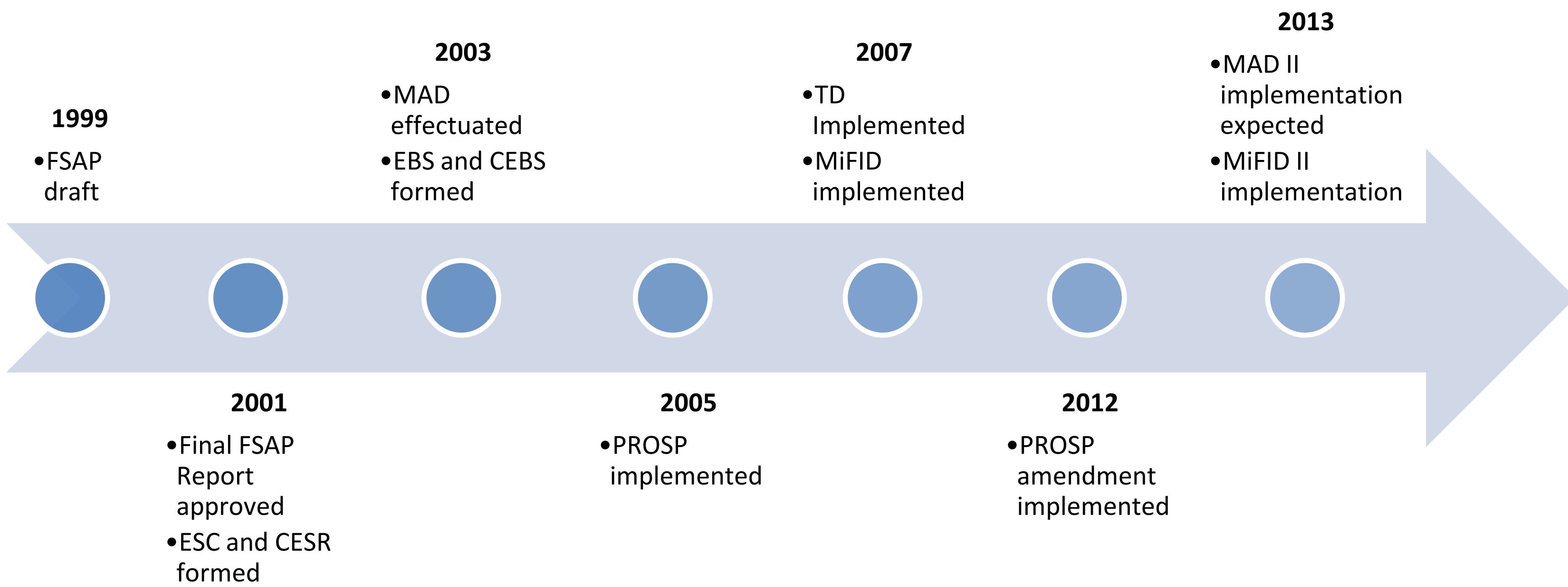


Figure 8: Overview Lamfalussy Process and Directives

Chapter 5 - Capital Requirements Directive and Basel III

This chapter covers the changing regulations regarding the capital requirements. Capital requirements are imposed by regulators to insure that banks carry enough capital to survive stressful periods and prevent from defaulting. They are an important issue for banks, because the amount of capital required depends on the instruments portfolio of the banks (both on- and off-balance sheet), and therefore implicitly sets limits to how much risk a bank can take. The main drivers for these capital requirements are the Basel Accords, which were introduced by the Basel Committee. At the moment the banking industry worldwide stands at the start of implementing the third version of the Basel Accord: Basel III, which will be introduced in phases in the coming 7 years (Linklaters, 2011).

Since the Basel Committee is not linked to European or national governments the regulations cannot be enforced directly, and must therefore be incorporated in European or national legislations in order to impose it upon European banks. The European Commission will implement this throughout the European Union via the Capital Requirements Directive (CRD) and Regulation (European Commission, 2011), (European Commission, 2011).

Introduction to the Basel Accords

The Basel Committee was established by the central bank Governors of the Group of Ten countries at the end of 1974. The Committee is accommodated by the Bank for International Settlements based in Basel. In 1988, the Committee introduced a capital measurement system, which is known as the Basel Capital Accord. This system supported a credit risk measurement framework and imposed a minimum capital standard of 8 percent by end-1992. Since its introduction in 1988, the framework has been progressively introduced in practically all countries with internationally active banks. The Committee issued a proposal for an enhanced Capital Adequacy Framework in 1999 and consisted of three pillars: Minimum Capital Requirements, which, with some additional refinements, sets forth on the 1988 Accord; a Supervisory Review Process, which is concerned with the regulatory response to the first pillar; and Market Discipline, which is a comprehensive framework that aims to promote greater stability in the financial sector. This revised framework was issued on 26 June 2004 and put into effect as from 2008 and serves worldwide as a basis for national rule-making regarding banks (Bank for International Settlements, 2009).

In response to the financial crisis of 2008, the Committee and its oversight body have (again) developed a reform program to address the lessons of the crisis. These new global standards, which address both firm-specific and broader, systemic risks, have been referred to as "Basel III" (Bank for International Settlements, 2009). “The objective of the reforms is to improve the banking sector’s ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy” (Bank for International Settlements, 2011). The two focus points of Basel III are strengthening the global capital framework and Introducing a global liquidity standard. The implementation deadlines associated with several (new) requirements stretch out from early 2013 to 2018. The Basel accords were the main focus of the CRD IV. Therefore much of the

CRD IV measures discussed below stem from the Basel accords (e.g. the countercyclical buffers, the Liquidity Coverage Ratio, the Net Stable Funding Ratio, the Leverage Ratio etc.), but since the Basel accords cannot directly impose legislation upon European banks it will not be addressed separately.

The below will outline the main measures and impact of the CRD IV Directive and Regulation, including the Basel Accord requirements that will influence the European banking industry. The measures are divided in different topics: Capital Adequacy Ratio, Counterparty Credit Risk, Liquidity requirements, and other stabilizing measures.

Capital Requirements

Capital Adequacy Ratio

Basel III calls this "Strengthening the global capital framework". Capital requirements are an adequate way of imposing binding restrictions on banks, limiting their risk-taking behavior and ensuring higher financial stability. The idea is that a certain amount of a bank's capital should be of a certain quality. Capital in this sense is related to, but different from, the accounting concept of shareholders' equity. The reason for holding capital is to protect banks against unexpected losses[3]. Previously capital was categorized capital in three tiers, representing the quality of the capital, with Tier 1 Capital (going-concern capital) being the best, consisting of common equity, retained earnings, certain types of stock surplus and several other high quality equity types. Tier 2 Capital (going-concern capital), also known as supplementary capital consists of little less qualitative capital like other types of stock surplus, and financial instruments that meet Tier 2 criteria. Tier 3 was already eliminated in the late-2000s with the introduction of Basel II. A more extensive summary of previous capital definitions and requirements van be found in appendix G.

Besides the recognition of the quality capital (Tier 1 Capital and Tier 2 Capital), all the capital is scored to the risk and/or exposure it carries. Different classes of assets have different risk weights associated with them and are called Risk-weighted Assets (RWA). The calculation of risk weights is dependent on whether the bank has adopted the standardized, or the Internal Rating Based approach (IRB), both introduced under the Basel II framework.

The frontier of the capital requirements is the Capital Adequacy Ratio (CAR), also called Capital to Risk-Weighted Assets Ratio (CRAR). The CAR imposes a minimum amount of quality capital as a percentage of the Risk-Weighted Assets to ensure that banks can absorb a reasonable amount of loss defined by the authorities. The CAR is defined as:

$$\text{CAR} = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk-Weighted Assets}} \geq 8\%$$

[3] Note that this is not the same as expected losses, which are covered by provisions, reserves and current year profits.

Additional requirements concerning the CAR are:

- Common Equity Tier 1 must be at least 4.5 percent of risk-weighted assets at all times.
- Tier 1 Capital must be at least 6.0 percent of risk-weighted assets at all times.

These additional requirements are gradually implemented during an 8-year period from 2011 till 2019. Table 6 presents these implementation phases.

Table 6: Introduction timeline Basel III Capital Requirements (Bank for International Settlements, 2011)

% of RWA	2011	2012	2013	2014	2015	2016	2017	2018	2019
Minimum Common Equity Capital Tier 1	2,0%	2,0%	3,5%	4,0%	4,5%	4,5%	4,5%	4,5%	4,5%
Minimum Tier 1 Capital	4,0%	4,0%	4,5%	5,5%	6,0%	6,0%	6,0%	6,0%	6,0%
Minimum Total Capital	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%
Capital Conservation Buffer	0,0%	0,0%	0,0%	0,0%	0,0%	0,625%	1,25%	1,875%	2,5%
Minimum Common Equity Tier 1 plus Capital Conservation Buffer	2,0%	2,0%	3,5%	4,0%	4,5%	5,125%	5,75%	6,375%	7,0%
Minimum Total Capital plus Capital Conservation Buffer	8,0%	8,0%	8,0%	8,0%	8,0%	8,625%	9,25%	9,875%	10,5%
Phase-in of deductions	0%	0%	0%	20%	40%	60%	80%	100%	100%

Tier Capital

As already mentioned there are two categories of high quality Tier Capital. Furthermore Tier 1 Capital can be split up into Common Equity Tier 1, and Additional Tier 1 Capital. A short indication of eligible capital for each category of Tier Capital is provided below:

<u>Common Equity Tier 1 Capital consists of the sum of the following elements:</u>

- Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies);
- Stock surplus (share premium) resulting from the issue of instruments included Common Equity Tier 1; Retained earnings;
- Accumulated other comprehensive income and other disclosed reserves;
- Common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital; and
- Regulatory adjustments applied in the calculation of Common Equity Tier 1.

<u>Additional Tier 1 capital consists of the sum of the following elements:</u>

- Instruments issued by the bank that meet the criteria for inclusion in Additional Tier 1 capital (and are not included in Common Equity Tier 1);
- Stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;
- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Additional Tier 1 capital and are not included in Common Equity Tier 1; and
- Regulatory adjustments applied in the calculation of Additional Tier 1 Capital.

Tier 2 capital consists of the sum of the following elements:

- Instruments issued by the bank that meet the criteria for inclusion in Tier 2 capital (and are not included in Tier 1 capital);
- Stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;
- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Tier 2 capital and are not included in Tier 1 capital;
- Certain loan loss provisions as specified in paragraphs 60 and 61 of "Basel III: A global regulatory framework for more resilient banks and banking systems"; and
- Regulatory adjustments applied in the calculation of Tier 2 Capital.

Additionally the following items the following items may each receive limited recognition when calculating Common Equity Tier 1, with recognition capped at 10 percent of the bank's common equity.

- Significant investments in the common shares of unconsolidated financial institutions (banks, insurance and other financial entities) as referred to in paragraph 84 of "Basel III: A global regulatory framework for more resilient banks and banking systems";
- Mortgage servicing rights (MSRs); and
- DTAs that arise from temporary differences.

On 1 January 2013, a bank must deduct the amount by which the aggregate of the three items above exceeds 15 percent of its common equity component of Tier 1.

Contingent Capital

To increase loss-absorbency in a financial crisis situation the Financial Stability Board and the European Commission (FSBE) are evaluating the idea of including contingent capital into the definition of eligible regulatory capital which provides an 'automatic' mechanism for increasing equity capital, or the contingent write-off of debt in times of financial stress.

As Tier 1 core capital is scarce, two types of contingent capital instruments may be used:

a) So-called 'reverse convertibles' or 'contingent convertibles'. A bank issues a debt security that automatically converts into equity if the regulatory capital or stock market value of the bank falls below a fixed benchmark.

b) So-called 'capital insurance': a bank purchases an insurance policy that pays off in difficult times, again as captured by some pre-specified trigger.

A Contingent Convertible bonds (CoCos) has three advantageous characteristics:

1. At initiation can be reported as debt on the balance sheet, therefore benefiting from a tax shield;
2. Specific rules define under what conditions the bond type structure is (automatically) converted into an equity type structure;
3. This conversion feature is seen as a relatively low-cost mechanism to increase the capital base of a bank in distress, i.e. a situation where traditional seasoned equity offerings might even be impossible.

Some experts highlight potential moral hazard problems of CoCos: "if the conversion price is set too high (i.e. the number of shares a CoCos holder receives in case of a conversion is too low) CoCos provide a huge disincentive to raise new equity capital in times of distress before conversion has taken place as shareholders benefit most of appreciations in asset value when the bank is just above the trigger point of conversion. Shareholders will be tempted gamble for resurrection trying to expropriate the bondholders resulting additionally in the debt overhang problem" (European Parliament, 2011).

Risk-Weighted Assets

As mentioned above, all the bank's assets are weighted according to their associated risk and scored. Basel III defines the according risk weight for each type of asset. This is either done via the Standardized Approach, or when minimum conditions are met and approval from the national supervisor is given (which is the case by almost all the larger banks), the Internal Rating Based Approach may be used. Both rely upon historical data and are compiled with prescribed calculations using Probabilities of Default, Loss Given Default and Exposure at Default. It stretches too far to review this process into detail, especially with the IRB approach, which is more advanced, and gives more room for own interpretation.

Counter-cyclical measures

According to the Basel Committee, one of the most destabilizing elements of the crisis has been the procyclical amplification of financial shocks throughout the banking system, financial markets and the broader economy. Market participants have the tendency to amplify the procyclicality through accounting standards, margining practices and the buildup and release of leverage. The Basel Committee is introducing a number of measures to make banks more resilient to such procyclical dynamics. These measures will help ensure that the banking sector serves as a shock absorber, instead of a transmitter of risk to the financial system and broader economy.

The Committee has introduced a set of measures to address the procyclicality effects among banks. The objectives of these counter-cyclical measures are:

- Dampen any excess cyclicality of the minimum capital requirement;
- Promote more forward looking provisions;

- Conserve capital to build buffers at individual banks and the banking sector that can be used in stress; and
- Achieve the broader macro-prudential goal of protecting the banking sector from periods of excess credit growth.

The most important measure of the counter-cyclical measures is the introduction of a Capital Conservation Buffer. The idea is that banks need to keep buffers above the minimum regulatory requirements outside times of stress. Also when buffers have been depleted, banks should try to rebuild them through reducing discretionary distributions of earnings like dividend payments, share-backs and staff bonus payments. Another option is to raise new capital from the private sector additionally to conserving internally generated capital.

Effectively this would mean a capital conservation buffer of 2.5 percent, comprised of Common Equity Tier 1, which is established above the regulatory minimum capital requirement. This buffer is gradually introduced starting in 2016, as can be seen in table 6. Might a bank fall into this range, capital distribution constraints will be imposed on the bank. The constraints imposed only relate to distributions, not the operation of the bank, this means that there's no panic if losses are incurred.

The distribution constraints imposed on banks when their capital levels fall into the range increase progressively towards the lower range of the constraint. The constraints are designed in such a way that banks just in the range will have minimal constraints, as opposed to banks with capital levels at the bottom of the range, who will be faced with severe constraints would be minimal. The proposed conservation ratios are presented in table 7.

Table 7: Individual bank's minimum capital conservation standards (Bank for International Settlements, 2011)

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

Despite the restraining effects, experience of counter-cyclical capital requirements show that such effects may be relatively small, since the ability of banks to raise capital in good times is relatively easy and the impact of higher capital ratios is relatively small. Therefore banks should not be underestimated in their ability to by-pass counter-cyclical capital requirements (European Parliament, 2011).

Impact of the capital requirements on banks

The reason why the CRD IV and Basel III changes will have a significant impact on banks is because the proposals increase the Minimum Total Capital requirements, sharpen the Common Equity Capital ratios, and at the same time significantly reduce the eligible capital (the numerator). Also at the same time, they significantly increase the risk weights for the risk-weighted assets (the denominator). This limited recognition of Tier 1 capital and the increased risk weighting will have the combined effect of reducing the bank's Capital Adequacy Ratio. Additionally, the proposals will also affect the benchmark minimum levels. For example, common equity Tier 1 ratio (also known as 'core equity') will need to increase from a minimum of 2 percent to 4.5 percent.

The downside of these higher capital requirements are incentives for the shadow banking system due to regulatory arbitrage, as they get around the capital requirements: to solve this issue, additional capital requirements should be introduced on specific asset classes for intermediaries in the shadow banking system.

Due to the complex design and valuation of contingent capital, and the potential moral hazard it brings along, it would be wise to limit the use of contingent capital to a certain maximum percentage that can be included as Tier Capital.

Counterparty Credit Risk

The market events of the last few years have shown the importance of an effective management of credit risk. Counterparty credit risk (CCR) is particularly complex form of credit risk inherent to over-the-counter (OTC) derivatives and securities financing transactions. The Basel Committee on Banking Supervision has proposed new rules for CCR management to overcome the weaknesses from the past. As the new rules become effective from January 2013, there is significant pressure on financial institutions to respond to the new requirements. According to the Basel Committee, "failure to capture major on-and-off balance sheet risks, as well as derivative-related exposures, was a key factor that amplified the crisis". The new regulatory rules for CCR address weaknesses in the areas of CCR measurement and management.

A key change to the CCP measures already in place is the introduction of a Stressed Effective Expected Positive Exposure (Stressed EEPE) measure, in addition to the existing 'normal' EEPE, to address general wrong-way risk. Wrong-way risk is the risk that arises from transactions with counterparties whose credit quality is highly correlated with the exposure amount and the introduction of a capital charge for the specific wrong way risk. The higher rate between the normal and the stressed measure is the one used for calculating the capital charge.

Another new component is a capital charge for the Credit Valuation Adjustment (CVA). The CVA is the market value of the credit risk, inherent in derivative positions, and the CVA charge shall cover the risk of mark-to-market losses on the CVA that arise from credit migration events. Financial institutions have to apply defined calculation rules for the CVA per counterparty and the total capital charge is the sum over all counterparties.

The last new requirement is the increased asset-valuation correlation multiplier for the RWA (Risk Weighted Assets) calculation in order to address proven systemic correlations in the financial sector.

The new rules are clearly in favor of central counterparties. For example, the additional CVA capital charge does not apply to exposure towards eligible central counterparties (CCPs). Also the RWA is significantly reduced when trading via a CCP in order to create a clear incentive for trading via a CCP or completely migrating to a CCP (Bank for International Settlements, 2011).

Impact of Counterparty Credit Risk on banks

Basel III strengthens the requirements for the management and capitalization of counterparty credit risk (CCR). It includes an additional capital charge for possible losses associated with deterioration in the creditworthiness of counterparties and increased risk weights on exposures to large financial institutions. Therefore OTC trading business and the corresponding risk management policies are heavily impacted by the new regulations, especially with the introduced incentives for central counterparties. This will likely shift part of the OTC business to trading facilities with central counterparties, which can therefore expect a rise in demand.

Introducing a global liquidity standard

Besides the strengthening of the (existing) capital framework, the Basel Committee and the European Commission have also introduced a supplementary measure: internationally harmonized global liquidity standards. As these are of equal importance and didn't exist till this point. During the early stage of the crisis, many banks – despite adequate capital levels – still experienced difficulties because they failed to manage their liquidity in a prudent manner. The crisis again pointed out the importance of liquidity to the proper functioning of the banking sector (Bank for International Settlements, 2011).

With the liquidity standard the Committee aims to achieve two separate but complementary objectives: The first objective is "to promote short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high quality liquid resources to survive an acute stress scenario lasting for one month" (Bank for International Settlements, 2011). This will be accomplished by introducing the Liquidity Coverage Ratio (LCR). The second objective is "to promote resilience over a longer time horizon by creating additional incentives for a bank to fund its activities with more stable sources of funding on an ongoing structural basis" (Bank for International Settlements, 2011). Along with the LCR, the Committee introduced the Net Stable Funding Ratio (NSFR), which captures a time horizon of one year and will ensure a sustainable maturity structure of assets and liabilities. Both the LCR and the NSFR will be addressed in the next sections, along with some complementary monitoring measures.

Liquidity Coverage Ratio

The LCR aims to ensure that a bank maintains an adequate level of high-quality liquid assets that can be converted into cash to meet its liquidity needs for a 30 calendar day time period. Additionally this should also be possible under a significantly severe liquidity stress scenario specified by supervisors. At a minimum, the stock of liquid assets should enable the bank to survive until Day 30 of the stress scenario. It is assumed that within these 30 days management and/or supervisors have gotten sufficient time to take corrective measure.

The ratio is defined as:

$$\text{LCR} = \frac{\text{Stock of high-quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

There are two categories of assets that can be included in the stock of high-quality liquid assets. Assets to be included in each category are those that the bank is holding on the first day of the stress period. “Level 1” assets can be included without limit, while “Level 2” assets can only comprise up to 40 percent of the stock. An overview of which assets are classified as level 1 and level 2 assets can be found in appendix H.

“The total net cash outflows over next 30 calendar days” is defined as:

$$\text{Total net cash outflows over next 30 calendar days=outflows- min\{inflows;75\% of outflows\}}$$

The Committee states: “the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario up to an aggregate cap of 75 percent of total expected cash outflows.” (Bank for International Settlements, 2010).

In other words the LCR proposal assigns run-off rates to each source of funding, which coincide to a scenario of severe stress. A run-off rate represents the amount of funding that matures or floats out within the 30-day window. The same applies to the cash inflow, which also has specific inflow factors per asset class.

Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR) promotes the medium and long-term funding of the assets and activities of banking organizations. The ratio ensures a minimum acceptable amount of stable funding over a one year time horizon, and is based on the liquidity characteristics of an institution’s assets and activities. This NSFR is designed as a minimum enforcement tool, and complements the LCR. The NSFR is designed to ensure that long term assets are funded “with at least a minimum amount of stable liabilities in relation to their liquidity risk profiles” (Bank for International Settlements, 2010). In addition, the NSFR creates an incentive for institutions to fund their stock liquid assets with short-term funds that mature just outside the 30-day horizon for that standard. The NSFR is defined as:

$$\text{NSFR} = \frac{\text{Available Amount of Stable Funding}}{\text{Required Amount of Stable Funding}} > 100\%$$

The “Available amount of Stable Funding” is calculated by first assigning the carrying value of an institution’s equity and liabilities to one of five categories. Each category has its own Available Stable

Funding (ASF) factor. The amount assigned to each category is to be multiplied by an Available Stable Funding (ASF) factor and the total ASF is the sum of these weighted amounts (Bank for International Settlements, 2010). A detailed outline of eligible assets and liabilities for each category, according with the ASF factor is can be found in appendix I.

On the other hand there is the “Required Amount of Stable Funding”, and is calculated in a similar way. Again all assets and liabilities are categorized in particular Required Stable Funding categories, each with its own specific Required Stable Funding (RSF) factor. There are also two categories for off-balance sheet assets and liabilities that address the Required Amount of Stable Funding of the off-balance sheet items of a bank. Assets that are more liquid and more readily available in the stressed environment receive lower RSF factors (and require less stable funding). Assets considered less liquid in a stressed environment therefore, require more stable funding. The weighted sum of all the amounts then makes up the total Required Amount of Stable Funding. A detailed outline of categorization criteria for the assets and liabilities, along with their according RSF factor is can be found in appendix I (Bank for International Settlements, 2010).

Impact of new liquidity standards on banks

As banks are forced to comply with the new liquidity regulations, many will have to deleverage their position, which is likely to cause an acceleration of declining asset prices, and consequently higher levels of value at risk. Consequently with the fall of these asset prices banks might then again violate external liquidity requirements or internal risk policies, which can cause them to sell-off of their positions. This in turn will amplify the fall of asset prices.

Another effect of the liquidity requirements is that they will change the balance sheet structure on the asset side. Banks are forced to hold more liquid securities, with generally fewer returns. On the other hand, these securities also tend to be less risky and therefore requiring less costly regulatory equity capital. This will lead to a shift on the balance sheets of banks, as it becomes more favorable to invest in more liquid and less risky investments. The net-effect of these consequences is estimated to amount to 12 basis points or even less (Diamond & Rajan, 2001).

Leverage ratio

Besides the measure concerning the strengthening of the capital framework and introducing the liquidity standard, the Basel Committee and CRD IV also introduced a standalone leverage ratio. This leverage ratio has the objective to constrain the build-up of leverage in the banking sector, helping avoid destabilizing deleveraging processes which can damage the broader financial system and the economy; and reinforce the risk based requirements with a simple, non-risk based “backstop” measure.

The basis of calculation is the average of the monthly leverage ratio over the quarter based on the definitions of capital and total exposure. The Committee will test a minimum Tier 1 leverage ratio of 3 percent during the parallel run period from 1 January 2013 to 1 January 2017. The committee will track the ratio, its component factors and impact over this period and will require bank-level disclosure of the ratio and its factors from January 1 2015. Based on the results of the parallel run, final adjustments to the ratio will be made in the first half of 2017 and it will be fully effective from January 1 2018. As it is currently early 2012, the leverage ratio is still in the very early testing phase. This means that there are little details available about the elaboration of the leverage ratio. So far, a simplified version of the leverage ratio is presented below (The World Bank, 2009) (Bank for International Settlements, 2011):

$$\frac{\text{Tier 1 capital}}{\text{Adjusted assets}} \geq 3\%$$

Where:

$$\text{adjusted assets} = \text{total assets - intangible assets}$$

Research shows that risk weighted capital ratios and leverage ratios contain complementary information about banks' financial conditions. Therefore it is wise to restrain these ratios, and have them supervised by a regulatory authority, which make the leverage ratio a welcome addition to the capital requirements. Also it's a very convenient measure, as it is easily measurable, practically costless and easy to administer. However, the newly introduced leverage ratio of 3 percent is still (at least till 2018) be a non-binding restriction for the banking business. Additionally, Empirical evidence shows that the frequency of bank failures drops below 10 percent for a leverage ratio in the range of 4 percent to 5 percent and below 1 percent for a leverage ratio of 6 percent to 7 percent (Estrella, Park, & Peristiani, 2000). This would require significant downsizing of credit portfolios, and will affect loan rates of many banks.

A downside is that the leverage ratio measures the un-weighted sum of the bank's total assets; therefore low-risk activities will be accounted for in the same way as higher risk loans generating higher interest rates. This might cause for banks to divest in low-risk/low-return activities, and invest in high-risk/high-return activities.

Impact of the leverage ratio on banks

The introduction of the leverage ratio particularly impacts banks with low-risk portfolios (e.g. high-quality mortgage books or secured lending). The leverage ratio could become the de-facto limiting constraint for their lending business. This is because the leverage ratio limits the build-up of non-Tier 1 assets, regardless of the associated risk level of the assets, and will therefore acts as a backstop for the total asset exposure. This effect is going to be even more pronounced for banks using the Internal Ratings Based Approach (IRB) compared to those operating under the Standardized Approaches, as the IRB usually uses lower risk weights for such low-risk instruments. This will invite banks to securitize these low-risk instruments to get them of the balance sheet, which will lead to higher-risk balance sheets. On the other hand this interferes with the LCR objective, which will increase the requirement to hold low-risk government bonds (0 percent risk weight). This will potentially 'exacerbate' the difference between the risk-based capital requirement and the leverage ratio *(PricewaterhouseCoopers, 2011)*.

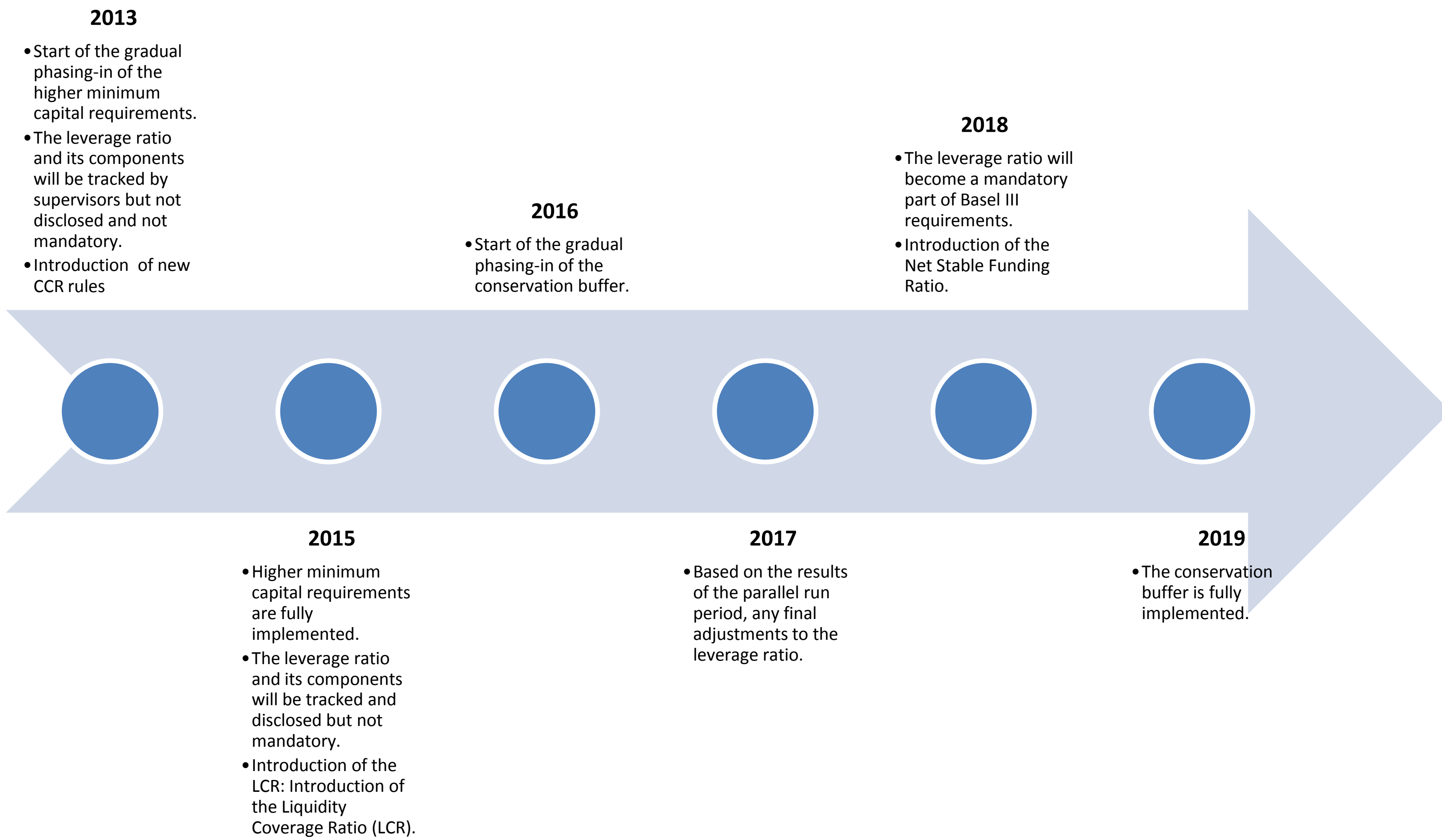


Figure 9: Timeline Basel III implementation (all dates are as of 1 January)

Chapter 6 - Fund related regulations

This chapter focuses on fund related regulations that are about to change. Many previously discussed regulations like the four Lamfalussy Directives and Basel III/CRD, but this chapter will examine the specifics of money market funds and investment funds, and look at how they will affect banks in the future. The focus will be on the new money market definition as defined by CERS, and the differences between the two existing types of money market funds. For the investment funds the focus will be on the so-called Undertakings for Collective Investment in Transferable Securities (UCITS), which is a European wide investment funds framework to promote cross-border funds trading across Europe and the alternative investment fund managers' directive which covers nearly all investments funds that fall outside the scope of the UCITS directive.

Money Market Funds

Given recent market events the CERS decided end 2008 to review the situation regarding money market funds in the EU. This review indicated that there were various definitions among different member states. Some provided a definition or classification system in domestic law or regulations were others outlined the regulations through local industry associations. In the majority of cases, recognition as a money market fund requires predominant investment in money market instruments and compliance with restrictions on the maturity of investments.

In October 2009, CESR established a common definition of European money market funds together with a set of guidelines to which European money markets should comply. The guidelines create two types of money market funds: 'Short-Term Money Market Funds' and 'Money Market Funds'. For both categories, CESR has established a list of criteria with which funds must comply if they want to use the label 'Money Market Fund' (Committee of European Securities Regulations, 2009).

Before these differences will be discussed, it's necessary to explain three definitions on which these differences are mainly based.

Constant NAV Money Market Funds: "A constant or stable NAV (Net Asset Value) money market fund seeks to maintain an unchanging face value NAV (for example $1/€1 per unit/share). Income in the fund is accrued daily and can either be paid out to the investor or used to purchase more units in the fund". (Committee of European Securities Regulators, 2010)

Furthermore, "a constant NAV is not guaranteed and where a discrepancy between the market value and the amortized cost value of the portfolio becomes material, the money market fund can no longer issue and redeem units at the stable NAV of $1/€1 per unit (this is often known as 'breaking the buck'). This may occur, for example, where there is a default by the issuer of an instrument in the portfolio". (Committee of European Securities Regulators, 2010)

Weighted Average Maturity: "WAM is a measure of the average length of time to maturity of all of the underlying securities in the fund weighted to reflect the relative holdings in each instrument, assuming that the maturity of a floating rate instrument is the time remaining until the next interest rate reset to the money market rate, rather than the time remaining before the principal value of the security must be repaid. In practice, WAM is used to measure the sensitivity of a money market fund to changing money market interest rates". (Committee of European Securities Regulators, 2010)

Weighted Average Life: "WAL is the weighted average of the remaining life (maturity) of each security held in a fund, meaning the time until the principal is repaid in full (disregarding interest and not discounting). Contrary to what is done in the calculation of the WAM, the calculation of the WAL for floating rate securities and structured financial instruments does not permit the use of interest rate reset dates and instead only uses a security's stated final maturity. WAL is used to measure the credit risk, as the longer the reimbursement of principal is postponed, the higher is the credit risk. WAL is also used to limit the liquidity risk." (Committee of European Securities Regulators, 2010)

The next two sections will briefly try to point out the characteristics of, and differences between Short-Term Money Market Funds and Money Market Funds.

Short-Term Money Market Funds

The following are the guidelines to which a Short-Term Money Market Fund has to comply, as outlined in the CERS guidelines (Committee of European Securities Regulators, 2010):

A Short-Term Money Market Fund must:

1. Have the primary investment objective of maintaining the principal of the fund and aim to provide a return in line with money market rates.
2. Invest in money market instruments, which comply, with the criteria for money market instruments as set out in Directive 2009/65/EC, or deposits with credit institutions. Non-UCITS money market funds must ensure that the liquidity and valuation of the portfolio is assessed on an equivalent basis.
3. Ensure the money market instruments it invests in are of high quality, as determined by the management company. In making its determination, a management company must take into account a range of factors including, but not limited to:
    a) the credit quality of the instrument;
    b) the nature of the asset class represented by the instrument;
    c) for structured financial instruments, the operational and counterparty risk inherent within the structured financial transaction; and
    d) the liquidity profile.
4. For the purposes of point 3)a), consider a money market instrument not to be of high quality unless it has been awarded one of the two highest available short-term credit ratings by each recognized credit rating agency that has rated the instrument or, if the instrument is not rated, it is of an equivalent quality as determined by the management company's internal rating process.

5. Limit investment in securities to those with a residual maturity until the legal redemption date of less than or equal to 397 days.
6. Provide daily NAV and price calculation, and daily subscription and redemption of units. A non-UCITS money market fund marketed solely through employee savings schemes and to a specific category of investor that is subject to divestment restrictions may provide weekly subscription and redemption opportunities to investors in accordance with its home state regulation.
7. Ensure its portfolio has a weighted average maturity (WAM) of no more than 60 days.
8. Ensure its portfolio has a weighted average life (WAL) of no more than 120 days.
9. When calculating the WAL for securities, including structured financial instruments, base the maturity calculation on the residual maturity until the legal redemption of the instruments. However, when a financial instrument embeds a put option, the exercise date of the put option may be used instead of the legal residual maturity only if the following conditions are fulfilled at all times :
    - the put option can be freely exercised by the management company at its exercise date;
    - the strike price of the put option remains close to the expected value of the instrument at the next exercise date; and
    - the investment strategy of the UCITS implies that there is a high probability that the option will be exercised at the next exercise date.
10. Take into account, for both the WAL and WAM calculations, the impact of financial derivative instruments, deposits and efficient portfolio management techniques.
11. Not take direct or indirect exposure to equity or commodities, including via derivatives; and only use derivatives in line with the money market investment strategy of the fund. Derivatives, which give exposure to foreign exchange, may only be used for hedging purposes. Investment in non-base currency securities is allowed provided the currency exposure is fully hedged.
12. Limit investment in other collective investment undertakings to those, which comply with the definition of a Short-Term Money Market Fund.
13. Have either a constant or a fluctuating net asset value.

Money Market Fund

The following are the guidelines to which a Money Market Fund has to comply, as outlined in the CERS guidelines (Committee of European Securities Regulators, 2010):

A Money Market Fund must:

1. Comply with points 1, 2, 3, 4, 6, 9, 10 and 11 of Short-Term Money Market Funds.

    In addition, a Money Market Fund:

2. May, as an exception to the requirement in point 4 of Short-Term Money Market Funds, hold. ‘Sovereign issuance’ should be understood as money market instruments issued or guaranteed by a central, regional or local authority or central bank of a Member State, the European Central Bank, the European Union or the European Investment Bank.

3. Must have a fluctuating net asset value.
4. Must limit investment in securities to those with a residual maturity until the legal redemption date of less than or equal to 2 years, provided that the time remaining until the next interest rate reset date is less than or equal to 397 days. Floating rate securities should reset to a money market rate or index.
5. Must ensure its portfolio has a weighted average maturity (WAM) of no more than 6 months.
6. Must ensure its portfolio has a weighted average life (WAL) of no more than 12 months.
7. Must limit investment in other collective investment undertakings to those, which comply with the definitions of a Short-Term Money Market Fund or a Money Market Fund.

Differences within the two-tier approach

As the name already indicated, the main difference between Short-Term Money Market Funds and Money Market Funds lays in the fact that Short-Term Money Market Funds are restricted to have a shorter weighted average maturity and a weighted average life. Also Short-Term Money Market Funds are limited to invest in securities up to 397 days, whereas Money Market Funds can invest into security instruments up to 2 years. These differences are summarized in table 8.

Table 8: Key differences Short-Term Money Market Funds and Money Market Funds

Key differences	Short-Term Money Market Funds	Money Market Funds
Max. maturity of single instrument in fund	≤ 397 days	≤ 2 years
Weighted average maturity	≤ 60 days	≤ 6 months
Weighted average life	≤ 120 days	≤ 12 months
Net Asset Value (NAV)	Constant or fluctuating	Fluctuating only
Instrument quality	Limited to two highest available short-term credit ratings [P-1, A-1(+), F1(+)]	Limited to two highest available short-term credit ratings; AND/OR Sovereign issuance of at least investment grade quality, issued or guaranteed by central bank

Money Market Funds and Basel III

As pointed out in chapter 5, the Basel III framework introduces new liquidity standards with the Liquidity Coverage Ratio and the Net Stable Funding Ratio. This will require banks to hold more liquid assets, which is particularly interesting for money market funds (regardless of the type of money market fund).

The overall aim of Basel III is to stimulate longer-dated issuance for banks, whereas money market funds are required by the ESMA (CERS) guidelines to purchase short dated debt. This comes forward in via both the LCR and the NSFR. Both will be discussed below.

The Liquidity Coverage Ratio

For the LCR, the money market funds have two areas of potential impact. Banks that hold money market funds with constant NAV will need to hold liquid assets against that exposure of the possibility of needing to support the funds by injecting liquidity to them. This will have a negative effect on the liquidity profile of the banks. Given the current Basel III framework the amount of liquid assets to hold will probably be calculated as a percentage of assets under management in the funds and will be left to supervisory discretion, most likely varying across jurisdictions.

Another potential effect could be a decrease in the availability of sovereign debt. Due to the low-risk profile of sovereign banks will have a greater desire to acquire sovereign debt in order to comply with the LCR, which makes are harder and probably more expensive for money market funds to acquire sovereign debt. (Institutional Money Market Funds Association, 2010).

The Net Stable Funding Ratio

Similarly to the LCR, banks that manage constant NAV money market funds will need to hold stable funding against that exposure. This stable funding will be in addition to any liquid assets held under the LCR (the amount to hold will again be left to supervisory discretion).

Also, as the NSFR ratio requiring stable funding to be one year and longer, banks are tempted to attract more long term funding instead of Money Market Funds (which have a weighted average maturity of less than 1 year). Additionally there may be less short-term debt available for money market funds to purchase at a time when money market funds are required to shorten duration and increase liquidity (Institutional Money Market Funds Association, 2010).

Finally, no investments received by banks from a money market fund will be eligible for consideration as stable funding. Together with the identified issues above, this makes banks likely to prefer investments from retail or non-financial corporations, which is presumed to be stickier and therefore is a more reliable source of funding than money market funds. This trend can already be observed, and is expected to continue, as the Basel III implementations start in 2013 (Financial Times, 2011) (Douglas) (Invesco, 2010).

UCITS

While assets of the fund industry in the EU and the US have been growing at a similar pace over the last decade, the number of funds in Europe has been increasing much faster: the number of Undertakings for Collective Investment in Transferable Securities (UCITS) in Europe doubled, while the number of the US funds grew just by a half. Also noticeable is the difference in the number of funds, and the average size of European and US funds.

With over €6 trillion worth of assets under management and about 32,000 UCITS' they represent about 79 percent of the total assets of European investment funds (European Commission, 2006). Compared to the €11 trillion of assets under management of mutual funds in the US, spread over a little more than 7,500 funds, the European market is highly fragmented compared to the US market (Investment Company, 2011). One of the objectives of UCITS is to continue to remove cross-border fund distribution barriers and move towards a less fragmented market by stimulating cross border fund mergers and the creation of so called master/feeder UCITS structures (European Commission, 2006). More about the origin of the UCITS and the changes and new measures introduced by UCITS IV will be discussed in the UCITS paragraph below (BlackRock, 2010).

UCITS

With more than €6 trillion worth of assets under management the UCITS framework can be marked as a success. Especially the fact that the UCITS' market rapidly continued to grow after the financial crisis (after a small decline), makes it an interesting instrument to investigate. The reason for this success lies in the following features:

Risk Diversification

A key principle of the UCITS legislation was (and remains) risk diversification, such that (with exceptions for, e.g., deposits with EU banks) no investment can exceed 10 percent of the relevant UCITS fund's net asset value, with further restrictions such that any fund would be required to have not less than 16 separate investment holdings (the so-called "5-10-40 rule"). This prevented master-feeder arrangements (until UCITS IV) (Parker, Stretch, & Price, 2009).

Eligible Assets

Although the UCITS directive's key target investment criteria is built into its title (transferable securities), UCITS III had substantively widened the eligibility criteria to include money market instruments, fund units, bank deposits and derivatives – it being "desirable that UCITS (funds) should be permitted . . . to invest in financial instruments, other than transferable securities, which are sufficiently liquid". There was a significant amount of controversy over where exactly the limits of the newly eligible classes were; and, in March 2007, the Committee of European Securities Regulators ("CESR") put out guidelines as to what assets could be considered eligible for UCITS. The allow assets comprise (Parker, Stretch, & Price, 2009):

- Transferable securities: effectively, publicly traded equities or bonds, listed on mainstream stock exchanges. Broadly, this was the range of assets allowed under UCITS I. Under UCITS III, choice has become wider after 2003.
- Deposits and Money Market instruments (MMIs): Cash deposits with “credit institutions” (i.e. banks) can now be held as investment assets, together with MMIs. These might include treasury and local authority bills, certificates of deposit or commercial paper. Thus pure cash funds can now be UCITS.
- Other mutual funds: UCITS have always been able to invest in other funds, although this was tightly restricted. UCITS III relaxed this restriction, with further ability to invest in other open-ended mutual funds where those are other UCITS or non-UCITS funds with UCITS-like traits. This has allowed the development of UCITS funds of funds.
- Financial Derivative Instruments: With the advent of UCITS III, UCITS are able to use derivatives for investment purposes, using exchange traded or over-the-counter (“OTC”) instruments, with some limitations. The underlying of a derivative must be:
    - An eligible asset of the type mentioned above
    - Interest rates
    - Foreign exchange rates and currencies
    - Financial indices (e.g. S&P 500).

There is also a set of ineligible assets, which remain out of scope:

- Real estate
- Bank loans
- Physical metals such as gold (although certain securities based on metals are permitted)
- Commodities (although derivatives on financial indices such as commodity indices are eligible)

Leverage

UCITS III allowed UCITS funds to borrow up to 10 percent of its net asset value on a temporary basis. While this suggested that any significant kind of long-term leverage would therefore be ineligible, the broadening of the eligibility criteria to allow for investment in derivatives necessarily allowed synthetic leverage. The restrictions on the global exposure of a UCITS fund to derivatives had been limited to the net asset value of the fund, with further restrictions on single counterparties and permitted underlying assets (as above). In addition, the regulators were enjoined to ensure that “appropriate risk management controls” are in place in order to invest in derivatives (this being interpreted to allow sophisticated fund managers with “VAR” (or “value-at-risk”) controls to operate on a net basis). Also, because the use of repo financing was not deemed by certain key regulators to be “borrowing”, repo financing is generally not caught by the restrictions on borrowing (Parker, Stretch, & Price, 2009).

Liquidity

The UCITS framework states that the units of any particular UCITS fund must be redeemable not less than twice a month. Another key feature to the UCITS liquidity provisions requires that investors be allowed to redeem on short notice. This principle has been tested recently by the serious impairment to various asset classes, such as credit and particularly asset-backed securities, following on from the credit crisis and particularly the Lehman bankruptcy and related banking crises. It should be noted however that UCITS recognizes reality and, although subject to regulatory oversight, allows “gating” and suspensions (Parker, Stretch, & Price, 2009).

These advantages do not entirely come for free. Apart from the pre-specified eligible assets, there are also management and administrative requirements to the UCITS. The main requirements that were formulated in UCITS III comprise the following:

- UCITS must operate on a principle of risk spreading, which means that restrictions apply which limit the spread of investments, leverage and exposure. UCITS III, however, re-defined how derivative exposure can be measured.
- A UCITS must be open-ended (i.e. shares or units in the fund may be redeemed on demand by investors)
- A UCITS must be liquid, that is, its underlying investments must be liquid enough to support redemptions in the fund on at least a fortnightly basis. In practice of course, the vast majority of UCITS funds are daily dealing.
- Assets must be entrusted to an independent custodian or depositary and held in a ring-fenced account on behalf of investors.

UCITS IV

The UCITS IV Directive does not interfere with the basic principles of the UCITS III advances, and still stimulates the diversification principals of UCITS III. The principal changes in UCITS IV are as set out below:

Master-Feeder Fund structures:
Perhaps the most important change initiated by UCITS IV is the initiative to enable cross-border Master-Feeder structures and will open up the European markets to U.S. fund operators (such structures were forbidden under UCITS III. With approval from the regulator and from investors, a UCITS feeder fund can fully invest its assets into another UCITS. The new Master-Feeder structure also solves the marketing problem where investors want to see an on-shore vehicle with local currency offerings. Among other technicalities, the most important commitment of the Feeder is that the Feeder must have formal approval (by its home Member State). Once approved the Feeder must invest a minimum of 85 percent of its assets into a Master UCITS. The remaining 15 percent of the assets should be invested in ancillary liquid assets, derivatives for hedge purposes (Parker, Stretch, & Price, 2009).

Across Member States marketing notification procedure:
UCITS IV introduced a new regulator-to-regulator notification procedure for cross-border marketing of UCITS throughout the EU. This notification procedure is set up with the purpose of improving and speeding up cross-border UCITS investments by introducing stricter, but less bureaucratic requirements to the regulators.

This new notification procedure should lead to immediate cost savings on legal and translation expenditure, and will also take away cross-border boundaries by simplifying the cross-country registration process (Accenture, 2010).

Management Company Passport:
The UCITS IV Directive also introduced a passport for management companies that will allow a UCITS to be managed by a management company authorized and supervised in a member state other than its home Member State. The passporting regime will only be available in EU jurisdiction and a UCITS must therefore be registered under the local regime and comply with all local registration and compliance requirements. The aim of the management company passport is to achieve economies of scale, enhance freedom of establishment and reduce costs (J.P. Morgan, 2010). This is expected to decrease the number of management companies as many cross-border organizations will use the Management Company Passport to consolidate the number of management companies that they operate in the EU (Accenture, 2010).

Framework to facilitate mergers:
To reduce the fragmented European market, UCITS IV also facilitates mergers between funds in order to create economies of scale. In order to facilitate cross-border fund mergers and increase the size of the average UCITS, the proposals create a standardized European framework for fund mergers that is applicable to all funds, meaning all UCITS are entitled to merge, regardless of current structure. Interesting to note is that the Directive states that any legal, advisory or administrative costs associated with the preparation and completion of the merger shall not be charged to either UCITS or the unit holders, but all costs must be borne by the investment manager (Parker, Stretch, & Price, 2009).

Key Investor Information Document:
The simplified prospectus will be replaced with the Key Investor Information (KII) document in July 2012, which guarantees fair, clear and non-misleading information. The KII is set to replace the Simplified Prospectus currently required for all UCITS. It must be a short and standardized factsheet in non-technical and more readable language to enhance transparency and comparability (Caceis, 2010). Besides the fact that it ensures homogenous information across the market, it will also reduce marketing cost, as it reduces the amount of required prospectuses.

UCITS V

Recent fraud and insolvency issues have drawn the attention of the regulators towards depositaries. In addition to safekeeping assets, depositaries are required to ensure that all transactions affected by or on behalf of UCITS funds are carried out in accordance with the law and the fund documentation.

The European Commission states: “With respect to UCITS depositary functions, the clarification of the UCITS depositary duties and liability regimes is perceived as a key policy priority given that UCITS depositaries are key actors to the European investment safety” (European Commission, 2011).

More specifically the topics to be reviewed will be:

- Alignment with AIFMD: the so-called 'UCITS V' review initiative should be conducted in accordance with the respective requirements under the AIFM Directive, to enhance consistency in the regulatory framework applicable to the depositary function
- Liability regime: a majority of stakeholders have highlighted the fact that the key outstanding question is rather to know when an asset can be considered "lost".
- UCITS Holders' rights: The UCITS unit holders' and shareholders' rights should be clarified and aligned, regardless of the legal form of the UCITS fund.
- Supervision: The majority of stakeholders believe that the competencies of supervisors should be further harmonized and that competent national authorities should be allowed to enforce EU rules in an effective and harmonized manner.

Another issue that came up during a public consultation regards the managers' remuneration policy: "The majority of the contributions that stresses that remuneration rules should be adjusted to the UCITS model. For instance, some stakeholders have highlighted that the rule relating to the fact that a substantial portion of variable remuneration should consist of units or shares of the fund or a company concerned is not suitable in a UCITS environment" (European Commission, 2011).

The European Commission is preparing a review of the current UCITS IV and will come with additional requirements in the form of UCITS V. Unfortunately no formal details have been published yet, but they can be expected in the first half of 2012 (European Commission, 2011).

Summary

Even though initially UCITS was only instated to easy the marketing of funds across the EU, the UCITS brand has now set a standard as it is the only truly globally distributed investment fund product. There are strong hopes that the UCITS IV Directive will take this to the next level and make the funds more accessible for the more traditional fund managers through the Master-Feeder structures, reduced administrative costs, larger funds and ultimately a more open market in the European Union and globally. Also the cross-border passporting within Europe took a massive step forward with UCITS III but there were still some difficulties. UCITS IV will ease these problems by relaxing the cross-border formalities and stimulate mergers amongst the UCITS.

Another reason why UCITS are increasingly popular is that they are more and more becoming a viable alternative for hedge funds managers due to the fact that there're now more eligible assets to invest in, and they're more liquid and diversified (HFMweek, 2011).

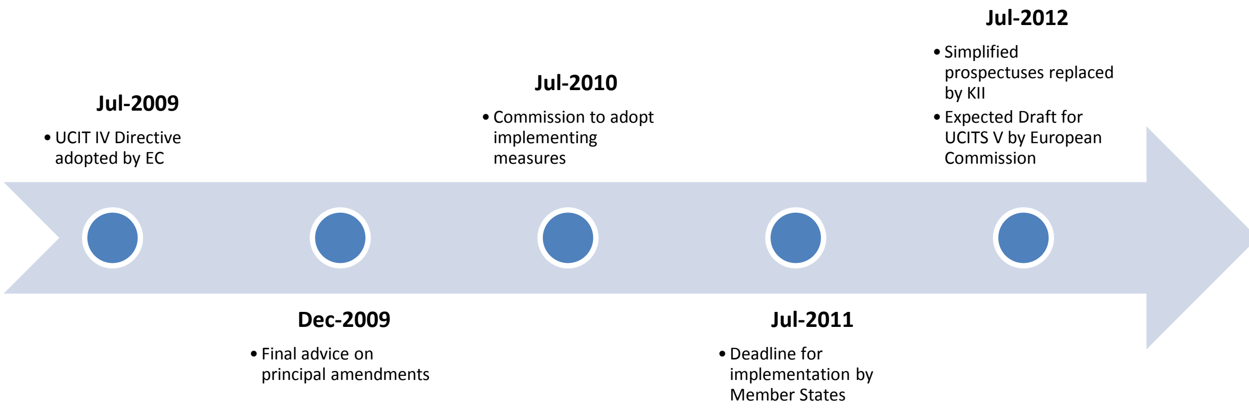


Figure 10: UCITS Timeline

Alternative Investment Fund Managers Directive (AIFMD)

The financial crisis has exposed a series of vulnerabilities in the financial system. These necessitate a comprehensive review of regulatory and supervisory frameworks for all significant actors in European financial markets. One of the areas in which the European Commission still sees a regulatory gap concerns the activities of the managers of Alternative Investment Funds (AIF), defined as all funds that are not harmonized under the UCITS Directive (European Commission, 2009).

The AIF sector is large and diverse, with assets under management around €2 trillion at the end of 2008 (European Commission, 2009). The AIFMD regulates all AIFM active in the EU. An AIFM is defined as any legal person whose regular business is managing one or more AIF. An AIF is defined as any collective investment undertaking not requiring a UCITS authorization. AIF managers (AIFM) employ a wide range of investment strategies and techniques and invest in an array of financial and physical assets. Hedge funds, private equity funds, commodity funds, real estate funds and infrastructure funds, among others, fall within this category. In view of the risks that these investments entail, investment in AIF is restricted primarily to professional investors. The Directive will affect most of the non-UCITS funds in Europe and its managers.

The overarching objective of the AIFMD is to create, for the first time, a comprehensive and secure framework for the supervision and prudential oversight of AIFM in the EU. Once the AIFMD enters into force, all AIFM will be required to obtain authorization and will be subject to ongoing regulation and supervision. Their objectives are to (European Commission, 2010):

- Increase the transparency of AIFM towards investors, supervisors and the employees of the companies in which they invest;
- Equip national supervisors, the European Securities Markets Agency ('ESMA') and the European Systemic Risk Board ('ESRB') with the information and tools necessary to monitor and respond to risks to the stability of the financial system that could be caused or amplified by AIFM activity;
- Introduce a common and robust approach to the protection of investors in these funds;
- Strengthen and deepen the single market, thereby creating the conditions for increased investor choice and competition in the EU, subject always to high and consistent regulatory standards; and
- Increase the accountability of AIFM holding controlling stakes in companies (private equity) towards employees and the public at large.

The implementation of the Directive is split into three phases. The first phase starts from 2013. In this phase authorized EU AIFMs, managing EU AIFs are obliged to use the AIFMD passport, and authorized EU AIFMs managing non-EU AIFs must use the Private Placement Regimes.

The second phase starts in April 2015 at which point EU AIFMs managing EU AIFs must continue to use the AIFMD passport and EU AIFMs managing non-EU AIF can use AIFMD passport or PPRs. Additionally non-EU AIFMs can use PPRs or can be authorized and use the AIFMD passport.

The third and last phase starts mid-2018, at which point all Private Placement Regimes will be terminated. This means that all marketing within the EU must be carried out under the AIFMD passport of an authorized AIFM, independent of the origin of the AIFM or AIF. An overview of the implementation process as described here is provided in the timeline at the end of this chapter.

As the directive follows from commitments made by the G20 leaders, similar regulation is also introduced in the U.S. New rules on hedge funds and private equity are already adopted as part of the Dodd-Frank Act. These rules will require the registration of managers of private equity and hedge funds with the Securities and Exchange Commission (SEC). The objectives and approach of these reforms are consistent with those of the AIFMD.

Scope

The definition of an AIF is already briefly touched, but the official definition as defined in article 4 of the AIFMD is as follows (Allen Overy, 2010):

"'AIF' or 'alternative investment fund' means any collective investment undertaking, including investment compartments thereof,

I. which raises capital from a number of investors, with a view to investing it in accordance with a defined investment policy for the benefit of those investors; and
II. which does not require authorization pursuant to (the UCITS Directive)."

It is worth noting that unlike in other European directives, such as the Prospectus Directive and the UCITS Directive, there is no reference to the concept of risk spreading. Therefore arrangements will fall within scope even where they do not have a diversified portfolio of investments.

The Directive contains an exemption for managers of smaller funds. This provides that the Directive will not apply to AIFM whose assets under management (including assets acquired through the use of leverage) do not exceed: €100 million; or €500 million, provided that the portfolio under management is not leveraged and that investors have no redemption rights exercisable for a period of five years following the date of the initial investment.

There also some very notable additional exemptions. Most notable are holding companies, institutions for occupational retirement provision (IORP), Securitization Special Purpose Entities, Joint ventures, Insurance contracts. This would imply that bank holding companies are excluded from AIFMD as well as many pension funds and insurers. On top of that it's also arguable that, although no clear exclusion, a bank/investment firm is not a collective investment undertaking and would therefore also not fall within the scope of AIFMD. Nevertheless there are some issues that will influence banks (e.g. depository requirements and overall market changes). Therefore the AIFMD will briefly be discussed in light of the impact on the banking industry, but will not be comprehensive for all aspects of AIFMD.

Key issues relevant to banks

As argued above banks will not be directly affected by the AIFMD. However, there are three topics in the AIFMD that will indirectly influence banks: the European passport, investor protection and the depository rule. First the three topics will be briefly discussed, after which the impact upon banks will be explained.

European Passport

The key benefit of authorizations under the AIFMD is the opportunity for an authorized AIFM to have a passport to market entities or arrangements which it manages that fall to be AIF to 'professional investors' located in any Member State in the EU. The AIFMD applies the same definition of 'professional investors' as the Markets in Financial Instruments Directive (MiFID).

The AIFMD passport process essentially works by allowing the authorized AIFM to notify its regulator, ahead of any marketing efforts, in which Member States the AIFM wants to market the AIF. The AIFM must provide information like rules, information and a description of the AIF. The home Member State competent authority then notifies each relevant host Member State competent authority within 20 working days of the AIFM's request As soon as the AIFM receives a notification back (also within these 20 days), the AIFM can commence marketing its AIF in the host Member State(s).

In 2015 the AIFMD passport will be extended to non-EU AIFM that want to market AIFs in EU Member States. Notifications will be made to an AIFM's Member State of reference, which will be the Member State to whom the non-EU AIFM will apply for authorization to manage its EU AIF and/or market its AIF. ESMA will advise whether the Member State of reference applied for is appropriate but Member State competent authorities will make the final decision (Deloitte, 2011).

It is worth noting that having the ability to use the AIFMD marketing passport does not change the obligation on the AIFM that is using it to conduct the marketing activity in accordance with the local conduct of business rules in each Member State.

Investor protection

Investor protection is one of the main objectives of the AIFMD. The financial crisis has shown that the risks associated with investment funds should be taken seriously, both retail and professional investors. The AIFMD builds-in a number of measures to make sure investors are well-informed and adequately protected. In particular, the AIFMD will increase the transparency of AIFM and the funds they manage and market. This will help investors to perform better due diligence. In addition, a variety of operational and organizational requirements will help to ensure that investors are appropriately protected. For example, the AIFMD will require that (European Commission, 2010):

- conflicts of interest are avoided or managed and disclosed;
- AIFM employ adequate systems to manage risks to which the fund is exposed, and to ensure that the liquidity profile reflects the obligations towards investors;

- a fund's assets are safe-kept by an independent depositary subject to a high liability standard;
- valuation is performed properly and independently; and
- strict conditions are met when AIFM delegate functions to third parties.

Due to their complexity and risk, investment in many types of alternative investment fund is limited to professional investors. Consequently, the AIFMD creates rights for marketing to professional investors only. Member States are not prevented from making certain types of alternative investment fund available to retail investors. However, in this situation, competent authorities will be able to apply additional safeguards at national level to ensure that retail investors are adequately protected.

Depositary rule

One of the measures to protect the investors (see above) and take away part of the risk exposure is the obligation for AIFMs to use independent depositories to ensure adequate independent oversight to prevent failures from the past. The functions of the depositary are critical for investor protection. When the entities charged with safeguarding the assets of the fund do not perform their duties effectively, investors stand to lose all or part of their investment. The experiences of Madoff and Lehman have highlighted the potential weaknesses in this area and the pressing need to clarify and strengthen investor protections (European Commission, 2010).

The Directive requires that all AIFMs appoint an independent (and qualified) depositary for the funds they manage. This depository will be responsible for overseeing the fund's activities and ensuring that the fund's cash and assets are appropriately protected. This means they will:

1. receive all payments made by investors when subscribing units or shares of an AIF managed by the AIFM and book them on behalf of the AIFM in a segregated account;
2. safe-keep any financial instruments which belong to the AIF;
3. verify whether the AIF or the AIFM on behalf of the AIF has obtained the ownership of all other assets the AIF invests in.

The Commission also has aligned the depositary rules with the UCITS V Directive. This will ensure that the standard of protection afforded to investors in UCITS does not fall below that of the AIFMD. The rules adopted in the AIFMD will serve as a clear benchmark for establishing the UCITS passport (European Commission, 2010) (Allen Overy, 2011).

Impact for banks

The AIFMD does not directly focus on banks, which is the reason it is not entirely discussed in this research. Nevertheless it influences banking operations in several ways. These will be discussed in the paragraphs below.

The European passport and investor protection

The passporting framework that will be put into place to create a harmonized European market for Alternative Investment Funds (Managers) eases the marketing functions for AIFMs and increases transparency. This helps investors to get a better view of all the available funds and also invest in these funds more easily across Europe. This could be helpful to investment and private banks that invest in these funds, or advice and facilitate transactions for their clients.

Also the measures introduced to provide more investors protection which obliges AIFMs to apply stricter disclosure requirements, independent depositories, leverage limits and the use of proper valuation methods build in more safeguards for investors, and make the AIF market much more homogeneous and transparent, which eases the investment decisions and advisory services for investment and private banks (Deloitte, 2011). It stretches too far to go into the details of the leverage limits, is it's not particularly relevant for banks, but more details are outlined in appendix J.

Depositary rule

Although the new passporting framework and the investor protection can be beneficial to banks engaging in AIF investments, the real opportunity for banks lies within the depository rule. Each AIFM needs to appoint an independent depository for their AIF to receive investor's payments and safeguard their cash and assets. Since banks already have many years of depository experience, and the infrastructure to facilitate these depository services, it would be the only logical thing to let banks facilitate this depository obligation.

Given the fact that this rule only applies to €100 million plus AIFMs (and in some cases even €500 million plus), the depositories will be very significant it would be a great opportunity for banks to take these large depositories. Especially for banks that already have relatively large wholesale and commercial banking activities with asset/liability management services it would require little extra to facilitate the AIFM depositories. The real opportunity here is that these depositories can help increase the banks' Net Stable Funding Ratio and (to a limited extend) their Liquidity Coverage Ratio as the cash, but also many of the assets in the depositories can contribute to the Available Stable Funding en in lesser extend also to the amount of High Quality Liquid Assets. Therefore it would be very interesting for banks to target these AIFMs to facilitate these independent depositories.

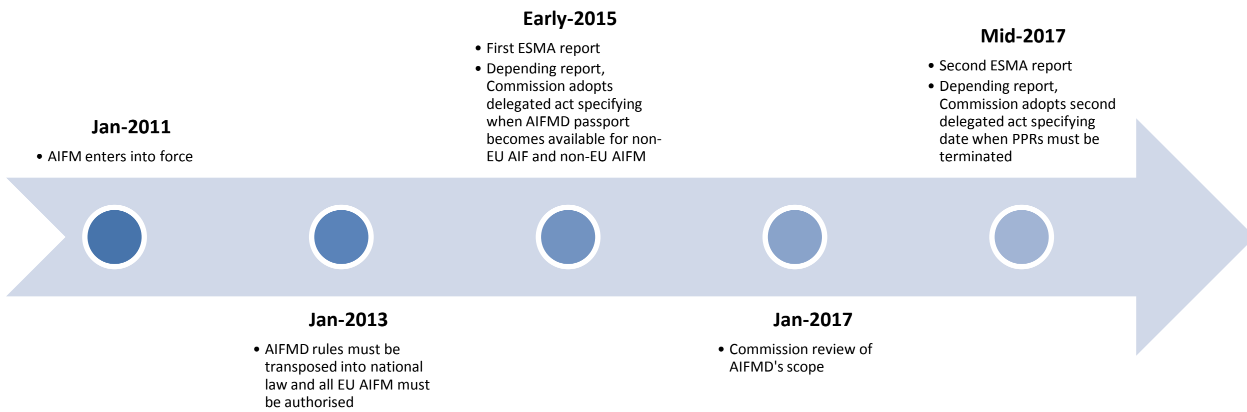


Figure 11: AIFMD timeline

Chapter 7 - Derivative specific regulations

This chapter will discuss some regulatory changes specifically applicable to the derivatives market. The first part will cover the European Market Infrastructure Regulation (EMIR). This new regulation targets the OTC market and aims to enhance the transparency; reduce the counter party credit risk and; reduce the operational risk. The second part will address a new regulation on short selling and certain parts of credit default swaps. The objectives of this regulation is to increase transparency on short positions; ensure governing powers of Member States; ensure European wide coordination and; reduce settlement risk and other risk linked with uncovered or naked short selling.

European Market Infrastructure Regulation

The European Market Infrastructure Regulation (EMIR) is a new European regulation targeting the over-the-counter (OTC) derivatives market. Although it was initially initiated as a directive, it was soon decided to change it to a regulation, which means it will enact directly into law in all the Member States after effectuation.

The new rules objectives are to increase transparency in the OTC derivatives market and to make it safer by reducing counterparty credit risk and operational risk. More specifically (European Commission, 2012):

The increased transparency will be achieved by new rules that require:

- Detailed information on OTC derivative contracts entered into by EU financial and non-financial firms are reported to trade repositories and made accessible to supervisory authorities, and that;
- Trade repositories publish aggregate positions by class of derivatives accessible to all market participants. In the course of the negotiations the scope of the proposal has been widened to cover the reporting of both listed (i.e. non-OTC) and OTC derivatives.

Furthermore reduction of counterparty credit risk will be addressed by the introduction of:

- Stringent rules on prudential (e.g. how much capital to hold), organizational (e.g. role of risk committees) and conduct of business standards (e.g. disclosure of prices) for CCPs;
- Mandatory CCP-clearing for contracts that have been standardized (i.e. they have met predefined eligibility criteria) and;
- Risk mitigation standards for contracts not cleared by a CCP (e.g. exchange of collateral)

As a final addition, to reduce the operations risk, the proposal requires the use of electronic means for the timely confirmation of the terms of OTC derivatives contracts. This allows counterparties to net the confirmed transaction against other transactions and ensure accurate book keeping.

Transparency rules

So far, there is little reliable information on what is going on in the OTC derivatives market. There are no public prices available, no public information as to who is entering deals with whom, over what period of time, relating to what underlying asset or for which amounts. Under the final text agreed in the negotiation process, detailed information on each derivatives contract traded by a financial or a non-financial firm will have to be reported to trade repositories. The data in these trade repositories will then be available to regulators, giving them a much better overview of who owes what to whom so they can spot any potential problems early and be in a position to take action if need be. In addition, trade repositories will have to publish aggregate positions by class of derivatives, providing market participants with a clearer view of the derivatives market. However, trade repositories will not publish data at trade level as the type of information is commercially sensitive (European Commission, 2012).

Clearing and reporting obligations

The regulation aims to have as much OTC contracts cleared through a CCP as possible. Therefore, to determine which derivatives are eligible for mandatory CCP clearing the regulation introduces two approaches to determine which contracts must be cleared:

The 'bottom-up' approach: this is where a competent authority has authorized a CCP to clear a class of derivatives. These authorities will inform ESMA, which in their turn will assess whether a clearing obligation should apply to that class of derivatives in the EU, and if so, develop draft regulatory technical standards which will have to be adopted by the Commission.

The 'top-down' approach: this is where ESMA, on its own initiative and in consultation with the European Systemic Risk Board, will identify contracts that should be subject to the clearing obligation but for which no CCP has yet received authorization. The 'top down' approach will ensure that if no CCP clears a product that should be subject to the clearing obligation, there are tools available to regulators to get this product cleared through a CCP. It will also ensure that new products can be swiftly added to the mandatory clearing list. ESMA will use the following criteria to determine whether a derivative is eligible for the clearing obligation: the degree of standardization of the contract and operational processes, liquidity and the volume of contracts, availability of fair, reliable and generally accepted pricing information. Such criteria are necessary, because not all derivatives are suited to be cleared through CCPs. For example because they are customized to meet particular counterparty or end-user needs, and do not have the level of standardization required for central clearing (European Commission, 2012) (Herbst, Meakin, & Ingram, 2012).

Scope

The obligation to clear OTC derivatives contracts through a CCP and report derivatives to trade repositories will apply to financial firms and to non-financial firms (energy companies, airlines, manufacturers etc.) that have large positions in OTC derivatives.

All three obligations related to counter party risk apply to financial counterparties. The clearing and risk management obligations only applies to certain non-financial counterparties (so called “in-scope non-financial counterparties”) but the reporting obligation applies to all of them.

An in-scope non-financial counterparty in relation to a particular class of derivative is a non-financial counterparty whose position has exceeded the threshold set for that class of derivatives by the Commission. These thresholds and tests are still to be determined and are unlikely to be ready before late 2012.

The most recent draft legislation was presented by the European Commission in October 2011. The legislation process is currently undergoing discussions between the Council, the Parliament and the Commission which will lead to the final text of the European Derivatives Regulation. The results of this public consultation will be implemented in technical standards drafted by ESMA.

These technical standards will define OTC derivatives categories, which may be considered as standardized and are therefore subject to the clearing obligation. Furthermore, the technical standards will determine the threshold which is relevant for the question whether or not corporations outside the financial sector will be exempt from the clearing obligation.

EMIR is expected to enter into force by the end of 2012, but a delay is not unlikely, due to the ongoing controversial discussions (Litten & Schwenk, 2012).

Impact

The regulation of OTC derivatives trading by the introduction of EMIR will substantially change current market practice. This will particularly affect companies in the real economy which have not yet been exposed to banking and financial services regulation. Although EMIR will not enter into force until the end of this year, and the final regulation has yet to be published, banks should already start to evaluate the risks associated with the implementation of EMIR, and the impact it may have on their business. The potential key challenges will be the set-up of internal processes in relation to the compliance with the reporting and clearing obligations and also the implementation of risk mitigation techniques.

For banks EMIR has two angles on which they can be affected. First of all, banks that enter into derivatives contract, or trade them, will need to enhance their reporting procedures and process now they need to report to trade repositories. Also the derivatives should be cleared through central counterparties, which also require new processes on a relatively short notice. On the other hand the new central clearing process provides many benefits for banks, as they are less exposed to counterparty risk with central clearing, and need to keep less collateral provisions as the risk (and collateral provisions) are passed through to the CCPs.

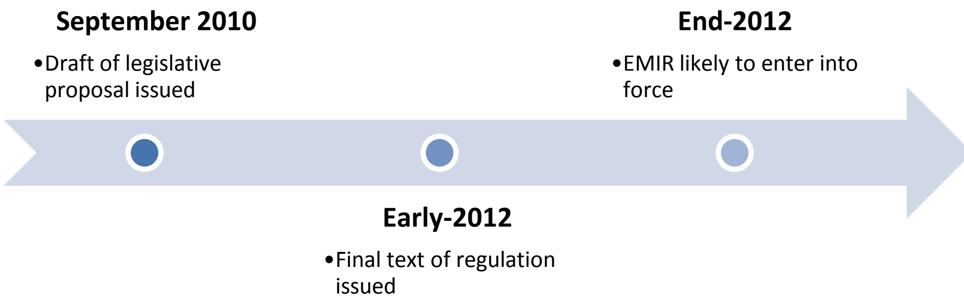


Figure 12: EMIR Timeline

Short Selling Directive

During the financial crisis in late 2008, several countries and authorities adopted emergency measures to restrict or ban short selling of some or all securities. Short selling is the sale of a security that the seller does not own, with the intention of buying back an identical security at a later point in time in order to be able to deliver the security. Short selling can be divided into two types (European Commission, 2010):

- "Covered" short selling is where the seller has borrowed the securities, or made arrangements to ensure they can be borrowed, before the short sale.
- "Naked" or "uncovered" short selling is where the seller has not borrowed the securities at the time of the short sale, or ensured they can be borrowed.

Short selling is used by a variety of market participants including hedge funds, traditional fund managers such as pension funds and insurance companies, investment banks, market makers and individual investors. Short selling can be used for the following reasons: for speculative purposes (e.g. to profit from the expected decline of a share price); to hedge a long position (e.g. to limit losses in comparable shares in which a long position is held); for arbitrage (e.g. to profit from the difference in price between two different but inter-related shares); and for market making (e.g. to meet customer demand for shares which are not immediately available). It is estimated that short selling in Europe can be estimated to represent between 1 percent and 3 percent of the total market capitalization.

The measures adopted by Member States were divergent due to the lack of a specific common regulatory framework for dealing with short selling issues. To ensure the proper functioning of the internal market and to improve the conditions of its functioning, and to ensure a high level of consumer and investor protection, the Commission has decided to introduce a union-wide framework with regard to the requirements and powers relating to short selling and credit default swaps and to ensure greater coordination and consistency between Member States where measures have to be taken in exceptional circumstances. It's now planned that The Directive will come into effect as of 1 November 2012.

While the Commission acknowledges that short selling has economic benefits and contributes to the efficiency of EU markets, notably in terms of increasing market liquidity, more efficient price discovery and helping to mitigate overpricing of securities, it also presents risks. While reducing the scope for regulatory arbitrage and compliance costs arising from a fragmented regulatory framework, the three main risks of short selling which the Commission is seeking to address in these short selling directive are: transparency deficiencies; the risk of negative price spirals; and the risks of settlement failure associated with naked short selling. Therefore the main objectives of the new directive are to (European Commission, 2010):

- *increase transparency* on short positions held by investors in certain EU securities;
- *ensure Member States have clear powers to intervene in exceptional situations to reduce systemic risks and risks to financial stability and market confidence* arising from short selling and credit default swaps;
- *ensure co-ordination* between Member States and ESMA in exceptional situations; and
- *reduce settlement risks and other risks* linked with uncovered or naked short selling.

The Directive addresses both short selling and CDS because CDS can be used to secure a position economically equivalent to a short position in the underlying bonds. The buyer of a naked CDS benefits from the deterioration of the credit risk of the issuer in a very similar manner to the benefit which the seller of the bonds derives from this same deterioration which decreases the prices of the bonds.

Transparency improvements

In order to increase the transparency of short selling, the directive enacts several measures for shares and government debt.

For shares For EU shares the new measures to enhance transparency are largely based on the two tier model recommended by CESR. At a lower threshold of 0.2 percent of the issued share capital the regulator needs to be notified about the short position would be made only to the regulator. At a higher threshold 0.5 percent short positions will have to be disclosed to the market. Notification to regulators would enable them to monitor and, if necessary, investigate short selling that may pose systemic risks or be abusive. Publication of information to the market would provide useful information to other market users and act as a disincentive to aggressive short selling strategies. The disclosure regime for shares is complemented by a system of flagging: all share orders on trading venues would be marked as 'short' by persons executing orders if they involve a short sale, so that regulators can obtain additional information about short selling volumes. The trading venue would publish daily a summary of the volume of orders marked as short orders.

For sovereign bonds there is only a notification threshold, but this also includes notification of significant credit default swap positions relating to sovereign debt issuers. Disclosure to regulators of significant net short positions relating to sovereign bonds will provide important information to assist regulators to monitor whether such positions are creating disorderly markets or systemic risks or if they are being used for abusive purposes. In order to avoid any circumvention of the short selling disclosure these rules also apply to off-exchange derivative transactions. Besides that, the transparency regimes for shares and sovereign bonds also cover the use of derivatives to obtain a net short position relating to the shares or bonds. The Directive also requires that short positions should be subtracted (or 'netted off') from long positions, as a notification of a net short position provides more meaningful information to regulators and/or the market (European Commission, 2012).

Powers to impose temporary measures

The Directive provides that in exceptional situations, competent authorities (i.e. financial regulators) should have powers to impose temporary measures such as to require further transparency or to restrict short selling and credit default swap transactions. ESMA is given a central role in coordinating action in exceptional situations and ensuring that powers are only exercised where necessary (see section below on the role of ESMA). The powers of intervention of competent authorities relating to short selling and credit default swaps in exceptional situations only contemplate temporary action (for up to a three month period). A temporary measure can be extended for further periods not exceeding three months at a time, but this must be fully justified (European Commission, 2012).

Requirements for uncovered/naked short sales

In order to reduce the risks of settlement failures and increased price volatility which can be associated with naked short selling of shares and sovereign debt, certain requirements are introduced. In order to enter a short sale, an investor must have borrowed the instruments concerned, entered into an agreement to borrow them, or have an arrangement with a third party who has located and reserved them so that that they are delivered by the settlement date. This is known as a 'locate rule'. To deter settlement failures, trading venues must also ensure that there are adequate arrangements in place for buy in of shares or sovereign debt where there is a settlement failure, as well as for fines and a prohibition on short selling for late settlement. This approach addresses the risks of settlement failure while taking into account existing best practice in many markets, which is for firms to locate shares for borrowing prior to executing a short sale order.

Requirements for naked Credit Default Swaps

The Directive also imposes strict requirements on naked Credit Default Swaps. A "naked CDS" refers to the situation where the CDS is used by the buyer not to hedge a risk but to take a position (take risk). The seller of the CDS would gain if the credit risk did not materialize; whereas the buyer of the CDS would gain if the price of the CDS subsequently increases due to a perception by the market of an increased risk of default of the issuer. The directive does not provide for a permanent ban on naked CDS as the Commission considers that this would be disproportionate as it could negatively affect the liquidity of sovereign debt markets. However, the directive does provide for (European Commission, 2010):

- A restriction to enter into sovereign credit default swap transactions which only allows for transactions that do not lead to an uncovered position in a sovereign credit default swap (i.e. for hedging purposes only).
- Greater transparency so that persons with significant naked CDS positions relating to sovereign debt issuers must notify regulators of their positions. This will enable regulators to monitor

whether such positions are creating disorderly markets or systemic risks or being used for abusive purposes.

- Powers for regulators to obtain information in individual cases about CDS transactions.
- Powers of intervention in an exceptional situation for a competent authority to temporarily prohibit or restrict the use of CDS. Such measures would be temporary in nature and subject to coordination by ESMA.

Exemptions

The directive also makes some exemptions with regard to the short selling requirements. Market making activities such as primary market operations and for shares whose principal market is outside the EU are exempt. Market making includes providing price quotes for financial instruments to provide liquidity to the market or to fulfill client orders. Market making activities are exempt because they play an important role in providing liquidity, and restricting their ability to short sell would have a significant adverse effect on the liquidity of markets. Primary market operations are transactions performed by dealers to provide liquidity to issuers of sovereign debt and for the purposes of stabilization schemes (i.e. share issues intended to stabilize a share price) under the Market Abuse Directive. Primary market operations are legitimate functions that are important for the proper functioning of primary markets. Shares whose principal market is outside the European Union are exempt, because it would not be proportionate to apply short selling requirements where most trading of the share takes place outside the Union (European Commission, 2012).

Buy-in procedure

The Directive also provides an extra safeguard with regard to the settling of short sales: Central counterparty that provides clearing services are obligated to comply with a set of procedures to reduce settlement risk. First of all if short sellers are not able to deliver the shares for settlement within four business days after the day on which settlement is due, procedures are automatically triggered for the buy-in of the shares to ensure delivery for settlement; secondly, if the buy-in of the shares for delivery is not possible, an amount is paid to the buyer based on the value of the shares to be delivered at the delivery date plus an amount for losses incurred by the buyer as a result of the settlement failure; and if the seller again to settle will need to reimburse all amounts paid pursuant to the previous points.

On top of that central counterparties that provide clearing services for shares shall ensure that procedures are in place, which ensure that where a natural or legal person who sells shares fails to deliver the shares for settlement by the date on which settlement is due, such person must make daily payments for each day that the failure continues. The daily payments need to be sufficiently high to act as a deterrent to natural or legal persons failing to settle (European Commission, 2012).

Impact

Since the final regulatory text of the Directive is very new, there’s virtually now literature on the potential impact of the directive. Nevertheless it’s almost needless to say that (within the banking sector) the Short Selling Directive primarily affects investment and private bankers. Each of the measures discussed above. The notification requirement is only an administrative burden, for which is quite easily resolved by some IT changes. Where there's little concern for the publication of sensitive information with the notification requirements due to the professional secrecy, there will be with the publication requirements. When private and investment banks need to disclose their short sales, competitors can interpret the motive for short sales and it might even reveal shorting strategies. This can lead to a more prudent short sale market.

The temporary measures are not likely to be an issue. They will only be instated in case of an extreme downward spiral in the market, and if it happens there's all market participants will be affected equally. Therefore it is not a very importing issue within the Directive.

The locate rule for uncovered/naked short sales on the other hand is more troublesome for market participants, as this new rule makes it more burdensome to short sell, as shares and sovereign debt needs to be located and linked to short sales to comply with the locate-rule. This is likely to be resolved by a more advanced IT system that needs to be able to quickly locate shares and sovereign debt to borrow, and link these to specific short sale transaction, but will make it more costly for investment and private bankers to sell short or facilitate short sales for their clients.

The restricting that limits the entering into naked Credit Default Swaps of sovereign debt transactions severely limits the sovereign CDS market, as this will be limited to hedging purposes only. This means no speculative or arbitrage trading for in sovereign debt of Member States. This is ought to stabilize the market but limits investment and private banks to consciously seek risk in this market as part of their investment strategy. A relaxation in this restriction as part of the transactional provisions is that all the contracts concluded before 25 March 2012 may be held to maturity. This means the CDS portfolio will decrease naturally and does not have to be divested.

The buy-in procedure changes the current playing field drastically, as it transfers settlement risk from the buyer to central counterparties who'll therefore incur increased settlement risk exposure as they need to deliver the shares or sovereign debt in case the seller fails to deliver. CCPs need to be compensated for this extra risk, while the buyer has less risk exposure. This shift of risk will likely lower the price for the buyer (lower risk equals lower prices), but can cause a rise in transaction costs charged by the CCPs to rise. To support the new buy-in procedure, IT systems also need extensive updates, as buy-ins need to be triggered automatically, and the instruments need to be delivered to the buyers.

This chapter has outlined the changing financial regulations specifically related to the derivatives markets, by covering EMIR and the Short Selling Directive. It therewith concludes the outline of all the changing European regulations that will influence banks (and their financial market instruments) within the next eight years.

Chapter 8 will cover the currently changing U.S. financial regulations that are likely to influence the European banks addressed in this research and chapter 9 will summarize all the findings of part II, after which in part III the regulatory impact will be projected on the banks selected for this research.

Chapter 8 - Relevant U.S. Regulations

The European government is not the only government that is changing the financial regulations. Largely as a result of the financial crisis the United States governments are also implementing some rigorous changes in the financial regulatory system. As many financial institutions indicate the most significant U.S. changes with regard to European banks are the Dodd-Frank Act Wall Street Reform and Consumer Protection Act and the Foreign Account Tax Compliance Act. Many European banks currently struggle with addressing these U.S. financial regulations. Therefore these two U.S. Acts will be addressed in detail in this chapter.

Dodd-Frank Wall Street Reform and Consumer Protection Act

Undoubtedly the biggest of the new and changing U.S. regulations is the initiation of the Dodd-Frank Act Wall Street Reform and Consumer Protection Act. This Act is considered to be the biggest financial reform in the U.S. since the reforms that followed the Great Depression in the 1940s. It's a package of industry wide measures, to promote robust supervision and regulation of financial firms; establish comprehensive supervision of financial markets; protect consumers and investors from financial abuse; provide the government with the tools it needs to manage financial crises and; raise international regulatory standards and improve international cooperation (International Association of Risk and Compliance Professionals, 2011).

Within the Dodd-Frank package, there are four key measures with significant effect that will specifically target banks. The first of the four measures that have a significant impact on the banking industry is the Volcker Rule, which bans proprietary trading of financial institutions. The second set of measures comprises the additional capital requirements, which, in some cases, exceed the previously discussed Basel III requirements. The third measure is called the Collins Amendment, and prohibits bank holding companies with total assets in excess of $15 Billion to count trust-preferred securities (TRUPS) as part of their Tier 1 regulatory capital. The fourth and last significant set of measures covers the derivatives businesses and swaps regulation and is commonly referred to as the derivative reform. The four measures will be outlined in more detail below.

The Volcker Rule

The Volcker Rule will particularly affect the investment banking industry, as the impact concentrated on a few places. The Volcker Rule bans proprietary trading as well as sponsorship of and investments in private equity and hedge funds (111th U.S. Congress, 2009). The Volker Rule is named after former Chairman of the Fed, Paul Volker. The idea behind it is that institutions who receive FDIC support and protection (similar to the Deposit Guarantee Schemes of the European Commission), and/or receiving access to the Fed Discount Window (similar to Standing Facilities of the ECB) should not be allowed to gamble their own capital on proprietary trades and investments, risking the possibility that the government, which provides these protections, would then have to bail them out. I.e. taxpayers should not safeguard the speculative activities of financial institutions. Such behavior will lead to significant moral hazard, as firms reaping profits when their bets go well and on the other hand potentially government supported bailouts if their bets turn the other way, assuming that they will be rescued anyway. Therefore measures like these are crucial to take away this –"Too-Big-To-Fail"– attitude.

Firms were given a period of time to come into compliance with the rule, though the relevant section of Dodd-Frank is officially already taken into effect. Nevertheless firms may apply for additional extensions to shed illiquid assets that cannot be sold immediately, provided the contractual obligation these illiquid assets were acquired to satisfy was in effect on or before May 1, 2010, and the extension cannot exceed five years (111th U.S. Congress, 2010).

The critical concern regarding the Volcker Rule is the included definition of proprietary trading. Dodd-Frank defines "proprietary trading" as "the act of a covered entity investing as a principal in securities, commodities, derivatives, hedge funds, private equity firms, or such other financial products or entities as the Comptroller General may determine." (111th U.S. Congress, 2009). This definition is rather unclear and ambiguous about the dos and don'ts regarding proprietary trading. It seems clear that buying securities to facilitate a trade for a client that is going to buy the securities immediately after would not fall under the Volker Rule, as this is done to meet a client's demand for a security. With this in mind, one of the questions is how broad the "transactions on behalf of customers' exemption" is.

Non-U.S. Firms Covered by the Rule

The Volcker Rule applies to any banking entity, and therefore includes all non-U.S. banks that either maintain a branch or agency office in the U.S. or control a commercial lending company, as well as any affiliate or subsidiary of a non-U.S. bank. Foreign banks with these kinds of structures are referred to in as foreign banking organizations, (FBOs), and we will use this term throughout this paper. The only way for an FBO to avoid Volcker fully is to limit its U.S. presence to a representative office, which may not engage in banking activities but only in liaison, research, and other non-substantive representative activities on behalf of the FBO (Morrison & Foerster, 2012).

Limiting the U.S. banking activities is not an option for many European banks, and therefore they have to ban their proprietary trading activities in the U.S. under the U.S. bank entity. However they are able to continue with proprietary trading activities within their European entities, which do not fall under the Volcker Rule. This new measure would therefore hardly affect European banks, as virtually all proprietary trading already happens within the European entity.

Additional Capital Requirements

Another equity-related Dodd-Frank measure is the strengthening of the capital requirements for regulated bank holding companies. As Basel III already shapes the vast majority of the capital requirements around the world, some of the Dodd-Frank measures will be stricter the Basel III accords prescribes. Under Dodd-Frank, banking agencies will be responsible for establishing minimum capital requirements. These include minimum leverage capital requirements, liquidity requirements, and also minimum risk-based capital requirements (Morrison & Foerster, 2010), (Sparkasse Bank, 2011).

Since the Dodd-Frank Capital requirements only apply to U.S. banks it will have no real impact on the majority of the European banks. Only the ones with U.S. banking operations will and banking licenses will have to comply to the capital requirements, but only for the part of their U.S. operations.

Collins Amendment

Besides these minimum requirements there is also the Collins Amendment in Dodd-Frank, which is probably the biggest setback for (mainly) U.S. banks. The Amendment prohibits bank holding companies with total assets in excess of $15 Billion to count trust-preferred securities (TRUPS) as part of their Tier 1 regulatory capital. Several large investment-banking firms used and continue to use trust preferred securities. These TRUPS are securities possessing characteristics of both equity and debt issues. Trust-preferred securities were overwhelmingly issued by bank holding companies, as till Dodd-Frank, they have been treated as capital instead of debt, and receive favorable tax, accounting, and credit treatment. The effectuation of the Collins Amendment has let to huge write-offs and losses, as U.S. banks needed to dump their TRUPS, as they became an instant burden on their capital ratios. Because the benefits of the TURPS were not applicable to European banks, this rule is of little influence to the banks investigated in this research, and will therefore not analyzed in further detail (Morrison & Foerster, 2010), (Sparkasse Bank, 2011).

Derivative reform

The derivative reform, which focuses on the rules regulating the over-the-counter (OTC) market, is the most significant aspect of the Act for companies engaged in commodities hedging or trading the most are. These rules of the derivative reform are far-reaching and complex, and address all types of swaps: equity, interest rate, foreign exchange, credit default and commodity.

The specific objectives of the derivative reform are: closing the regulatory gaps; shifting to central clearing and exchange trading; improving market transparency; adding financial safeguards and; creating a higher standard of conduct. This is achieved by four complementing measures, which will be discussed below (Morrison & Foerster, 2010), (Sparkasse Bank, 2011).

Swap clearing

One of the critical aspects of derivative reform is the requirement that all swaps, which are clearable, be cleared through a designated clearing organization or swaps exchange facility, unless those swaps can be exempted for bona fide hedging purposes. Clearable swaps are those that have been approved by the U.S. Commodity Futures Trading Commission (CFTC) for clearing and are standardized. This rule applies to all market participants, regardless of size and market penetration.

The proposed clearing rule has significant impacts on market participants. First, because swaps will be cleared, margin and collateral must be posted to the clearinghouse to protect it in the event of default. This is different from the currently existing OTC collateral provisions, which generally only require posting of collateral in the event of a credit downgrade. And, even in the event that collateral is required;

collateral other than cash is often offered and accepted. Taken in the extreme, the funding implications of this rule could change entire business models.

A second impact of the derivative reform is the increased organizational support needed to calculate, track and pay/receive margin amounts which were previously un-margined. This means additional resources with specialized knowledge, and, likely, additional software to support the margining activity.

The rule requiring that swaps be cleared will mean all market participants will incur costs as they implement changes to people, processes, and technology. Additionally, market participants whose swaps must now clear will find that significant margin and collateral postings will be required to support their derivatives activity, which besides the additional capital requirements will place an extra burden on the derivative business (Accenture, 2011).

Data and Reporting

The new legislation includes a group of rules governing data collection and transaction reporting. These rules apply to all market participants, with special provisions for participants classified as swap dealers and major swap participants.

A swap dealer and major swap participant will be required to: keep all books and records open to inspection and; maintain a "complete audit trail" including daily trading records of the swaps identifiable by counterparty and all related records and recorded communications, including electronic mail, instant messages, and recordings of telephone calls.

To comply with these measures, banks require investment in technology, data warehouses and processes (Accenture, 2011).

Position Limits

In response to "too big to fail", derivative reform will expand current positions limits and institute new to-be-determined position limits. The proposed position limits will be for spot positions and non-spot positions. Limits will be created in single instrument swaps, cross-commodity and cross-time swaps, and all other OTC instruments. Additionally, aggregate limits will be set for the combination of exchange traded futures and OTC positions. An exception to these limits exists for those entities that can prove that their OTC activity is for bona fide hedging purposes.

The limits have implications in two areas. First, a swap participant may find that activity conducted today may be limited in the future. This could lead to changes in business strategies due to market limitations. It could also mean potential organizational changes to allow for segregating positions among legal entities to facilitate business objectives. Second, a participant will be required to create internal oversight and compliance functions to monitor compliance with CFTC limits. The risk management organization in conjunction with the back office will validate bona fide hedge positions, which are deducted from any position limit imposed as well as respond to calls for information from the CFTC. Also, a participant's system will need to facilitate the collection of position data in a manner consistent with mandated position limits (Accenture, 2011).

Business Conduct Rules:

A swap dealer and major swap participant will be subject to conduct standards in dealing with counterparties as well as in internal business practices. New duties and obligations include:

- Verification of a counterparty's eligibility to enter into a swap transaction;
- Disclosure of the risks, characteristics, incentives and conflicts of interest related to a particular swap;
- Provision of a daily mid-market value of uncleared swaps to their counterparties; and
- Notification to the counterparty of its clearing rights.

New verifications and additional disclosures will require changes to the deal-making process. Creating and negotiating new master trading agreements will require additional legal, contract administration and commercial efforts. These new business conduct standards, whether internal or external, will be more rigorous for major swap participants and swap dealers and will require new infrastructure to support these verification, disclosure and notification obligations (Accenture, 2011)..

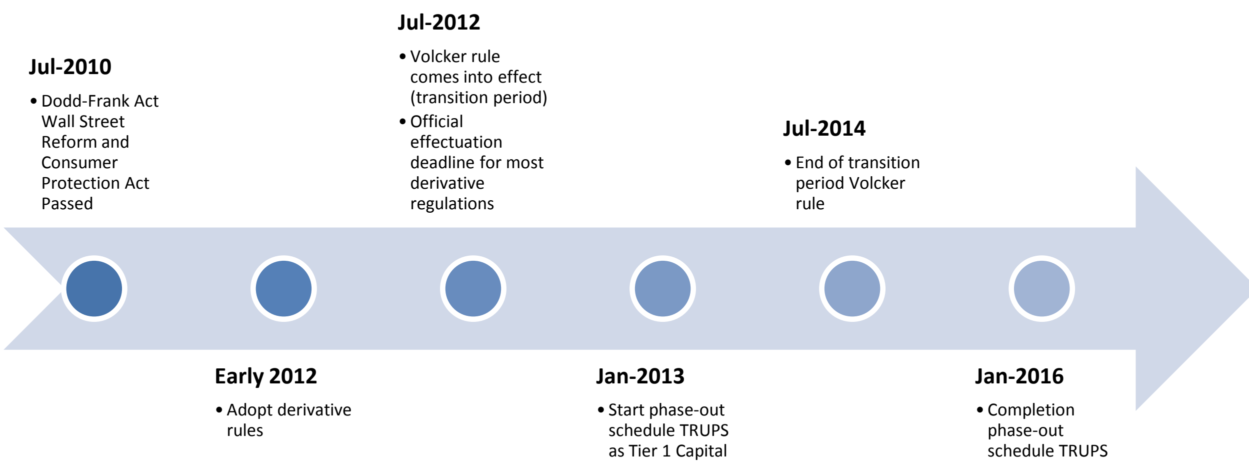


Figure 13: Dodd-Frank Act Wall Street Reform and Consumer Protection Act Timeline

Foreign Account Tax Compliance Act

Another interesting development for European banks is the new Foreign Account Tax Compliance Act (FATCA), which enacts Chapter 3 of, and makes other modifications to, the Internal Revenue Code of 1986. FATCA attempts to close a tax loophole that investors had used to avoid paying any taxes on dividends by converting them into dividend equivalents. The objective of FATCA is to provide transparency, so that U.S. persons cannot inappropriately hide income and assets behind foreign entities (Arnold, 2011).

Simply put, FATCA requires Foreign Financial Institutions (FFIs) to find any American account holders and disclose their balances, receipts, and withdrawals to the US Internal Revenue Service (IRS), or be subject to a penalty in the form of a 30-percent withholding tax on income from US financial assets held by the banks. The proposal for the new Act passed in 2010 and a draft version was published in February 2012 and final regulations are expected late 2012 (Warren, 2011).

It is required that Foreign Financial Institutions enter into an FFI agreement with the IRS by June 30, 2013, in order to ensure classification by January 1, 2014 and prevent withholding on U.S. source income, which begins on that date together with limited reporting requirements. In 2015 this withholding is expanded to US Source Proceeds & Passthru-payments as well, and full reporting will be required from this date on.

Although the final regulations are not yet ready, the following two general rules can be expected from the new FATCA regulations (Internal Revenue Services: United States Department of the Treasury, 2012) (Arnold, 2011):

- "Witholdable" payments made to a foreign financial institution (an FFI) are subject to the 30 percent FATCA withholding tax unless the FFI has entered into an agreement with the IRS that will require reporting of all U.S. account holders of the FFI (or another exemption applies). Witholdable payments include U.S. source interest, dividends, royalties, rents, and other fixed determinable and periodic income and; gross proceeds from the disposition of property that can produce interest or dividends.
- U.S. taxpayers holding foreign financial assets with an aggregate value exceeding $50,000 are obliged to report certain prespecified tax related information about those assets. Failure to report foreign financial assets will result in a penalty of $10,000 (and a penalty up to $50,000 for continued failure after IRS notification). Further, underpayments of tax attributable to non-disclosed foreign financial assets will be subject to an additional substantial understatement penalty of 40 percent.

As it looks now, payments made to public companies that are not FFIs are exempt from FATCA withholding, but much still remains vague and it's unclear of how to prove the status of the payee as publicly traded, as for starters there is no definition of publicly traded.

Impact

First of all, it should be pointed out that the withholding tax acts like a penalty which is imposed when refusing or failing to meet the reporting requirements. This serves a drastically different purpose than for which withholding tax was originally designed. While existing systems use withholding as a preemptive means of tax enforcement, FATCA employs it as a coercive tool to force foreign banks into compliance with reporting obligations.

This penalty construction force banks to make a trade-off decision between the value of business versus the cost to comply. Depending on the strategic importance of the business banks have several options. The most obvious options are (Accenture, 2011):

- Not to accept US customers or accept them in only certain (exempt) entities
- Move investments from U.S. to other countries (i.e. close U.S. customers' accounts)
- Divest small jurisdiction with high penetration of U.S. customers (and comply for the remaining U.S. customers)

On the long term the option to pay the withholding tax is not a feasible option, as clients will switch to U.S. bank, or foreign banks that have entered into a reporting agreement with the IRS, to avoid the withholding tax.

This means that FATCA will have a deep impact on European banks active on the U.S. market. Unlike the Dodd-Frank Act Wall Street Reform and Consumer Protection Act, which only affects European banks to the extent of their U.S. banking operations, FATCA targets foreign banks active in the U.S. market that receive, process or pass thru any U.S. source income or payments. This basically covers all income transactions from U.S. customers to foreign (non U.S.) banks, plus all transactions and payments related to brokerage, clearing and dealing activities of U.S. securities and derivatives.

Complying with the IRS requirements will require many operational changes include changing customer on-boarding, account servicing, and account upgrade processes in all channels for both individuals and entities. Set up new processes to request, collect and validate tax forms and subsequently report/ withhold on the customers. Additionally, IT changes include document management, data storage, payments applications changes to product, and channel systems.

The more rigorous option is to quit accepting U.S. customers or even closing down U.S. customer accounts. This is potentially a far stretching strategic decision that can have big consequences for the business model of a bank if many operations are linked to these U.S. activities. Nevertheless this appears to be a considerable option: It is already reported that European banks such as Deutsche Bank, Commerzbank, HSBC, and Credit Suisse have been closing brokerage accounts for all US customers since early 2011 citing "onerous" US regulations (The Local/mdm, 2011), (Spiegel, 2011), (Reuters, 2012).

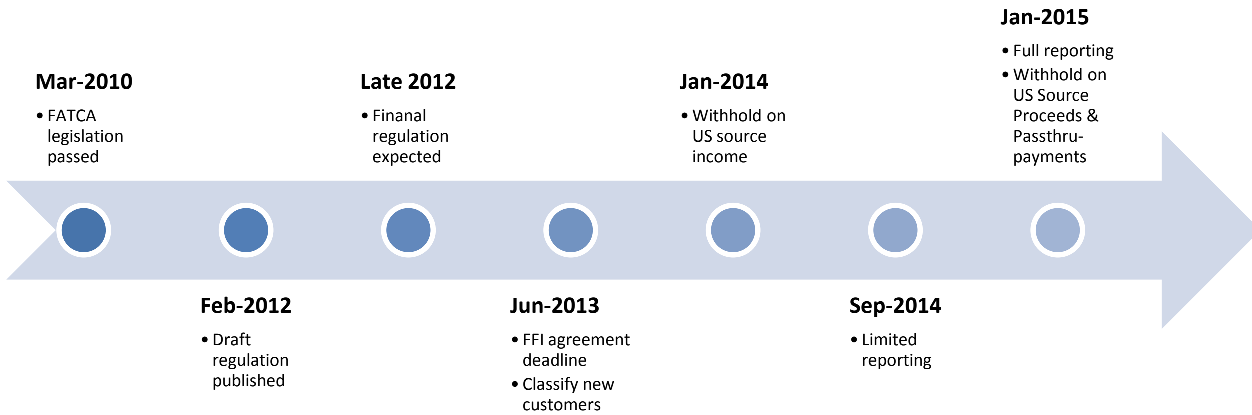


Figure 14: Foreign Account Tax Compliance Act Timeline

Chapter 9 - Overview of financial regulations

This final chapter of part II will give a short overview of each financial regulation that is discussed in the previous chapters. This will be done by summarizing the most important issues of each regulation and indicate which financial instrument category and which area of the banks will be most affected, and already give a brief insight in the consequences. This overview can be found in table 9, 10, 11, and 12. It sets out the key issues per regulation that cause the most impact, and along with the impact area. Some regulations typically affect certain types of banks more that others due to their impact area, therefore the fourth column displays the type of bank that is likely to be most affected by the particular regulation. Finally the last column highlights the key points of the estimated impact. The below will provide some additional insight and context of how to interpret the impact of certain regulations, as they are not as straight forward as can be expected.

Investment Compensation Schemes

Although the name does suggest the ICS would impact the investment banks it targets the private individuals and small investors which are most often allocated in the retail banking branches. Although professional investors also are entitled to the extra protection they will probably not care much about it, as investments are only covered up to €50.000, which is very close to zero for a professional investor. Besides that, professionals take the extra protection into account with their valuation, as it reduces the counterparty credit risk, so the new ISC is of little importance to them.

Lamfalussy Directives (MAD, MiFID, PROSP and TD)

The Lamfalussy process was set up to create a general framework to create harmonized financial regulations. Therefore the directives following from this process influence the entire financial sector. At the moment, the current directives target the entire sector as a whole, but mostly affect the securities and derivatives market. These were traditionally the most unregulated markets, and given the turmoil in these markets during the financial crisis, it's logical that these were target most in the first few directives. Also, in a market with little regulations the impact is always more severe than in markets that were already regulated.

The fact that it affects the securities and derivatives market, consequently targets the commercial and investment banking operations, as these are most involved in these markets. One exception is PROSP, which sets out regulations for prospective requirements. Most of these requirements are exempt for investment over €100.000 and therefore only target relatively small investors, like private individuals and some SMEs. These are typically the same investors that would benefit from the Investment Compensation Schemes as discussed above and are often allocated to the retail branches.

Basel III/CRD IV

Basel III, and its European implementation directive CRD IV has the objective to "improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy". This will be done by implementing stricter capital requirements and new liquidity rules, along with other structural reforms. This means that many instrument categories will be affected by the new requirements.

Particularly the new capital and liquidity requirements cannot directly be related to a financial instrument category, as these ratios can be restraint and enhanced in many ways. The Capital Adequacy Ratio is dependent on regulatory capital and a bank's RWA. Especially the RWA is composed out of the entire portfolio and therefore needs to be analyzed per bank to see which instruments it affects. The same goes for the LCR and the NSFR, which are dependent upon several liquid sources and available stable funding instruments respectively, which can widely vary per bank.

Other measure, like for example the new rules to dampen the counterparty credit risk are more specifically targeted towards the OTC markets and related OTC securities and derivatives. Therefore banks that are active in the OTC markets and trade related securities or derivatives are likely to be affected by these rules.

U.S. related regulations (Dodd-Frank Act, and FATCA)

The two U.S. financial acts that are discussed in this research need some special attention. Both acts stretch through the entire financial sector. The Dodd-Frank act targets (among other topics) proprietary trading, capital definitions, and the derivatives market and the OTC market in general and FATCA targets all income that is generated in the U.S. and flows to foreign (European) accounts, (almost) regardless of the type of financial instrument with which that income is generated.

Both acts can have profound impact on European banks that have banking operations in the U.S., but will leave banks without U.S. operations unharmed. To asses to impact of these two acts it necessary to look at their U.S. operations, combined with the instruments that are involved to make a good assessment on how the banks will be affected.

Table 9: Overview of key issues, impact areas and concequences of analysed regulations

Regulation	Key Issues	Impact area	Type of banks that will be most affected	Consequences
Deposit Guarantee Schemes	Increased coverage to €100.000; 7-day payout; Banks to pay for schemes	Deposits	Retail & Commercial banks	Increased costs in deposit financing Est. €7 - €12 per account, or several base points
Investment Compensation Schemes	Increased coverage to €50.000; 9-months payout; Including third party custodian defaults	Small private investments in Securities, equity, funds and derivatives	Retail & Commercial banks (targeting investments for private individuals)	Increased investment costs, but more protection Est. at 0.5% of covered assets; Only relevant for small investors due to coverage level and valuation methods of larger investments
Minimum reserve requirements	Reserve ratio reduced to 1%	Deposits	Retail & Commercial banks	Reduction allows for lesser cash reserve, but this is unfeasible due to other regulatory restrictions like the Liquidity Coverage Ratio
Market Abuse Directive	Extensive administrative and reporting requirements; Including many new financial instruments	Securities; Money Market Funds; UCITS; and virtually all derivatives	Corporate, investment and private banking	No interference with business-as-usual as it only targets abuse of financial markets; Stricter reporting and administrative requirements
MiFID II	Introduction of Organized Trading Facilities; Increased transparency requirements; New client categorization; More detailed compliance and procedural requirements	Securities; Money Market Funds; UCITS; and virtually all derivatives	Investment and private banks (with security and derivate operations)	Market makers and brokers have to make structural changes in systems and procedures to comply with reporting obligation; Retail banks with non-professional investors have to be more prudent advising clients (prove to act in clients best interest)

Table 10: Overview of key issues, impact areas and concequences of analysed regulations (continued)

Regulation	Key Issues	Impact area	Type of banks that will be most affected	Consequences
Prospectus Directive	Prospectus exemption thresholds increased to €100.000, 150 natural or legal persons per Member State, and €5M over 12-months period. Also employee share schemes are exempt	Securities	Retail and private banks (targeting small investors)	Many retail clients and small investors will fall out of scope with the increased threshold of €100.000, banks should either provide prospectuses or find new investments for this group of clients
Transparency Directive	Extensive reporting requirements: Yearly, half-yearly and quarterly financial information; On-going information on major holdings of voting rights	Securities	Investment and private banks	Detailed reporting requirements for all market participants that engage in securities trading
Basel III	Tighter CAR; introduction of LCR, NFSR and leverage ratio; new CCP risk measure with incentive for CCP clearing	Bank dependent	Bank dependent	Need for Tier 1 capital and adversity against high RWA instruments; This is reinforced by the need for more (low risk) liquidity; Shift to CCP clearing and exchange traded markets; Leverage ratio on the other hand increases requirements for low RWA portfolios as the ratio is not risk weighted
Money Market Funds	Two-tier approaches: distinction in Short-Term Money Market Funds and Money Market Funds	Money market funds	Private banks	Lesser short term (sovereign) debt available due to increased demand liquidity demand of banks is likely to make the funds more expensive, combined with the fact that it's not suitable for stable funding will like decrease the demand in money market funds;

Table 11: Overview of key issues, impact areas and concequences of analysed regulations (continued)

Regulation	Key Issues	Impact area	Type of banks that will be most affected	Consequences
UCITS	UCITS V has as main objective to Alignment with AIFMD; UCIT IV was the real breakthrough with EU passporting, new eligible assets, new Master-Feeder Fund structures and standardized prospectuses	UCITS	Private banks	Since UCITS IV more attractive alternative due to the inclusion of more eligible assets, providing the opportunity to make the UCITS more liquid and more diversified
AIFMD	EU Passporting to easy cross-Europe marketing; Investor protection through more disclosure and risk management systems, depositary rule and independent valuation	Investment funds	Private banks	Easier comparison due to passport alignment and disclosure requirements; Opportunity for banks to step in as depository, which gives banks the opportunity to attract more liquidity
EMIR	Mandatory publishing aggregate positions by class of derivatives, providing market participants; Mandatory OTC contract clearing through CCP	Derivatives	Corporate, Investment and private banks	Change internal processes to comply with new reporting and disclosure obligations; Set-up new infrastructure for (automated) CCP clearing; Less risk with CCP clearing, therefore less capital and collateral required
Short Selling Directive	Notification and disclosure of short positions; Locate rule; Ban on naked sovereign CDS short selling Buy-in procedure for CCP	Securities and; derivatives	Corporate, Investment and private banks	Locate rule requires a linked network between brokers; Buy-in procedure transfers settlement risk from the buyer to CCP: CCP needs to be compensated for this extra risk

Table 12: Overview of key issues, impact areas and concequences of analysed regulations (continued)

Regulation	Key Issues	Impact area	Type of banks that will be most affected	Consequences
Dodd-Frank Act	Volcker rule: ban on proprietary trading in U.S.; Collins Amendment: exclusion of TRUPS as tier capital; Derivative reform: similar to EMIR	Equity; securities; derivatives	Corporate, Investment banks with large U.S. operations in proprietary trading and the derivatives market	Bans proprietary trading of banks that receive FDIC support; Similar derivative reforms as in EU with a shift to mandatory CCP clearing and additional disclosure and transparency requirements in U.S. markets
FATCA	30% withholding tax for all payment streams to FFIs unless the FFI has entered into an agreement with the IRS that will require reporting of all U.S. account holders of the FFI	Equity; Securities; and virtually all derivative transactions from U.S. source income to European banks	All EU banks that process U.S. source income (i.e. interest, dividend, rent)	Banks are forced to either comply or divest parts of U.S. businesses. Continuing with the tax is not a feasible option as clients will run off

Part III – Bank characteristics and impact analysis on selected banks

Part III will start by characterizing the financials and operations of each of the eight selected banks. Subsequently the impact of the new and changing financial regulations, as identified in part II, on the individual banks will be analyzed. Finally part III concludes by identifying overall trends within the banking sector related to the changing regulations regarding financial market

Introduction to part III

The relevant changing financial regulations are identified, and their general impact is analyzed in part II and the results are summarized in the previous chapter. In part III it is now time to analyses how these changes will specially affect the eight selected banks for this research. To refresh the memory, these are: ABN AMRO, BNP Paribas, Credit Agricole, Dexia, ING, KBC, Rabobank and Société Générale.

The analysis will start by sketching the characteristics of each bank with a qualitative overview of the business operations and performance figures. This will be done in chapter 10. After these differences are clear, each topic of regulatory change will be addressed in chapter 11, together with an analysis of which banks are most affected and which banks can take advantage from the changing regulations. In this part some more quantitative characteristics that are associated with the changing regulations like Reserve Base, Risk Weighted Assets, Capital Adequacy Ratio, Liquidity Coverage Ratio, Net Stable Funding Ratio and Leverage Ratio will be reviewed as well, to see if the banks are already able to keep up with the regulatory requirements. Finally the challenges and opportunities of each particular bank will be summarized in part IV along with general trends in Gallia for the coming years.

Chapter 10 - Characteristics of selected banks

In the following sections each of the eight banks are characterized in terms of operations; types of assets; income; geographical allocation together with a brief history overview where necessary and other relevant information. At the end of this chapter a brief overview will highlight the characteristics of each bank and the associated instruments. Key data, on which the analyses are based, can be found in appendix K.

To already get familiar with the relative size and income of the banks before the analysis, Table 13 gives an overview of the assets and liabilities, and operating income of the eight selected banks.

Table 13: summary of key figures for analized banks

Overall	Assets	Liabilities	Income
ABN Amro	€ 404.682	€ 393.262	€ 7.794
BNPP	€ 1.965.283	€ 1.879.657	€ 42.384
Credit Agricole	€ 1.723.608	€ 1.674.316	€ 20.783
Dexia	€ 412.759	€ 413.079	€ -4.383
ING	€ 961.165	€ 926.105	€ 17.195
KBC	€ 285.382	€ 268.611	€ 8.182
Rabobank	€ 731.665	€ 686.664	€ 13.378
Société Générale	€ 1.181.372	€ 1.130.260	€ 25.636

ABN AMRO

ABN AMRO Bank is a Dutch state-owned which was re-established in its current form in 2009, after it was broken down by a banking consortium consisting of Royal Bank of Scotland Group, Santander and Fortis. Following the collapse of Fortis, both Fortis Bank Nederland and all the ABN AMRO activities owned by the Dutch government were integrated in one new ABN AMRO, currently led by the former minister of finance Gerrit Zalm.

Before all this, in 2007, ABN AMRO was the second largest bank in the Netherlands and eighth largest banks in Europe by assets. At that time the magazine The Banker and Fortune Global 500 placed the bank at number 15th in the list of world's biggest banks and it had operations in 63 countries, with over 110,000 employees.

In 2010 ABN AMRO Group the owner of ABN AMRO Bank was created by merging the former sections of ABN AMRO Nederland, ABN AMRO Private Banking, together with Fortis Bank Nederland as well as formerly Fortis owned private bank MeesPierson and International Diamond and Jewelry Group. They started operating under the name ABN AMRO on 1 July 2010 at which time the Fortis bank name officially ended. The Dutch government has said it would remain state owned at least until 2014 after which it would consider a public stock market listing (IPO) for the new bank (ABN AMRO Group N.V., 2012).

Operations

The 2010 merger combined all the separate ABN AMRO related business into one bank. Currently the bank has four separate business units plus several supporting "Group Functions", facilitating the banking operations. The business units are Retail Banking, Private Banking Commercial Banking and Merchant Banking, with total assets of 404.7 billion.

Geographically ABN AMRO gains 82 percent of their operating income within The Netherlands, 14 percent within the rest of Europe and worldwide operations comprise only 4 percent. The low degree of foreign operations is explained by the 2007 takeover by the banking consortium of RBS, Fortis and Banco Santander, as they broke up and divided the bank shortly after the acquisition. After this takeover the Dutch government only acquired the Dutch operations of Fortis and ABN AMRO, hence the low degree of foreign operations.

Retail Banking

The retail banking unit is with 6.8 million clients by far the largest part of ABN AMRO, both in allocated assets as well as operating income (both 41 percent). Statistics show that ABN AMRO is the main bank for 20 percent of the Dutch population and that they are the number 2 in savings and new mortgage production in The Netherlands (ABN AMRO Group N.V., 2012). This can certainly be seen on the balance sheet, as retail mortgages with 151.5 billion represent 37 percent of the total assets and nearly 50 percent of all loans and receivables[4]. The fact that the Retail banking unit is largely comprised with (low-risk) mortgages results in a relatively low Risk Weighted Assets (RWA) of only 27 percent of the total asset value. On the liability side the deposits within the Retail unit are relatively low, accounting only for 38 percent of the total deposits.

Private Banking

Despite the recent breakup of ABN AMRO, their private banking business still is the number one private bank in The Netherlands, number three in the Eurozone and number seven Europe-wide with their presence in 11 countries. Their international focus within private banking mainly lies within Europe with 48 percent of the AuM in the Netherlands and another 44 percent of the AuM spread across Europe. The rest of the AuM is mainly concentrated in Asia.

In The Netherlands, Private Banking operates under the brand name ABN AMRO MeesPierson and internationally under ABN AMRO Private Banking and totally account for 17 percent of the total operating income with 5 percent of the total assets allocated. They offer private banking services to clients with freely investable assets exceeding EUR 1 million. Client service teams offer different service models according to client wealth bands: high net worth individuals with Assets under Management in excess of EUR 1 million and Ultra High Net Worth Individuals with AuM in excess of EUR 25 million. These Private Banking assets are relatively high risk-weighted because these loans are typically less collateralized than other assets classes. Therefore these 5 percent of the total assets account for 12 percent of the total RWA.

Finally it's interesting to note is the International Diamond & Jewelry Group, which is part of the ABN AMRO Private banking business is the global market leader in the financing of the diamond and jewelry industry, offering financial services to internationally active businesses.

Commercial Banking

Commercial Banking serves commercial clients with annual turnover up to EUR 500 million and clients in the public sector, commercial finance and leasing. Commercial Banking consists of two business lines: Business Banking and Corporate Clients. Business Banking offers small and medium-sized businesses with turnover up to EUR 30 million a comprehensive range of standard and customized products to around 380,000 clients. Corporate Clients serves 2,500 Netherlands-based companies with an annual turnover between EUR 30 and 500 million as well as clients in the public sector. Together both businesses account for 22 percent of the total operating income and 11 percent of the total assets. Just as in the private banking business unit, the commercial banking assets are relatively high risk-weighted because these loans are typically less collateralized than other assets classes. Therefore these 11 percent of the total assets account for 24 percent of the total RWA.

---

[4] Total mortgage portfolio of €155.2 bn, of which €151.5 bn retail mortgages and 3.6bn private banking mortgages

Merchant Banking

Merchant Banking serves Netherlands-based corporations, financial institutions and real estate investors and developers as well as international companies active in Energy, Commodities & Transportation (ECT). Merchant Banking is organized into two, equally sized business lines: Large Corporates & Merchant Banking (LC&MB) and Markets. Together they are good for 17 percent of the total operating income with 31 percent of the assets allocated to merchant banking.

The LC&MB offers a full range of financial services to Netherlands-based corporations, financial institutions and real estate investors and developers as well as international companies active in ECT. Its services include: Debt solutions; Cash management and working capital services and; M&A advice and equity capital market solutions. 49 percent of the LC&MB income is generated by ECT operations, which makes it the core business of LC&MB and one of the world leaders at the ECT front

The Markets business line serves a broad client base, ranging from corporations and financial institutions to retail and private banking clients. Its product portfolio includes foreign exchange, money market, bonds, equities, (interest rate) derivatives and structured products. The biggest operations within market services are performed within ABN AMRO Clearing. This subsidiary of ABN AMRO is recognized as a global leader in derivatives and equity clearing and is one of the few players currently offering global market access and clearing services on more than 85 of the world's leading exchanges. This results in the fact that little more than 50 percent of the merchant banking operating income is generated by the ABN AMRO clearing services.

BNP Paribas

BNP Paribas S.A. is a global banking group, headquartered in Paris, with its second global Headquarters in London. In October 2010, BNP Paribas was ranked by Bloomberg and Forbes as the largest bank and largest company in the world by assets with over US$3.1 trillion. It was formed through the merger of Banque Nationale de Paris (BNP) and Paribas in 2000. In April 2009, BNP Paribas purchased a 75 percent stake in Fortis Bank, the Belgian banking business, making BNP the Eurozone's largest bank by deposits held. In 2011, BNP Paribas still is the world's biggest bank, as measured by total assets of US$2.670 trillion.

BNP Paribas' retail operations are mainly concentrated on their domestic market, as well as in Poland, Turkey, Ukraine, and North Africa and include the following operations:

- French Retail Banking (FRB),
- BNL banca commerciale (BNL bc), Italian retail banking,
- BeLux Retail Banking,
- Europe-Mediterranean,
- BancWest,
- Personal Finance,
- Equipment Solutions;

Besides the retail operations they also have large-scale investment banking operations in New York, London, Hong Kong, and Singapore. They are present in 79 countries and have almost 200,000 employees, including over 155,000 in Europe. The next paragraphs will discuss each of the three operating groups in detail (BNP Paribas, 2012).

Retail banking

As previously mentioned the domestic markets consists of a retail network of BNP Paribas in France (FRB), Italy (BNL bc), Belgium (BNP Paribas Fortis) and Luxembourg (BGL BNP Paribas), leasing activities (BNP Paribas Leasing Solutions and Arval) and BNP Paribas Personal Investors, providing online savings and brokerage services. Lastly, Wealth Management also reports functionally to this set. The International retail network groups together countries covered previously by the Europe-Mediterranean operating entity (Central and Eastern Europe, Turkey, Mediterranean, West Africa and Asia), but also includes the U.S. operations under the "BancWest" brand which, together with its subsidiary is very active in the Mid-West of the United States and Hawaii with "First Hawaiian Bank".

With 7,200 branches in 43 countries, 23 million individual, professional and small business customers and 280,000 corporate clients, in 2011, BNP Paribas generated more than half of its revenues from retail banking and consumer finance activities (56 percent) – with close to 13 million active customers – and leasing activities. Retail banking activities employ 144,000 people, representing over 70 percent of the Group's headcount. It is therefore by far the largest operating division of BNP Paribas. Despite the large part of the operating income and headcount they (remarkably enough) only comprise 29 percent of the total assets. This is mainly cause due to the very large portion of corporate and investment banking assets. Most of the assets within retail banking are demand accounts, short-term loans and other customer loans, totally accounting for 51 percent of the total assets, compared to 24 percent mortgages (BNP Paribas, 2012).

Investment Solutions

Combining BNP Paribas' activities related to the collection, management, development, protection and administration of client savings and assets, Investment Solutions offers a broad range of high value-added products and services around the world, designed to meet all the requirements of individual, corporate and institutional investors. It can be regarded as the private banking department of BNP Paribas. Investment Solutions accounts for 15 percent of the total operating income and 11 percent of the total assets. The business unit can broad be divided in 3 operating businesses: Wealth and Asset management; Insurance and; Securities services, with Wealth and Asset management being the largest part, representing 53 percent of the investment solution's operating income (BNP Paribas, 2012).

Corporate and Investment Banking

BNP Paribas Corporate & Investment Banking (CIB) employs nearly 20,000 people across more than 50 countries. BNP Paribas CIB provides its clients with financing, advisory and capital markets services. In 2011, BNP Paribas CIB contributed 23 percent of the BNP Paribas operating income with 53 percent of the total assets allocated.

BNP Paribas CIB's clients, consisting of corporations, financial institutions and investment funds, are central to BNP Paribas CIB's strategy and business model. Staff's main aim is to develop and maintain long-term relationships with clients, to support them in their expansion or investment strategy and provide global solutions to meet their financing, advisory and risk management needs.

In 2011, BNP Paribas CIB continued to strengthen its European leadership and to develop its international activities, consolidating its role as European partner of choice for many corporations and financial institutions worldwide. Amid very tough market conditions as a result of tighter regulations, heightened concerns about the sovereign debt of certain European countries and an economic slowdown in developed countries, BNP Paribas CIB took measures during 2011 to adjust its business activities. To contend with this new environment, BNP Paribas CIB implemented a plan to reduce its asset base and its funding needs in US dollars, which will be completed by year-end 2012 (BNP Paribas, 2012).

Crédit Agricole

Crédit Agricole is traditionally a co-operative French retail bank founded in the late 1800s. They have three business units: Retail Banking; Specialized Business Lines and; Corporate and Investment Banking. Each business unit consists of several business lines that will be discussed in the following paragraphs.

Retail Banking

Retail banking is divided in Regional Banks; LCL and; International Retail Banking and has an operating income of € 6.890 MN, which represents 33 percent[5] of the total operations and they have 29 percent of the total assets allocated.

Crédit Agricole Regional Banks are co-operative entities and fully-fledged banks that have a leading position in almost all areas of the retail banking markets in France: number one ranking for individual customers, small businesses and farmers, number two ranking for SME s and number three ranking for local authorities. They account for 23.4 percent of the market for bank deposits by households, with 21 million individual customers. As this part of the bank is the remainder of the co-operative banking construction, the regional banks are considered as separate banks, in which Crédit Agricole has a minority interest of 25 percent in each bank (except for Caisse régionale de la Corse). Therefore these operations are not discussed in the financial statements of Crédit Agricole other than as minority interest (Crédit Agricole, 2012).

Operating under its own brand, which was adopted in August 2005, LCL is the only domestic network bank in France to focus exclusively on retail banking for individual customers, small businesses and SMEs. LCL stands for the former owner of this banking division: Le Crédit Lyonnais. LCL accounts for 55 percent of the retail banking operations of Crédit Agricole[5].

Crédit Agricole S.A. also has a significant retail banking presence in Europe and around the Mediterranean basin, with more than 27,000 employees serving 6.5 million customers in 12 countries (Italy, Greece, Poland, Ukraine, Serbia, Bulgaria, Romania, Albania, Cyprus, Morocco, Egypt, and Madagascar) via a network of more than 2,500 branches. Noticeable is that this International Retail banking accounts for almost half (45 percent) of the retail operations of Crédit Agricole[6], which makes it a relatively large part of the bank's retail operations compared to its peer. But again, this figure is slightly misleading as the Regional Banks business is not included in these figures (Crédit Agricole, 2012).

Specialized Financial Services

Specialized Financial Services account for a combined 19 percent of the total operating income and 17 percent of the total assets. It consists of two business units: Consumer Finance and; Leasing & Factoring, splitting up the private individuals and the SMEs, farmers and local authorities.

---

[5] Note that the Regional Banks are excluded from the total operating income and activities

Crédit Agricole Consumer Finance is present in France and internationally, principally in Europe (23 countries in total, including 20 in Europe). Crédit Agricole Consumer Finance offers its customers and partners a full range of consumer finance products: personal loans, revolving credit and leasing solutions. These products are rounded out by a set of insurance and service products: cards, extended warranties, assistance, loyalty programs, etc.

Crédit Agricole Leasing & Factoring (CAL&F) is France's leading player in specialized financing. It also boasts leading positions in Europe. CAL&F offers innovative specialized financing solutions to SMEs, small businesses, farmers and local authorities, and extracts synergies between the two businesses so as better to serve its customers and the Group's retail banks (Crédit Agricole, 2012).

Asset Management, Insurance and Private Banking

The Asset Management, Insurance and Private Banking business is divided in three business lines: Asset Management; Insurance and; Private Banking. Together they account for 25 percent of the total operating income of Crédit Agricole and for only 5 percent of the Risk Weighted Assets. Although not stated, this low RWA is most likely the consequence of the low-risk assets in the insurance business line and the high level of collateralized assets in the asset management business line. The next paragraphs briefly discuss the operations of the three business lines.

Asset management is the domain of the Amundi Group and its subsidiaries. The business line, 75 percent owned by Crédit Agricole Group and 25 percent by Société Générale, offers investment solutions tailored to the retail customers of its banking network partners and to institutional customers. BFT, the third-party asset management business, joined the Amundi Group on 1 July 2011.

The companies comprising Crédit Agricole Assurances group offer their customers a comprehensive range of insurance products: personal insurance with Predica, property & casualty insurance with Pacifica, creditor insurance with CACI. Crédit Agricole Assurances is present abroad with all these business lines.

Private Banking in France and internationally includes all directly owned Crédit Agricole S.A. subsidiaries specializing in private banking. As a major player in private banking, it operates under the Banque de Gestion Privée Indosuez brand in France and the Crédit Agricole Private Banking banner internationally. It employees more than 2,500 people in 19 countries, and has €91.5 billion in financial assets under management (Crédit Agricole, 2012).

Corporate and Investment Banking

Crédit Agricole Corporate and Investment Bank (CIB) is the Crédit Agricole Group's corporate and investment bank. Crédit Agricole CIB offers its clients a full range of products and services in the capital markets, investment banking, structured finance, brokerage, commercial banking and international private banking businesses. CIB accounts for 26 percent of the operating income and 42 percent of the Risk Weighted Assets of Crédit Agricole, which make it a very important business unit, both in terms of income and risk management. Therefore this business unit will be examined in more detail. The bank assists its customers in the major international markets via its global network in the leading countries in Europe, the Americas, Asia and the Middle East. The bank assists its customers in the major international markets via its global network in the leading countries in Europe, the Americas, Asia and the Middle East. Crédit Agricole CIB's activities are structured around five businesses:

The Coverage & Investment Banking business combines the Bank's skills so as best to serve the overall needs of corporate and financial institution customers. To this end, it offers a global network of senior bankers, dedicated to key customers, as well as specialized structures. In addition to customer relationship management, this division offers a loan syndication activity, whose purpose is to originate, structure, distribute and process Crédit Agricole CIB's lending operations in the world's major financial markets.

Global Investment Banking combines M&A advisory activities, as well as the Equity Capital Markets (advisory services and structuring of equities and securities giving access to capital), Strategic Equities (structured solutions based on equity derivatives and financing based on liquid equity) and Structured Financial Solutions (optimized financing, monetization of debt, financing based on unlisted or illiquid equity) businesses, as well as specialized sector teams, including structured financing in telecoms.

The Structured Finance business, where the bank holds leadership positions, specializes in originating, structuring and financing major export and investment transactions, often asset-backed (including air, rail and maritime transport, and hotels) as well as complex and structured financing. This division has global credibility in its chosen fields (complex asset-backed financing) and in its capacity to promote cross-selling with other Crédit Agricole CIB divisions (capital markets, mergers and acquisitions, etc.). It capitalizes on the close ties forged with the major players it serves.

The Fixed Income Markets business covers all trading activities and the sale of market products intended for corporations, financial institutions and major issuers. Its global network of trading rooms allows Crédit Agricole CIB to offer its customers access to liquidity in the leading financial centers, with a comprehensive range of products tailored to their specific requirements. All sales and trading entities are supported by dedicated research teams.

The bank's Equity Brokerage operations are built around Crédit Agricole Cheuvreux in Europe and CLSA in Asia, each occupying leadership positions. This coverage is supplemented by Crédit Agricole Securities (USA) Inc. and Newedge, a 50/50 joint venture owned by Crédit Agricole CIB and Société Générale (Crédit Agricole, 2012).

Dexia

Dexia is a European banking group which, in 2011, carried out its activities principally in Belgium, Luxembourg, France and Turkey in the fields of retail and commercial banking, public and wholesale banking, asset management and investor services. Since 2008 the Dexia Group has considerably reduced its risk profile and refocused business on their historical business lines and markets. Dexia has thus principally organized its activity portfolio around retail banking, grasping opportunities for growth in Turkey.

In October 2011 the Belgian banking division was purchased for €4 billion by the Belgian federal government, and DenizBank was sold to Sberbank in June 2012 for nearly €4 billion. Some units such as the Luxembourg retail bank are still for sale. Parts of its French operations are likely to be purchased by Caisse des dépôts et consignations and La Banque Postale. The remaining troubled assets, including a €95 billion bond portfolio will remain in a "bad bank" that would receive funding guarantees of up to €90 billion provided by the governments of Belgium (60.5 percent), France (36.5 percent) and Luxembourg (3 percent).

As a result the comments below do not relate to the Retail or to the Public and Wholesale Banking activities of Dexia Bank Belgium, or Insurance, which was also disposed of within the framework of that sale.

In 2011 Dexia incurred a net loss of EUR 11.6 billion. This is explained by various non-recurrent events during the year and is essentially associated with the sovereign debt crisis on the one hand and disposals on the other. In particular, the loss on the sale of Dexia Bank Belgium amounted to EUR 4.2 billion and the loss expected on the sale of Dexia Municipal Agency is EUR 1 billion. The impairments on Greek government bonds and assimilated exposure represented EUR 3.4 billion, whilst the losses on asset disposals, including the sale of the guaranteed assets of the Financial Products portfolio, were EUR 2.6 billion.

The group's core division is composed of Retail and Commercial Banking; Public and Wholesale Banking; Asset Management and Services and; a Group Center. Besides this core, there is also the Legacy Portfolio Management Division, which groups together the bond portfolio that is in runoff (Dexia, 2011).

Retail and Commercial Banking

Excluding Dexia Bank Belgium, total customer assets in Retail and Commercial Banking amounted to EUR 39 billion as at 31 December 2011, of which EUR 22 billion of deposit and EUR 17 billion of off-balance-sheet assets, including life insurance reserves. The on balance sheet items represent 3 percent of the total assets (on balance sheet) and generate 75 percent of the core division's income. Since the Belgium retail operations are sold, and the French and Luxembourgish operations are still for sale, the strategic focus of Dexia has shifted to Turkey, where they are rapidly expanding their business as nearly all the positive income is generated. A remarkable thing to note is that the Dexia has virtually no mortgage portfolio, as their total mortgage portfolio is only 4 percent of their loans and advances to customers (Dexia, 2011).

Public and Wholesale Banking

The Public and Wholesale Banking represents a fourth of the retail and commercial operations in terms of income with 5 percent of the total income, but considering the allocated assets it forms a much larger part of Dexia, with 28 percent of the total assets allocated. This is explained by the sovereign debt crisis which started in de summer of 2011. This forced Dexia to write of certain debt, as lower credit scores and interest rates decrease the value of many assets (Dexia, 2011).

Asset Management and Services

With Assets under management (AuM) amounting to EUR 78 billion as at the end of December 2011, Dexia Asset Management managed to limit AuM losses to less than 10 percent compared to the end of 2010. The negative market effect accounted for EUR 2.4 billion, while net outflows stood at EUR 6.0 billion. These outflows were, in the first place, concentrated on retail bond funds which, in an uncertain environment, are generally most impacted by factors such as competition from deposits and high quality bond issuance. There are no further representative figures about the Asset Management and Services division, as the annual report states zero income, and no allocated assets for this division, which implies that is totally managed off-balance (Dexia, 2011).

Legacy Portfolio Management Division

The Legacy Division groups together the bond portfolio in run-off, the Financial Products portfolio, a portfolio of “non-strategic” loans to the public sector and off-balance commitments associated with liquidity lines in the United States. All these items are considered as “bad loans, and are grouped to minimize losses. Therefore it is inevitable that this division incurs losses. Although this division is fully part of the Dexia Group it should be considered separately from the other businesses in order to correctly analyze the other results. Therefore the Legacy Portfolio Management Division will not be taken into account during the analyses (Dexia, 2011).

ING

ING is a global financial institution of Dutch origin, currently offering retail banking, direct banking, commercial banking, investment banking, asset management, and life insurance and retirement services to meet the needs of a broad customer base. ING is an abbreviation for Internationale Nederlanden Groep and consists of two stand-alone businesses: ING Banking and ING Insurance, which both fall under the umbrella of ING Group. Given the banking focus of this research, the ING Insurance entity will be neglected.

ING Bank is a large international player with an extensive global network in over 40 countries. It has leading banking positions in its home markets of the Netherlands, Belgium, Luxembourg, Germany and Poland. Furthermore, ING Bank has key positions in other Western, Central and Eastern European countries and Turkey. This is coupled with options outside of Europe which will give ING Bank interesting growth potential in the long term. The retail banking operations are focused on delivering simple and transparent retail products at low costs through a multi-channel distribution approach. Commercial Banking supports its global clients through an extensive international network and offers core banking solutions and provides tailored solutions (ING, 2012).

Retail Banking

ING Retail is by far the largest business of ING, and consists of five separate segments: Retail Netherlands, Retail Belgium, ING Direct, Retail Central Europe, and Retail Asia. In total the retail segment accounts for 63 percent of the total operating income. Retail Netherlands, Belgium and Europe comprise of retail and private banking activities. The main products offered are current and savings accounts, mortgages and other consumer lending. Retail Asia has similar product offerings, but does not include private banking. ING Direct targets direct retail banking activities worldwide and mainly offers savings accounts and mortgages.

Although there is a substantial mortgage of portfolio the Risk Weighted Assets of the retail segment is still 54 percent of the total RWA. In contrast with ABN AMRO for example, which nearly only holds low-risk Dutch mortgages, ING holds mortgages European wide, of which a significant part of consists of Spanish and Italian mortgages, which are graded much riskier these days.

Commercial Banking

The remaining profit generating operations of ING Banking, apart from the small Real Estate business, is Commercial Banking (29 percent of total operating income). They offer a wide range of wholesale activities from cash management to corporate finance. Most of their assets are commercial loans and other credit facilities, as more than 70 percent of the commercial banking income comes from interest results, and only 20 percent from commission fees. This somewhat disproportional ratios also indicate that their portfolio consist of relatively large clients that participate in large contracts, which is backed by their client reference website referring to many large corporate clients, with many national and international contracts going over a billion Euros (ING, 2011) (ING, 2012).

KBC

KBC is an integrated bank and insurance group, focusing on retail, SME and mid-cap customers with a total balance sheet of € 285.382 million. It concentrates on its home markets of Belgium and certain countries in Central and Eastern Europe. Their activities center around European debt capital markets, domestic cash equity markets and in the field of corporate banking, leasing, factoring, reinsurance, private equity and project and trade finance in Belgium, Central and Eastern Europe and elsewhere (mainly in Europe). KBC is an abbreviation for Kredietbank ABB Insurance CERA Bank.

After receiving government support during the financial crisis, the bank embarked on a divestment program to satisfy the requirements of the European Commission. As such, it has sold or is planning to sell several subsidiaries, such as Centea, Fidea, Kredyt Bank, ADB, KBC Deutschland, and KBL *epb* (Krediet Bank Luxembourgeoise), its network of European private banking subsidiaries (KBC Bank, 2012).

Belgium Business Unit

The Belgium Business Unit brings together all the group's retail and private bank and insurance activities in Belgium. The main group companies that belonged to this unit in 2011 were ADD, CBC Banque, KBC Asset Management, KBC Bank (Belgian retail and private banking activities), KBC Insurance, KBC Lease (Belgian retail activities), KBC Group Re, KBC Consumer Finance and VAB Group. Secura was sold in 2010. Centea and Fidea, which were or will be divested under the strategic plan, also belong or belonged to this business unit until the completion of sale. However, their results have been allocated to the Group Centre, which incorporates the results of all group companies scheduled for divestment.

The Belgium Business Unit has 818 retail and private banking branches and 492 insurance agencies they serve about 3.4 million customers and generate 40 percent of the total operating income with € 3.260 million (73 percent of group total after expenses and tax). Their loan portfolio is valued at 55 billion euro and their deposits are 71 billion euro. Considering the very high percentage of income (asset allocation is unfortunately not provided) the Belgium Business Unit has a very low RWA of only 23 percent which can be explained by the fact that this includes the relatively low risk insurance operations (these have separate provisions) and the fact that most of the assets are also relatively low risk customer loans within stable economies, compared to for example Merchant banking operations (KBC Bank, 2012).

Central & Eastern Europe Business Unit

The Central & Eastern Europe Business Unit comprises all group activities pursued in Central and Eastern Europe. The main group companies that belonged to this unit in 2011 were CIBANK and DZI Insurance, Cˇ SOB and Cˇ SOB Poist'ovňa, Cˇ SOB and Cˇ SOB Pojišt'ovňa, and K&H Bank and K&H Insurance.

Together they generate nearly 30 percent of the total operating income of the group with 6 million customers throughout the Czech Republic, Slovakia, Hungary, Bulgaria and Slovenia, with a combined loan portfolio of € 26 billion and deposits of €35 billion. The Central & Eastern Europe Business Unit accounts for 21 percent of the risk weighted assets, which is not very remarkable, especially not given the fact that this includes KBC's insurance operations in this region.

Absolut Bank, KBC Banka, NLB Vita, Nova Ljubljanska banka and Kredyt Bank and WARTA are earmark for divestment and therefore fall under the Group Centre results (KBC Bank, 2012).

Merchant Banking Business Unit

The Merchant Banking Business Unit comprises corporate banking and market activities in Belgium and abroad (apart from those in Central and Eastern Europe). The main group companies belonging to this business unit in 2011 were KBC Bank, KBC Commercial Finance, KBC Bank Ireland, KBC Credit Investments, KBC Lease, KBC Internationale Financieringsmaatschappij and KBC Securities.

Other worldwide activities of KBC also fall under the Merchant Banking Business Unit. This mainly comprises corporate banking branches in the U.S., China and Singapore, but can be considered limited and of little strategic importance as no reporting is made of any of these operations.

The total operating income was €1.236 million, which is 15 percent of the total operating income. The net result on the other hand was - €110 million. The performance in 2011 was adversely affected by provisioning for the 5-5-5 investment product in Belgium, which are bonds linked to the sovereign debt status of Spain, Belgium, France, Italy and Greece; the weaker performance of the dealing room; and relatively high loan loss provisions for Ireland. Excluding Ireland, the underlying net result for the business unit would already have been in the region of 212 million euro for the year.

Risk weighted assets are therefore 33 percent of the total RWA, which is obviously explained by the typical high risk bond investments and the non-performing Irish loans.

Antwerp Diamond Bank, KBC Bank Deutschland, KBC Financial Products (various activities already sold), KBC Peel Hunt (already sold) are earmarked for divestment under the strategic plan. Therefore, their results have been allocated to the Group Centre, which incorporates the results of all group companies scheduled for divestment (KBC Bank, 2012).

Group Centre

The Group Centre includes the results of the holding company KBC Group NV, KBC Global Services, a small portion of the results of KBC Bank NV and KBC Insurance NV not attributable to the other business units, and elimination of intersegment transactions. It also contains the results of the companies earmarked for divestment. Due to this structure the total income of the Group Centre of €1.510 million is therefore relatively high, as no core business activities takes place in this centre. Also the risk weighted assets are relatively high, due to the fact that are no low risk loans and/or deposits in this business unit, which can compensate for the more risky business units that are for sale in this group centre.

The overall picture of KBC remains a bit vague, due to the fact that bank and insurance business is very much intertwined (also in the reporting), and that detailed reporting about for example asset breakdown remains undisclosed (KBC Bank, 2012).

Rabobank

Rabobank is a Dutch bank, consisting of 139 independent cooperatives which all have their own banking license. The Rabobank group is divided in four business units: domestic retail banking; Wholesale banking and international retail banking; Asset Management, Leasing and; Real Estate. Leasing and Real Estate are relatively small, and are not traditional banking activities, and will therefore not addressed separately (Rabobank, 2012).

Domestic Retail Banking

The local Rabobanks serve more than 7.6 million customers, including their 1.9 million members, which form the heart of the cooperative. The local Rabobanks, for their part, are members and shareholders of Rabobank Nederland, the umbrella cooperative that advises the branches and supports their local services. The structure of Rabobank Group is typified by strong mutual relationships originating in its cooperative roots, even though the subsidiaries and associates are not structured as cooperatives themselves.

The operating income of Rabobank Netherlands is 6,941 million, which is 52 percent of the total income of the Rabobank Group. This is accomplished with about 40 percent of the total assets (after adjustments). Unfortunately there is nothing stated about the amount of Risk Weighted Assets allocated to domestic retail banking, but as Rabobank states that their domestic loan portfolio is virtually entirely made up of residential mortgages, it is safe to assume that it has a relative low RWA, as residential mortgages generally tend to have a low risk profile (Rabobank, 2012).

Wholesale and International Retail Banking

Wholesale and international retail banking focuses on the food and agribusiness sector. Rabobank has traditionally played the role of knowledge bank in this sector and has the ambition of being the leading food and agri bank globally. The international wholesale banking business concentrated mainly on its existing food and agri clients in 2011. The international rural and retail banking business focuses on wholesale food and agri clients and on retail clients, particularly to raise savings deposits, in a select number of leading food and agri countries.

The wholesale and international retail banking makes up 28 percent of the total operating income and about 55 percent of the total assets (after adjustments). As most of Rabobank's international operations are in Africa and Southern-America the RWA is probably relatively high compared with international activities of other banks, as these regions generally have lower credit scores, and also entail more operational risk (Rabobank, 2012).

Asset Management

The Asset Management division is driven by Robeco and Schretlen & Co and support Rabobank Group's market leadership in the Netherlands by offering a wide range of investment funds and assets management services via different distribution channels. With their broad product offering and specialized investment teams, they offer tailored investment and asset management services to investors of every kind. Robeco, its subsidiaries Transtrend and Harbor Capital Advisors, and Sarasin provide services to large institutional investors; on an international level, they offer investment services to high net-worth individuals, among other clients. Rabobank Private Banking and Schretlen & Co offer estate planning and asset management services to high net-worth clients.

Asset Management accounts for 9 percent of the total operating income, and for only about 3 percent of the total assets (Rabobank, 2012).

Société Générale

The Businesses of the Société Générale Group are organized into five divisions: French Networks; International Banking; Corporate and Investment Banking; Specialized Financial Services and Insurance and; Global Investment Management and Services.

French Networks

The French retail networks are formed by three complementary brands: Société Générale, the renowned national bank; Credit du Nord, a group of regional banks on a human scale; Boursorama Banque, a major online bank. The three brands offer a wide variety of products throughout France and serve about 11 million individuals and a little over half a million businesses and professionals, which together account for 32 percent of the total operating income (Société Générale, 2012).

International Banking

The international retail banking division holds leading positions in Central and Eastern Europe, the Mediterranean, Northern Africa, Sub-Saharan Africa and the French Overseas territories. All these activities account for 20 percent of the group income. All their activities are centered on three strategic areas: targeted development in high-potential countries; the creation of a top-ranked player in Russia and; stepped-up growth in regions with growing potential for banking facilities (Société Générale, 2012).

Corporate and Investment Banking

Corporate and Investment Banking is offered in 34 countries with extensive coverage in Europe, Middle East, Africa, the Americas and the Asian-Pacific region. The business line offers many tailored solutions in the areas of investment banking, finance and market activities. The division accounts for 23 percent of the total operation income, and has a remarkable large part of the bank’s assets allocated with 52 percent of the total assets. This is caused by their large trading and investment portfolio, of which only the derivative portfolio takes up 40 percent of their divisions assets (Société Générale, 2012).

Specialized Financial Services and Insurance

The Specialized Financial Services and Insurance division comprises a set of specialized businesses to meet the specific needs of businesses and individual customers in 45 countries. Provided services include life and non-life insurance products, vendor and equipment financing solutions, customer loans and financing and management of automobile fleets. It’s significantly smaller than the divisions previously mentioned, and only accounts for 12 percent of the operating income (Société Générale, 2012).

Global Investment Management and Services

Global Investment Management and Services combines Private Banking, Assets Management, Securities Services, and Derivatives Brokerage. In total the division contributes 8 percent to the total operating income.

The private banking business operates in 19 countries and is ranked among the world leaders in private banking and offers wealth management services to clients with a net worth of more than 1 million euro. Société Générale shares the Asset Management business in Europe with Crédit Agricole in the form of a joint venture, which is 25 percent-owned. In the United States their asset management activities are offered under the TCW brand.

The Securities Services operate in 24 countries and offers a comprehensive range of cutting-edge services following the latest trends in the financial markets as well as regulatory changes including clearing services, custodian and depository banking activities, fund administration and asset servicing services, issuer services, liquidity management services and transfer agent activities.

Newedge provides the Derivative Brokerage, which is a 50/50 joint venture between Société Générale and Crédit Agricole. Newedge is represented in 15 countries worldwide and offers a highly extensive and innovative range of clearing and execution services for listed derivative contracts and OTC contracts (Société Générale, 2012).

Summary and overview

To conclude this chapter this last paragraph will give an overview of the eight banks that were analyzed and identify the key operations of each bank. This will highlight the differences between the banks, and will help identifying the impact areas of the financial regulations for each bank.

It stands out that the three French banks (especially BNP Paribas and Credit Agricole) are by far the largest of all. The three French banks all have major corporate and investment banking activities, with assets and liability allocations of more than 50 percent of their total assets and liabilities, with the fast majority of this tight up in derivatives, and (sovereign) bonds.

The Dutch and Belgium banks are very different from the French ones. They have large retail operations focusing on deposits and mortgages, as can be seen in table 14, and only have little to none investment banking activities. Were they do have some corporate and/or investment banking activities, they focus on their domestic market or some niche market within the investment banking market.

For example ABN AMRO has a very strong focus on retail banking, were the main part of their portfolio comprises deposit accounts and mortgages. Their world-wide investment banking activities are centered around their Clearing facilities throughout the world with offices in London, Frankfurt, Hong Kong, Sydney, Chicago, New York, Singapore, Tokyo and Brussels, specializing in Energy, Commodities and Transportation.

Rabobank does the exact same, with their retail operations and a loan portfolio that “is made up virtually entirely of residential mortgages” (Rabobank, 2012). Their investment operations target the ‘Food & Agri’ business worldwide. This strategic focus naturally flows from their agricultural origin.

ING on the other hand has little to no investment banking activities, but rather focus on cash management and corporate finance for their commercial clients. This is also a logical choice as these activities lay more in line with their insurance activities, which together form a complementary line of products for their commercial clients. Their retail operations are relatively widespread compared to ABN AMRO and Rabobank, due to ING Direct, which combines online retail operations with (life) insurance operations across Europe and Canada.

Table 14: Summary of serveral asset and liability ratios for analized banks

Overall	Mortgage/Asset ratio	Due to customers/Liabilities ratio	Assets held for trading/Total assets ratio	Liabilities held for trading/Total assets ratio
ABN Amro	39%	54%	7%	6%
BNPP	4%	29%	42%	41%
Credit Agricole	4%	31%	28%	26%
Dexia	1%	5%	2%	5%
ING	18%	52%	13%	12%
KBC	20%	52%	9%	10%
Rabobank	30%	48%	9%	9%
Société Générale	6%	30%	36%	35%

Dexia and KBC are both two different stories. KBC has a large intertwined retail network of banking and insurance operations in Belgium and Central and Eastern Europe, profiling their self as “Bancassurer”. Their merchant banking activities focus on supporting their home market SMEs and corporate by providing worldwide market activities (money market activities, capital market products, stock broking, and corporate finance), and corporate banking (lending, cash management, payments, trade finance, leasing, factoring, etc.). Dexia, although originally Belgium has now shifted their focus to Turkey, as half of their workforce is located in Turkey since the government takeover of the Belgium retail branches. They engage in retail and commercial, and wholesale banking, providing deposits and mortgages to retail clients and focusing on corporate loans with their wholesale banking. Dexia’s operations are overshadowed by their legacy portfolio, grouping together € 134 billion worth of assets (mainly consisting of non-investment grade securities and non-performing loans). The portfolio includes a bond portfolio in run-off, the Financial Products portfolio, a portfolio of “non-strategic” loans to the public sector and off-balance commitments associated with liquidity lines in the United States and incurred a total loss of little over € 5.5 billion last year.

A schematic overview of the core activities per division of each bank can be found in table 15 and 16.

Table 15: Overview of banking operations of selected banks

	Retail & Commercial Banking	Corporate/Investment/Wholesale Banking	Private Banking/Asset Management
ABN AMRO	>50% of operations with strong focus in domestic market (>80%) with focus on **deposits/loans** and **mortgages**	Focus on Energy, **Commodities** & Transportation and ABN AMRO **Clearing**	#3 private banker in Eurozone, also strong focus on Energy, **Commodities** & Transportation and **Clearing** services
BNPP	30% of operations generating nearly 60% of income. Focus on domestic & Europe-Mediterranean market, also **presence in U.S**. with BancWest and First Hawaiian Bank	50% of its operations and European leader in corporate & investment banking. Very large portfolio of **(sovereign) bonds**, **interest rate derivatives** and **borrowed securities and short sellings**	Investment Solutions with focus on wealth and asset management sharing a large portfolio of **bonds** and **derivatives** and **borrowed securities** and **short sellings** with corporate and investment banking
Credit Agricole	Large co-operative bank; leading domestic bank for individuals SMEs and farmers with 30% **deposits** and specialized services	Almost all assets are **securities** with most of them being **(interest rate) derivatives**	Major player in private banking under different brands accounting for 25% of the income with only 5% of the assets
Dexia	Very small part since Dexia Belgium and DenizBank were sold. Due to little deposits their liabilities are centered around **debt securities**, as large parts of the banks are marked as disposable groups held for sale	Largest part of Dexia with traditional focus in Belgium and France and the only active operation of the bank, as all other assets are either for sale or allocated to the group center	

Table 16: Overview of banking operations of selected banks (continued)

	Retail & Commercial Banking	Corporate/Investment/Wholesale Banking	Private Banking/Asset Management
ING	>60% of operations with strong domestic focus and direct channels via ING Direct offering **savings accounts** and **mortgages** and **loans**	Offering a wide range of wholesale activities from cash management to corporate finance. Most of their assets are commercial loans and other credit facilities for large clients, complementary to their insurance branch	
KBC	Diverse mix of retail and insurance operations focusing on retail, SME and Mid-cap customers in domestic market but also in Central and Eastern Europe providing **almost solely mortgages** and **term loans** and **deposit accounts**	Corporate banking and market activities in Belgium and abroad. Large debt securities portfolio with **mainly sovereign debt**	Private banking activities are relatively small and concentrated on domestic market. Therefore it's included in the local retail branch
Rabobank	As a co-operative bank, nearly half of the operations are concentrated on the domestic retail market. Retail offerings are almost exclusively concentrated around **residential mortgages** and **deposit accounts**	Rabobank has a strong focus on Food & Agri business and on retail clients, particularly to raise **savings deposits**, in a select number of leading food and agri countries in Africa and Southern-America. The large asset allocation is caused by the large positions in debt security issuance and a substantial derivative portfolio	Private banking activities are relatively small and contributes to only 3% of the group total, but they offer a wide range of investment funds and assets management services via specialized subsidiaries
Société Générale	25% of the operations focusing on regional domestic channels and have leading positions in Central and Eastern Europe, the Mediterranean, Northern Africa, and Sub-Saharan Africa offering all kinds of deposit accounts and short-term and mortgage loans	By far the largest branch of SocGen offering worldwide tailored solutions in the areas of investment banking, finance and market activities.	One of the world leaders in Private Banking, offering Assets Management, Securities Services, and Derivatives Brokerage with **very large debt securities** and (interest rate) **derivatives portfolio**

Chapter 11 - Impact assessment per bank

This chapter is the last step in this research and will provide an impact assessment for each individual bank of all the regulations as discussed in part II. This will be done by combining the general impact assessment of each of the regulations in part II with the specific characteristics of each bank, as identified in chapter 10. This will give insight in the challenges and opportunities each bank faces with regard to the new and changing regulations on financial market instruments.

In the following paragraphs critical, relevant and urgent pain points, together with the opportunities that might arise from the changing regulations will be identified in relation to the identified financial instrument categories.

ABN AMRO

After the government takeover in 2011 ABN AMRO had already divested most of their foreign operations. Therefore the remaining operations are largely centered on their domestic retail operations. ABN AMRO's private banking operations, in which they were traditionally a dominant player is one of their other focus points to fight their way back in the international domain. Another focus point to reestablish their global presence as a corporate and investment bank is their international clearing service within the derivatives market with strategically placed offices all over the world. The recreation of this new image and global presence is especially important because the Dutch government will back out in a few years, at which point ABN AMRO needs to be an attractive investment again in their search for new shareholders.

Un-securitized debt and deposits

With nearly half of ABN AMRO's income coming from their domestic retail and corporate banking operations it's the most essential part of their business. These operations, especially in The Netherlands, is inherent to un-securitized debt and is mainly concerned with taking deposits and giving out mortgage loans to private individuals, SMEs and some larger corporations. This is confirmed by the fact that nearly 40 percent of their assets are mortgages and 54 percent of their liabilities are due to customers (of which 85 percent deposits).

Given the above characteristics ABN AMRO is particularly vulnerable to changing regulations related to these operations, like the Deposit Guarantee Schemes, and the Minimum Reserve Requirements. Deposits are a fundamental funding source. It is therefore essential for them to act proactive, as they will incur extra costs due to the contributions that need to be paid to fund the schemes. This will increase their cost of funding, as explained in chapter 3, but is unfortunately inevitable and is estimated at a cost of between €48 million and €82 million per year until the target level funding is reached in 2020. After the target level of the scheme is reached the contributions will depend on how much the funds need to pay out due to defaulting banks in the future.

There are no regulations that specifically target the mortgage business, so those operations can continue without much change for the coming years. One beneficial side effect of the large mortgage portfolio though, is that they carry relatively low risk. This means that mortgages require little capital under the new Basel III requirements, which will be discussed in the next paragraph.

Equity and Basel III/CRD IV

ABN AMRO is relatively well prepared for the new regulatory requirements stemming from the Basel III accord (and European implementation directive CRD IV). It's one of the few banks that specifically address the new capital and liquidity requirements in their annual report. The consequence related to the new capital and liquidity requirements following from the new requirements will be discussed in the following paragraphs. The newly introduced leverage ratio will not be an issue of ABN AMRO. First of all ABN ARMO's leverage ratio is already 3.3 percent, and given their relatively stable asset portfolio comprised largely of mortgages this is not likely to be a problem in the near future.

Capital Requirements

Based on the current insights, ABN AMRO is relatively well positioned to meet the January 2013 minimum capital requirements. Their RWA should remain relatively unchanged, as the RWA of their large mortgage portfolio will not be affected. Nevertheless an increase in RWA can be expected for the treatment of mark-to-market financial counterparty credit risk losses (credit valuation adjustment capital charge), which will especially increase the RWA within their clearing operations.

ABN ARMO has already indicated that their total capital is expected to decrease resulting in a 3.3 percent lower total capital ratio. This decrease in capital mainly consists of the exclusion of deferred taxes, which is a little over €1 billion. Combined with the higher RWA, the total capital ratio is therefore expected to decrease from 16.8 percent to 12.0 percent, amply exceeding the proposed minimum Basel III total capital requirement of 10.5 percent.

Liquidity

The comprehensive annual report of ABN AMRO already states their current LCR and NSFR. Their current LCR is 69 percent, and their NSFR is already 100 percent. The fact that the NSFR is already at 100 percent is a really good sign. This is because the NSFR is much harder to increase then the LCR. The LCR can be managed relatively easily by for instance increasing the size of the pool of highly liquid assets, which can be accomplished by disposing some trading assets and keep the cash, or attract some highly liquid assets like money market funds investments.

Ideally the NSFR should be increased to remain a safe buffer on the regulatory requirements. For ABN AMRO this can be done by securitizing and divesting part of the residential mortgages and retail loans portfolio. Retail loans and mortgages place a relatively high burden on the required stable funding, especially for ABN AMRO given their large mortgage portfolio. Therefore securitizing and divesting these assets will increases the available stable funding as cash comes available and at the same time reduces the required stable funding. In this way ABN ARMO can make sure that their NSFR will remain above the required minimum.

Investments and money market funds

When it comes to the funding of ABN AMRO, they rely heavily on deposits. For the remaining funding activities they have set up a long term covered bonds program, which falls under the UCITS Directive. The new UCITS V directive further eases the cross-border formalities which will make it easier for ABN AMRO to acquire medium- and long-term funding. Details of UCITS V are still under development but there are no negative consequences foreseen in the new proposal.

As already stressed out in the liquidity paragraph, it becomes more important for ABN AMRO to attract short term funding, as they are forced to increase their LCR. Money market funds can help here, as they are highly liquid and is still a preferred short term investment option for investors. But as good as it can help raise money, it would not be wise for ABN AMRO to invest in money market funds themselves, as, besides the fact that they are expected to become more expensive, it negatively impacts the LCR and NSFR as they're eligible for stable funding and require to hold extra liquid assets against the exposure of potentially required liquidity injections. Therefore it wise to focus first on the liquidity ratio and stay away from investing in money market funds until their LCR and NSFR is stable and well above the required minima.

Derivatives

ABN AMRO has the smallest derivatives portfolio of all the eight banks, both in terms of nominal value and percentage of total assets (and liabilities). Therefore there is no particular concern to changing regulations related derivatives concerning their own derivatives portfolio.

ABN AMRO Clearing on the other hand will be heavily affected by several regulatory changes via MiFID II, EMIR, the Basel III accord, the Dodd-Frank Act. Fortunately most of these consequences can be quite beneficial for ABN ARMO.

The new MiFID II regulations require significant modifications to the systems, processes. Infrastructure needs to be aligned for the new OTF category and the conversion to regulated derivative trading. Also the transparency regulations regarding pre- and post-trade transparency will affect the clearing services of ABN AMRO as they have to comply with the new reporting requirements, which place an extra burden on their administrative processes, and make their operations more insightful to competitors

Next to MiFID II, also the Basel III accord, and EMIR and the Dodd-Frank Act all have similar objectives to regulate the derivatives markets by creating more transparency by enhanced reporting requirements, giving incentives to move trading to exchange, or organized trading facilities, and force banks to clear derivatives through central counterparties. Especially the obligation to clear eligible derivatives through central counterparties can be beneficial for ABN ARMO. This requires new processes on a relatively short notice, and as a world leader in derivatives clearing they can facilitate the clearing processes relatively easily which gives them a great competitive advantage, as the market for center clearing inevitably will grow due to the regulatory requirements.

BNP Paribas

As the world's largest bank, and the largest Euro-zone depositor BNP Paribas is represented all over the world in virtually all types of banking operations. Their retail banking operations are mostly concentrated in France, Belgium and Luxembourg, but also spread out to Central Europe, Northern-Africa and the U.S and are focused on taking deposits and distributing private and commercial loans, with a relatively small mortgage portfolio. BNP Paribas also is one of the largest investment banks in the world with half of their assets and liabilities stem from investment and trading activities. Each of the instrument categories will be discussed in the next paragraphs.

Un-securitized debt and deposits

Although BNP Paribas is one of the largest investment banks in the world their retail banking operations still remains the backbone of the company. 56 percent of the income is earned with their retail operations, most of which is interest income earned via interest rate spread in deposits, and private and consumer loans.

Deposits are a fundamental funding source for the investment banking operations of BNP Paribas. With most of their deposits falling under the European DGS (except for their African and U.S. branches) they will have to make very large contributions to the European DGS. The contributions to the new EU DGS are estimated to be € 161 million to € 276 million per year, but given their relatively high risk-weighted investment banking operation it can be expected that the contributions will end up in the higher end of the estimated range.

Debt securities

As an investment bank BNP Paribas has a very large portfolio of securitized debt. Their total securitized assets and liabilities sum up to €820 billion and €763 billion. Half of this portfolio consists of trading derivatives. The other half consists mainly out of repurchase agreements, bonds (most of which sovereign bonds), and certificates of deposits.

MiFID II will have a significant impact on BNP Paribas' securities operations across the whole securities value chain, from front-office sales and trading, through to back-office reporting and all points in between. Also client advising services and other contact with market participants is also likely to change radically. Communication with market participants and especially advising services need to be verified more rigorously and stricter reporting on transactions is required to increase transparency. Furthermore PROSP will impose stricter information requirements on marketing activities, especially to smaller customers, and it will decrease the eligible clientele that can invest in no protective products.

Since these rules impact more than half of BNP Paribas' operations it is essential for them be well prepared for the upcoming changes and recalibrate parts of their strategy to adjust for the new upcoming changes in the securities market.

Equity and Basel III/CRD IV

As a large investment bank, it would be expected that BNP Paribas has trouble reaching the Basel III/CRD IV requirements. This is because they have more risky assets with more exposure that will be graded more risky in the RWA, and with the stricter capital definitions less of that risky capital will be eligible as tier 1 or tier 2 capital. As will be shown in the capital requirements paragraph, almost the opposite is true for BNP Paribas.

Also the newly introduced leverage ratio will not be an issue of BNP Paribas. The estimate leverage ratio of BNP Paribas is 3.62 percent. Given their relatively low RWA for an investment bank and the stability of their large portfolio, it will not be likely that this leverage ratio will drop below 3 percent in the near future.

Capital Requirements

BNP Paribas has indicated it plans to reach the new Basel III capital requirements in 2013 without raising additional capital, and aims to have a common tier one capital ratio of 9 percent. Where other European banks are reducing the size of their balance sheets and selling assets to increase their capital base ahead of new regulations, BNP Paribas foresees no need to take preventive measures to comply with Basel III (Bloomberg, 2011), (Financial Times, 2012) (BNP Paribas, 2012).

As their capital levels are to remain the same, BNP Paribas is trying to reduce their RWA to become fully compliant at the end of this year. They have already disposed €38 BN of RWA in the first quarter of 2012, which brings their current Basel III Common equity tier 1 ratio to an estimated 8,6 percent already (BNP Paribas, 2012). So far it seems that BNP Paribas will fully succeed to comply with the Basel III capital ratio without any foreseen problems

Liquidity

There is very little known about the current liquidity position of BNP Paribas in terms of LCR and NSFR, as they have no reporting on these ratios, and neither are there any articles or new items on their current liquidity status.

Looking from a balance sheet perspective BNP Paribas, as an investment bank, has large sums of low risk treasury bills and sovereign bonds on their balance sheet (€95 BN in their trading portfolio, and another €114 BN available for sale). Together they comprise a little more than 10 percent of the entire asset portfolio. A large part of these bills and bonds fall within the level 1 and level 2 liquidity categories of the LCR as marketable securities. Therefore it can be assumed that for now there is enough liquidity at hand to comply with the LCR in 2015, especially when half of these eligible bills and bonds are available for sale.

BNP Paribas' large derivatives portfolio requires them to have large amounts of stable funding to bring the NSFR to 100 percent. This is because derivatives are marked with a 100 percent Required Stable Funding factor, which sharply brings down the NSFR. Estimates of last year' NSFR of BNP Paribas confirms these concerns as they estimated it to be 71 percent and have one of the largest NSFR shortfalls in Europe of €241 BN (Credit Suisse, 2010).

Derivatives

BNP Paribas is one of the world leaders in derivatives trading. This makes that they will notice significant effects from the MiFID II and EMIR. Besides that they also have a relatively large short selling portfolio, which will be affected by the short selling directive.

MiFID and EMIR together introduce structural market changes, which require BNP Paribas to make structural changes in their derivatives trading processes. This means they need to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties.

Besides that there are also increased transparency and reporting requirements that require enhanced compliance, risk management and internal audit functions. It's necessary to take a more prudent attitude toward clients when it comes to giving investment advice and transaction processing.

This will require a major process transition on a relatively short term, in which it would be advisable for BNP Paribas to rethink their strategy in the derivatives market, especially as it also places a heavy burden on the NSFR.

U.S. Regulations

BNP Paribas is one of the world leaders in investment banking. Besides that they also have a large interest in U.S. retail banking with BancWest. Both retail and investment banking of BNP Paribas are therefore significantly affected by new and upcoming U.S. regulations.

The biggest concerns related to the Dodd-Frank Act for BNP Paribas are the derivatives reform actions. The derivatives reforms in the U.S. are similar to MiFID and EMIR, but also places particular focus on the requirement that all swaps which are clearable be cleared through a designated clearing organization or swap exchange facility in the U.S. Other measure like enhanced data and reporting requirements and new conducts of business are quite similar to the new European regulations. Nevertheless this requires BNP Paribas to not only create new derivatives processes in Europe, but also in the U.S., which implies a worldwide structural change in their investment banking operations.

FATCA targets both the investment banking activities as well as the foreign retail operations. Banks are forced to enter into a full disclosure agreement with the IRS, including giving insight in their clients' transactions, or be subjected to a 30 percent withholding tax on U.S. source income. Not entering the agreement is not an option, as clients will shift to National U.S. banks or foreign competitors that have entered into the agreement. So they either have to comply or shut down their U.S. banking operations.

With BancWest being a significant player in the U.S. retail market, and a good source of income, this is not an option for BNP Paribas. Also the investment banking activities stretch too far into the U.S. to cancel these operations as they are a vital part of their operations. Therefore they are forced into the IRS agreement. This requires far going new operations including: changing customer on-boarding; account servicing; and account upgrade processes in all channels for both individuals and entities. Also they need to set up new processes to request, collect and validate tax forms and subsequently report/ withhold on the customers.

Crédit Agricole

Crédit Agricole is large co-operative bank as it's the leading domestic bank for individuals, SMEs and farmers with large amounts of deposits and consumer loans. Besides their retail operations they've also a large investment banking operation. This can be seen in on their balance sheet, as almost half of their assets are securities and derivatives with most of them being (interest rate) derivatives. They also are a major player in private banking under different brands accounting for 25 percent of the income, which is notably high for investment banking.

Un-securitized debt and deposits

As a co-operative bank that focuses on domestic retail operations to support in individuals, SMEs and farmers it goes without saying that retail banking is an essential part of their operations. This is actually very tricky, as their domestic retail operations are not accounted into the group results in the annual report, due to the co-operative structure. An estimate would indicate that almost 60 percent of the total results could be accounted to retail operations, which is somewhat similar to BNP Paribas.

The amount in deposits of Crédit Agricole is about the same as for BNP Paribas, but these accounts comprise more private individuals and SMEs, which have less balance on their account. Therefore the contributions to the new DGS are much higher than for BNP Paribas, as they require more protection from the DGS. The estimated contributions are estimated to be between € 371 million and € 636 million per year. This will place a relatively large burden on the cost of funding via deposit accounts, and can threaten the interest rates on these deposit accounts. A suggestion would be to also look for other ways of funding, for example by issuing debt securities via UCITS as will be discussed later on.

Debt securities

Crédit Agricole's trading portfolio is largely centered on derivatives trading. Almost 80 percent of their trading portfolio consists of derivatives. Their remaining trading portfolio mainly consists of treasury bills and (sovereign) bonds, but is relatively small compared to their other operations, and also compared to for example BNP Paribas. On the other hand they do have a relatively large amount of treasury bills and (sovereign) bonds available for sale, but as these are already marked as divestment they are not relevant for the long term securities operations, as most of the new regulations will not be implemented before these securities are sold.

For the remaining securities MiFID II will have a significant impact on Crédit Agricole's securities operations, but other than for BNP Paribas these will be more related to client advising services and other contact with market participants, because of their large private banking operations. Communication with market participants and especially advising services need to be verified more rigorously and stricter reporting on transactions is required to increase transparency. Furthermore PROSP will impose stricter information requirements on marketing activities, especially to smaller customers, and it will decrease the eligible clientele that can invest in no protective products. This is especially troubling for Credit Agricole as they rely on their large client base of private individuals, SMEs and farmers that are not considered as professional investors (and certainly not as eligible counterparties).

Therefore Crédit Agricole needs to pay special attention to their advisement and private banking activities and clearly align their product offerings to the new regulations with new conditions for clear-cut target groups.

Equity and Basel III/CRD IV

Crédit Agricole has a considerable capital buffer, with a common tier 1 ratio of more than 9 percent. But, although out of scope of this research, it's notable that it has the largest exhibition to Greece of all French banks however also. Crédit Agricole's capital basis is considered sufficiently large further high absorb loan losses, but after an acute crisis in Greece, Crédit Agricole might have to raise some additional capital.

Capital requirements

Initially the Basel III proposal did not recognize the minority interests of Crédit Agricole in its co-operative regional banks for the calculation of the capital ratio. This would have been disastrous for the bank, but fortunately a revision was made mid-2010 that indicates that exceptions can be made in such cases to allow them to be included in the capital calculations. The definite outcome of these exemptions is currently however still unknown and remains a major risk factor for the group (Morningstar, 2011).

Liquidity

There are no real estimates for Crédit Agricole's current LCR, but the fact that they strongly rely on their retail banking with their co-operative stricter suggests that they have quite a lot of monthly cash outflow through their deposit accounts which drags down their LCR as this increases the denominator. On the other hand they have less available liquid assets than for example BNP Paribas with their marketable securities. Therefore the LCR of Crédit Agricole is expected to be relatively low. It's therefore necessary that Crédit Agricole, like ABN AMRO attract more highly liquid investments to overcome these LCR problems.

Crédit Agricole's NSFR is also estimated quite low at 74 percent, representing a stable funding shortfall of €173 BN (Credit Suisse, 2010). This is caused by their massive derivatives portfolio, which is comparable to BNP Paribas' portfolio size, but therefore in relative terms much larger. This requires an enormous amount of required stable funding, which at the moment, they have not available. An advantage for Crédit Agricole is that they have a very large retail client base with deposits accounts, which can be used to raise stable funding. Especially long-term deposits would be ideal and can be marketed with attractive interest rate. On the other hand, Crédit Agricole's depositories are already under pressure due to the new DGS contributions. Another way to acquire funding would be to issue mid- and long-term debt securities, which can possibly be offered through UCITS funds like ABN AMRO is planning to do.

Funds

It's evident that Crédit Agricole is under large pressure through the new regulations, especially the capital and liquidity requirements place a high burden on their operations and complying with these new regulations requires some fundamental changes. At the same time deposits are under pressure due to the large increase of DGS contributions.

Crédit Agricole needs new ways to fund itself for the mid- and long-term, but they also need to increase liquidity. For the mid- and long-term it might be an opportunity for Crédit Agricole to attract funding by issuing debt securities and market these via UCITS funds, benefiting from the new UCITS V Directive, as they are further enhanced and marketable throughout Europe with further harmonized competent national authorities and improved passporting possibilities and master-feeder constructions.

Liquidity can be raised by attracting more low risk sovereign (short term) debt securities, or by divesting part of the derivatives portfolio for to acquire cash. This last option would be a last resort option, as this is a substantial part of their business with strategic importance.

Derivatives

Crédit Agricole holds a very large trading portfolio of derivatives, especially interest rate swaps. Therefore just as BNP Paribas MiFID II and EMIR will have significant impact on Crédit Agricole.

As already discussed for BNP Paribas, MiFID and EMIR together introduce structural market changes, which also require Crédit Agricole to make structural changes in their derivatives trading processes. This means they need to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties.

The part that will have more impact on Crédit Agricole are the increased transparency and reporting requirements that require enhanced compliance, risk management and internal audit functions. This requires them to take a more prudent attitude toward clients when it comes to giving investment advice and transaction processing, which will impact their relatively large asset management and private banking operations.

This will require a more refined asset management and private banking framework in which clients need to be categorized and portfolios need to be monitored sharper according to the client categories and investment advice needs to be verified and underpinned.

Dexia

Dexia is a different story than the other banks discussed in this research, as it is by far the worst positioned banks in this research with a very atypical structure. During 2009, significant changes were made to the bank's balance sheet structure, reflecting asset shrinkage and the issuance of large amounts of term debt (in both covered bonds and unsecured markets). After the government bailout of the Belgium retail branch they were left with a little retail branch mainly focused on Turkey, a small public and wholesale banking department and a huge legacy portfolio of non-performing junk securities.

In June 2012 the Turkish Denizbank was also sold. This leave the bank with a balance sheet that is almost entirely build-up out of term loans, of which most to the private sector, the legacy portfolio, and non-current assets and disposal groups held for sale (which includes the Luxembourgish retail bank). With more than half of the bank still for sale it's of little use to make a full assessment of the current bank. What will be left is a bank largely funded by the Belgium government, with "illiquid loans and sovereign debt from the euro zone's financially troubled members providing loans to public entities with a negative equity position" (The Wallstreet Journal, 2012).

Once the bank has completed its divestments it can repay part of it debts to the government, but how much can be repaid, and whether that's enough to reestablish a somewhat healthy equity position or gives even enough basis to continue its operations is unknown and would be is largely dependent upon the market value of the large securities portfolio held for sale.

The current capital ratio of Dexia is already the lowest of the reviewed banks with a CAR of 10.4 percent under Basel II norms. This ratio is expected to decrease further under Basel III as the RWA of non-performing loans will further increase and the basis for regulatory capital will decline. Also their current leverage ratio and NSFR are estimated at 1.53 percent and 74 percent respectively (both before the sale of DenizBank). Both ratios can be expected to increase with the disposal of their securities portfolio, as it will decrease leverage and also decrease the required amount of stable funding. But nevertheless the new and enhanced capital and liquidity requirements do not help Dexia, as the bank already struggles to survive.

ING

ING Bank is a large international player with an extensive global network in over 40 countries with a strong focus on the retail market resulting in leading positions in retail banking across Europe. The retail banking operations are focused on delivering simple and transparent retail products at low costs through a multi-channel distribution approach. This reflects on their balance sheet, which consists on the asset side primarily out of loans, and advanced to customers, of which more than half are mortgage loans and 99 percent are non-subordinate loans. The liability side is primarily build-up out of customer deposits.

ING's commercial banking activities support their global client through an extensive international network and offer core-banking solutions and provide tailored solutions.

Un-securitized debt and deposits

With over 60 percent of ING's income coming from their retail operations it their most prior concern to keep these activities profitable. In a way the bank is quite similar to ABN AMRO, which also heavily depends on their retail operations and a large mortgage portfolio. The big difference with ING is that their operations are far better dispersed geographically, with operations all over Europe. As already explained with ABN AMRO, such large retail operations are inherent to un-securitized debt. Also at ING this is confirmed by the fact that almost 35 percent of their assets are mortgages and 52 percent of their liabilities are due to customers (of which also 85 percent deposits).

Given the above characteristics ING is particularly affected by the changing DGS regulations, both positively and negatively. With their large amount of deposits their contribution costs to the DGS scheme are relatively large. These costs are estimated to be between € 107 million and € 184 million per year.

On the other hand ING (and especially their customers) will also greatly benefit from the new European DGS. With a European wide scheme, ING has to contribute to only one European scheme instead of different schemes per countries. It also harmonizes the rules on the covert amounts, and payback time, which is good news for accountholders in other Member States, as they are now assured to get paid out within 7 days. This can be taken on as an opportunity to further promote their deposits and saving accounts across Europe, which directly supports their objective to increase their funding through retail and commercial deposits with 7 percent by 2015 (ING, 2012).

Same as for ABN AMRO, there are no regulations that specifically target the mortgage business. Therefore their mortgage business will continue without much change for the coming years. The large mortgage portfolio will also help to achieve to reach the new capital requirements in time, as they carry relatively low risk, which keeps their RWA relatively low. More about this will be discussed in later on.

Debt securities and funds

Debt securities and funds will not be discussed in detail as both are of little strategic importance for ING. They have very limited commercial banking activities and virtually no asset management activities. The debt securities and funds that are held by ING are government bonds and bonds issued by other financial institutions. It's also a relatively liquid portfolio as 73 percent of the portfolio is held available for sale, and these sovereign debt securities are relatively easily marketable.

Equity and Basel III/CRD IV

ING is already well positioned to meet the January 2013 minimum capital and liquidity requirements. They are already actively reducing their RWA and increasing their capital base by attracting more long term funding, which will also help increase the available stable funding.

ING's current leverage ratio is also estimated to be at 4.03 percent. This is only likely to increase when they increase their tier 1 capital ratio.

Capital requirements

To reach the Basel III capital targets ING is actively changing their funding strategy by reducing short term and interbanking funding, and on the other hand increasing their funding through retail and commercial deposits. Their common equity tier 1 capital ratio is already at 9.6 percent with the objective to increase this to 10 percent at the end of this year.

ING is also actively reducing their RWA by divesting high-risk assets and seeking for management actions to offset the majority of the impact from regulatory changes. Business growth will therefore be limited and focused on core clients to optimize these results.

Given the fact that they already have a relatively low risk weighted assets in their portfolio with their mortgage portfolio and sovereign debt securities, the effect of the new capital requirements will be limited, especially when they're also trying to offset the differences by raising capital and divesting remaining high risk weighted assets. ING has estimated that the impact of the new Basel III requirements will be 80 basis points. This remaining gap is the mainly the result of Credit Valuation Adjustments, and the exclusion of deferred tax assets and minority interest in regulatory capital.

Liquidity

ING is also relatively well prepared for the introduction of the LCR. End 2011 their LCR was already 90 percent. ING plans to automatically grow into LCR target. To make this happen they will reduce short-term funding, and at the same time increase their long term funding and replace maturing non-eligible investment portfolio with eligible assets such as cash, government bonds and covered bonds.

The fact that they are already well prepared lays in their large cash and liquid reserves (with half the size of BNP Paribas and Crédit Agricole they hold almost as much liquidity reserves). Additionally they have not so much debt securities, but the ones they do have are almost all eligible as level 1 or level 2 liquid assets as defined for the LCR. Downside is that further increase of liquidity is limited, as they already have quite a large portfolio of liquid assets, but will be solved by replacing all maturing non-eligible assets by eligible ones.

ING states that the implementation of the NSFR is still a long way down the road according to ING, which is true of course, but no excuse to neglect it. Based on their current estimates their NSFR would be around 85 percent. Due to ING's large outstanding amounts to retail and commercial customers (including mortgages), most of their required stable funding (87 percent) is caused by loans and advances to customers. On the other hand the available stable funding is almost entirely covered by customer deposits.

ING probably doesn't have to worry for now, as the ratio will gradually increase due to their planned increase in deposits, and their objective to increase their capital position. Both actions are also eligible for stable funding. Therefore it can be expected that the NSFR will gradually increase the coming years along with their capital ratio.

U.S. regulations

Finally it's amusing and worth noting that ING coincidentally resolved their potential issues with new U.S. regulations by selling their ING Direct branch in the U.S. at the end of 2011. Although it was not the underlying motive of the sale, it saves them a lot of trouble of not having to go through the largest U.S. regulatory reforms since the Great Depression.

KBC

KBC is the smallest banks that are reviewed in this research, especially when it's taken into account that they are a bankassurer, and therefore part of their assets and liabilities are allocated to their insurance branch, which is not taken into account. KBC Bank is a multi-channel bank focusing mainly on retail, SME and mid-cap customers. It concentrates on its home markets of Belgium and certain countries in Central and Eastern Europe. Elsewhere around the globe, the group has established a presence in selected countries and regions.

Un-securitized debt and deposits

KBC is very reliant on their retail operations and concentrated on their domestic market, just like ABN AMRO. Their financial assets almost entirely exist out of loans and receivables, of which about 25 percent are mortgages and 25 percent term loans. Another 20 percent is made up out debt securities, and the rest consists of several non-significant in types of loans and advances such as finance leasing, current account advances and consumer credit.

The liability side of the balance sheet is even more homogeneous, as almost 65 percent of their liabilities are deposits. The rest consist mainly out of non-convertible bonds and derivatives.

Given these characteristics KBC is particularly vulnerable to extra funding costs for deposits, such as the DGS regulations. KBC's contributions to the DGS are estimated to lie between € 65 million and € 112 million, which is serious money for such a relatively small bank. As already mentioned KBC is very depending on deposits funding, and although it's relatively save, they might want to consider diversifying their funding as, also because it's not considered to be a very stable source of funding as will be explained in the liquidity paragraph.

Same as for ABN AMRO and ING, there are no regulations that specifically target the mortgage business. With the relatively favorable treatment with regard to the RWA, and the income these mortgages generate KBC should hold on to the portfolio, and maybe try to switch more of their risky term loans towards their mortgage portfolio as this will decrease their overall RWA. More of this will be discussed in the capital requirements paragraph.

Debt securities

KBC has a debt securities portfolio of about 20 percent of their assets. The vast majority of these securities are sovereign debt instruments, which remain unaffected by the changing regulations. Also these securities are a good source of mid- and long-term funding and van increase their NSFR as it is a good source of available funding. This is also acknowledged by KBC, as they have introduced new strategic plans to divest several group companies and introduce a number of other measures that (together with organic profit generation) is needed to build up the funds that will enable KBC Group to redeem the core-capital securities subscribed by the Belgian State and the Flemish Region within a reasonable period of time. KBC Group has started this process at the start of 2012 and is a good start to diversify their funding sources, strengthen their capital position, and increase their NSFR.

Equity and Basel III/CRD IV

KBC's position to meet the January 2013 minimum capital and liquidity requirements is a little worrying. Under Basel II KBC has a comfortable capital position for the bank and their liquidity position also remains robust and is underpinned by a stable, retail customer deposit base in our home markets. Both are incur to expect significant drops, as will be explained in the following paragraphs.

On the other hand, KBC's current leverage ratio is also estimated to be at 5.48 percent, which is the highest of all banks that are reviewed. This is largely explained by their large tier 1 capital position, which is likely to decline under Basel III. The leverage ratio can therefore also be expected to drop along with the other ratios, but this is not a concern for now, as they're still relatively well leveraged.

Capital requirements

Under Basel II KBC are really well positioned with a CAR of 15.4 percent, but this is likely to drop significantly under Basel III. Reasons for this are their minority interests in Eastern Europe, and KBC's relatively large amount of deferred taxes (10 percent of current regulatory capital), which will not be marked or limited as eligible tier 1 capital under Basel III.

Earlier strategic plans made by KBC are under revision to potentially strengthen their capital position. These include a potential cancelation of a planned IPO of minority stakes in ČSOB Bank and K&H Bank, the sale and lease back of KBC's head office in Belgium could be cancelled to retain regulatory capital. Simultaneously their also considering decreasing the RWA by potentially divesting the Polish banking and insurance subsidiaries, Kredyt Bank and WARTA, and selling or unwinding selected ABS and CDO assets (KBC Bank N.V., 2012) (De Tijd, 2011).

Liquidity

There's little known about the current LCR and NSFR of KBC at the moment. KBC only indicates that their strategic aim for the next few years is to build up a sufficient buffer in terms of the Basel III LCR and NSFR requirements via a new funding management framework, which sets clear funding targets for the subsidiaries and provides further incentives via a system of intra-group pricing to the extent subsidiaries run a funding mismatch.

Looking at KBC's balance sheet they shouldn't have problems reaching the NSFR requirements. Their large amount of deposits is eligible as available stable funding and their loans and mortgages on the other side have a much lower funding factor than the deposits. The fact that KBC plans to attract more securities is even more beneficial to the NSFR, as these have a much lower required funding factor than mortgages and term loans.

KBC's LCR target on the other hand is more difficult to reach. KBC has relatively few eligible level 1 liquid assets to reach the LCR targets, and with all their deposits there's a large sum of potential cash outflow. Since lowering their amount of deposits is not an option, KBC needs to attract more liquid assets. This can be done by converting their assets into cash, such as their ABS and CDO portfolio they're considering to divest, or acquire low risk sovereign debt securities which are also eligible as liquid assets. Both options are in line with their new strategic plan, and also support their objective to increase their CAR, because at the same time it also reduces their RWA.

Funds

At the end of 2011, the KBC's total assets under management amounted to approximately 149 billion euro. These assets are partly privately held, but also include investments in investment funds investments. Therefore UCITS V, AIFMD and the Lamfalussy directives are quite important for KBC, because it will affect their asset managing business.

Together with the MiFID, PROSP and TD, UCITS V and AIFMD provide more transparency in the market and the investment funds, as all funds are subjected to stricter reporting requirements. This allows them to make better decisions for their clients which result in better returns for their clients.

At the same time the passporting framework also offers them more convenience to invest in funds all across Europe, as these funds are directly marketable in all Member States. With these new possibilities it's expected that many funds managers will market their funds across Europe, which makes it easier for KBC to invest in a wider pool of investment funds.

Rabobank

Rabobank is a bank with two very different focus areas. In their domestic market they are market leader in the deposits and loans market with a large portfolio of low risk residential mortgages via a co-operative structure with separate branches throughout the country. Globally Rabobank is also very active in retail and wholesale banking focusing on financing food & agri businesses. This combination of activities gives them an advantage at many other banks, as they have more possibilities to attract capital and raise their funding. The following paragraphs will illustrate how this helps Rabobank to prepare for new and changing financial regulations.

Un-securitized debt and deposits

The co-operative part of Rabobank focuses on domestic retail operations for individuals and SMEs. This is inherent to a large loan portfolio and a relatively large amount that is funded via deposits. The international retail branch and their wholesale banking also focus on loans and deposits for food & agri related businesses.

Only 61 percent of Rabobank's due to customers stems from their domestic market. Therefore the estimations of the DGS contributions turns out relatively low, as it's based on the domestic client base. Other deposits clients located outside Europe do not fall under the European DGS. The contributions to the European DGS are estimated to fall between € 53 million and € 91 million per year. The increase in funding cost for deposits is therefore relatively low compared to the total amount of deposits due to the large amount of foreign deposit accounts. How these foreign accounts might change is not investigated as this falls outside the scope of this research.

Equity and Basel III/CRD IV

Rabobank is in a unique position while preparing for the Basel III requirements. They have virtually no debt securities as they're almost entirely funded by a diversified set of deposits. More specially, their capital base consists out of two main parts: "regular" equity capital from the Rabobank Group, which is related to their non-domestic business and minority interest in local co-operative Rabobanks, and Member Certificates which enable members of the local Rabobanks and employees of the Rabobank Group to participate in the capital of Rabobank Nederland and are classified as core tier 1 capital.

Capital requirements

These Member Certificates put Rabobank in a unique position as these certificates are a relatively easy way to attract capital next to the traditional way of issuing equity. Combined with the fact that they have a low RWA due to their large mortgage portfolio Rabobank is in a comfortable capital position. Their current CAR is 17.5 percent, with a common tier 1 ratio of 12.7 percent, with which Rabobank has the strongest capital position of all banks investigated in this research.

Little will change under the new Basel III/CRD IV requirements, as the Member Certificates are already made eligible as common tier 1 equity and they also have virtually no deferred tax assets, which for most banks lead to a significant drop in eligible capital. It's therefore safe to say that Rabobank is well prepared for the new capital requirements in 2013

Liquidity

There is not much known about the current liquidity position of Rabobank as there are no publications from either Rabobank itself, or industry specialist giving insight in their liquidity position. The only statement Rabobank makes is that they are concerned with the new liquidity measures, as they are too limited to give a good insight in the stability of a bank's funding program. Examples Rabobank uses support this argument are that diversified funding, client relations and credit ratings are not taken into account while shaping a liquidity profile (Rabobank, 2010). An analysis of Rabobank's balance sheet and their funding on the other hand shows little concern, as Rabobank seems well positioned to meet the new LCR and NSFR requirements

The LCR mainly relies on cash and marketable sovereign debt securities. Although Rabobank has very few debt securities they do have a massive amount of cash (14 times more than required by the Minimum Reserve Requirements and as much as Crédit Agricole and Société Générale combined). This large amount of cash is necessary as cash is the only option to compensate for their lack of debt securities in the numerator of the LCR, especially with a large deposit base, which is likely to generate a relatively large cash outflow.

Whether it's enough to reach the LCR targets is hard to say for now. If it turns out they need more liquid assets Rabobank can consider to securitize part of their mortgage portfolio and invest in risk sovereign debt securities to compensate for interest income lost in by the securitization.

The NSFR would be no concern for Rabobank. Their deposits, which are eligible as available stable funding, cover their loan portfolio by 1.5 times, which is by far the largest part of their required stable funding. Combined with their large capital base (100 percent eligible as available stable funding) they should be able to maintain a healthy NSFR, amply above the target rate. If it turn out Rabobank needs to increase their NSFR they can, just as with the LCR divest part of their mortgage portfolio and attract marketable sovereign securities, which are marked with a 5 percent required funding factor (instead of 65 percent with mortgages) to lower the require stable funding.

Derivatives

Rabobank has a modest derivatives portfolio. Besides the usual interest rate derivatives Rabobank specializes in creating and trading agricultural commodities to complement their services offered to their food & agri clients.

As a global player in the food & agri sector Rabobank will not only be affected by the European MiFID II and EMIR, but also by the U.S. derivatives reforms in the Dodd-Frank Act.

Both the European and U.S. regulations introduce structural market changes, which require Rabobank to make structural changes in their derivatives trading processes. This means they need to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties.

Besides that they are required to increase their transparency and reporting efforts, which require enhanced compliance, risk management and internal audit functions. As a global player in the commodities market, Rabobank should prevent to become stuck in the middle of two different derivatives reforms at the same time. Therefore it's essential to create an infrastructure that facilitates and supports the EU and U.S. reporting and transaction requirements.

U.S. regulations

Derivatives market reforms due to the Dodd-Frank act are already discussed, but Rabobank also has a significant retail branch in the U.S., mainly concentrated in California. The other issues related to the Dodd-Frank act will not influence Rabobank. Rabobank explicitly states that they do not participate in proprietary trading, and are therefore not affected by the Volcker Rule. Also Rabobank has little to no fund investments, especially not in the TRUPS, which are targeted by the Collins Amendment. This means that, although Rabobank is quite active in the U.S., they experience little inconvenience due to the Dodd-Frank act, except for the necessary derivatives reforms. Additionally the derivatives reforms are focusing on swap related issues, in which the Rabobank has no particular interest, as they focus on the commodities market.

Rabobank is probably forced to enter the IRS agreement as required by FATCA. It would not be an option to abandon their entire U.S retail operations as this part of Rabobank's operations is a too significant to divest. Complying with the new FATCA regulations will therefore requires far going new operations including: changing customer on-boarding; account servicing; and account upgrade processes in all channels for both individuals and entities in the U.S. Also they need to set up new processes to request, collect and validate tax forms and subsequently report or withhold tax on the customers. Rabobank already acknowledges theses new responsibilities (Rabobank, 2011).

Société Générale

Société Générale is a diversified bank in terms of operations. Income is evenly spread among domestic retail, international retail, investment banking, and assets management operation. Half of their assets are allocated to investment banking operations. This investment-banking portfolio consists for almost 60 percent out of derivatives. The rest of the portfolio contains debt securities, equity funds (mostly UCITS) and other financial assets. The remaining part of their assets mainly consists out of customer loans, of which half are collateralized loans such as mortgages and equipment loans.

Almost half of the liability side of Société Générale's balance sheet is also comprised with financial assets related to their investment banking operations, with similar structure as the asset side. 30 percent consists out of customer deposits, and almost 10 percent consists out of securitized debt payables, which are interbank certificates and negotiable debt instruments.

The following paragraphs will show how this diverse mix of assets and liabilities are affected by the changing financial regulations.

Un-securitized debt and deposits

Société Générale has large investment banking operations, but is very much focused on the derivatives market, as they have a small debt security portfolio compared to other banks with investment operations such as BNP Paribas and Crédit Agricole. Therefore, as for many banks, large part of their funding still relies on customer deposits. Fortunately they have a well-diversified retail portfolio with leading retail positions in Central and Eastern Europe, the Mediterranean, Northern Africa, Sub-Saharan Africa and the French Overseas territories.

Just as with Rabobank, Société Générale has considerable retail operations outside the European Union. Therefore the following estimates turn out low compared to their total deposits, as deposits outside the European Union are not taken into account. The impact for the European DGS is estimated to fall between € 172 million and € 295 million per year. Like BNP Paribas, Société Générale has relatively high risk-weighted investment banking operations, which likely will lead to higher contributions than estimated, as banks with higher risk profiles will be submitted to higher DSG contributions.

Debt securities

Just like Crédit Agricole, Société Générale's trading portfolio is largely centered on derivatives trading. Only 15 percent of their trading portfolio consists of debt securities. Although not fully specified, the vast majority of these securities are likely to be sovereign and corporate debt instruments. These instruments remain relatively unaffected, and carry relatively little risk. Therefore it's likely that this portfolio needs to be increased to reach the target ratios set out by Basel III/CDR IV, as they have significant benefits over more risky assets such as their derivatives portfolio. This will be further explained in the following paragraphs.

Equity and Basel III/CRD IV

As a large investment bank, Société Générale has a riskier profile than bank that only provide retail banking services. This is because they have more risky assets with more exposure that will be graded more risky in the RWA, and with the stricter capital definitions less capital will be eligible as regulatory capital. At the moment Société Générale is already badly positioned when it comes to the current Basel II capital requirements. Their Basel II CAR is 11.9 percent at the moment, which is barely enough to meet the current requirements. The following paragraphs will assess whether the diversified operations of Société Générale can help them to prepare for the stricter capital and liquidity requirements.

Also the newly introduced leverage can be a concern for Société Générale. Their estimate leverage ratio is 3.18 percent at the moment, which would just be enough to meet the 3 percent required. Given the upcoming necessary changes for Société Générale it would be wise to keep track of the leverage ratio, as shifts in capital and assets can strongly affect the leverage ratio.

Capital requirements

With a current CAR of 11.9 percent under Basel II, Société Générale has serious work to do to prepare for the stricter Basel III requirements. The main problem lies in the large derivatives portfolio, which, as these derivatives are marked as high risk-weighted assets, which drags down the CAR ratio. Société Générale has for example 50 percent more capital than Crédit Agricole, but they also have a RWA, which is 53 percent higher. Therefore the main objective for Société Générale is to lower their RWA.

Société Générale also recognizes this, as they have stated to reach the target levels in 2013 without raising additional capital (Société Générale, 2012). This must be achieved by an increase in earnings and deleveraging their corporate and investment banking to lower their RWA. Probably the only way to quickly start this deleveraging is by starting with divesting part of their derivatives portfolio, because it has the most impact on the RWA and is easily disposable with an active market.

Liquidity

There are no estimates for Société Générale's current LCR and it's really difficult to get insight in the liquidity position of Société Générale. This is because they have diversified retail operations that potentially generates significant cash outflow, but due to these geographically spread operations across different cultures it's difficult to put a number on that outflow. This also goes for the cash flows involved their investment banking operations. This makes it difficult to make a statement about the cash outflow, which makes up the denominator in the LCR.

The liquid assets on the other hand are quite clear. Société Générale has quite some cash at hand compared to the other banks in this research, but more importantly they have a 'bonds and other securities' portfolio of €164 billion. It's not clear what type of bonds and other securities these are, but sovereign and corporate bonds are eligible as liquid assets, and most likely represent the largest part of this portfolio. Société Générale can improve their LCR by attracting more liquid assets, preferably cash or sovereign debt securities. These can be purchased by the cash that follows from the divestments of the derivatives portfolio. This supports the objective to reduce the RWA, because these securities have a much lower RWA factor than derivatives.

Société Générale has a lower NSFR than BNP, and is estimated to be 68 percent reflecting a proportionately smaller deposit base, as these is the main source of available stable funding together with regulatory capital and their large amount of required stable funding due to their derivatives portfolio (Credit Suisse, 2010). This makes the NSFR is most serious issue for Société Générale of the new Basel III/CRD IV requirements.

To reach the target levels of the NSFR Société Générale has to both increase their available stable funding, and reduce their required stable funding. The only way to increase their stable funding is to raise more deposits, preferably long term deposits made by sovereign bodies or low risk corporations, as these have the highest funding factor. Lowering the required stable funding can, just like the CAR and LCR, be achieved by deleveraging their derivatives portfolio. Although it's a strategically important business unit, their corporate and investment banking department has to be reduced significantly, as this is the only way to comply with the new capital and liquidity requirement.

Funds

Société Générale has invested in quite some UCITS. With the new UCITS V directive it only becomes more attractive to invest in the UCITS: more funds will come available due to the enhanced passporting regime, and the funds will become more stable due to the expected trend of fund mergers because of the new master-feeder rules, and the new supervisory requirements.

These enhanced rules regarding the UCITS funds, and the fact they have already experience with these UCITS makes them ideal to invest in. They are low risk weighted, require little stable funding, and produce little cash outflow. This makes them a perfect safe haven to generate income without putting a heavy burden on the CAR, LCR and NSFR.

Money market funds on the other hands are not a good investment for Société Générale at the moment, as their main concern is to increase their NSFR. Société Générale needs to seek for low risk, stable mid- and long-term investments that can compensate for their relatively risky trading portfolio.

Derivatives

Société Générale will notice significant effects from the MiFID II and EMIR. As discussed MiFID and EMIR together introduce structural market changes which require Société Générale, to make structural changes in their derivatives trading processes (other than those coming from Basel III/CRD IV). This means they need to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties. This will turn their corporate and investment banking operations upside down as they heavily rely on their derivatives portfolio.

Société Générale also has a short sold €8 billion of debt and equity instruments. Although this is not a very significant amount, they need to make sure that they prepare for the Short Selling Directive that obliges them to report and disclose short positions on equity and sovereign debt. Also they need to implement the ‘locate rule’ which requires them to locate and reserve a shorted instrument at a third party to make sure they can deliver on the settlement date.

The fact that all these measures are introduced parallel to the new capital and liquidity requirements is a good opportunity to set out a new course of action and realign their strategy for both the derivatives trading, and the bank as a whole. The introduction of central counterparty clearing along with the new organized trading facilities will reduce credit risk in the derivatives market. This also might reduce the high risk associated with the derivative portfolio that currently puts a heavy burden on the CAR and NSFR. This would ideally kill two birds with one stone.

Besides that there are also increased transparency and reporting requirements that require enhanced compliance, risk management and internal audit functions. This obliges Société Générale to take a more prudent attitude toward clients when it comes to giving investment advice and transaction processing.

All these changes will require a major process transition on a relatively short term. This will be a great challenge, but also an opportunity for Société Générale to rethink their strategy. They need to make a plan to address the new requirements in the derivatives market and at the same time resolve the liquidity and funding issues for the bank as a whole in order to reach the regulatory requirements for the coming years.

Part IV – Conclusions, regulatory trends and discussion

In part IV the final conclusions and overall regulatory trends with regard to financial instruments will be presented. First the conclusions of each separate bank will be discussed. Secondly each financial instrument category will be addressed with regard to the regulatory trends in each category. Finally some topics for debate will discussed.

Chapter 12 - Bank specific conclusion: opportunities and challenges

Fifteen new or changing regulations have been analyzed in this research to see how they will affect eight banks and the banking sector the next eight years. This chapter, along with chapter 13 will summarize the findings and try to give some additional insight in the eight selected banks, and the Gallian banking sector in general.

Opportunities and challenges for investigated banks

Eight banks were analyzed in this research to assess how they will be affected by the new and changing financial regulations for the coming eight years. Each subparagraph below will provide insight in the challenges and opportunities for each of the banks that are analyzed in this review.

ABN AMRO

ABN AMRO is for most part a retail bank with a strong focus on their domestic market. Almost the entire bank is financed with deposits. This is very beneficial, as deposits are next to equity the only source of stable funding, because deposits can be managed in the long term, have little fluctuation in total value, and also the costs are relatively low. On the other hand, their large mortgage portfolio places a large burden on their required stable funding, but this already levels out really well as their NSFR is already 100 percent and likely to increase.

This strong retail focus and ABN AMRO's mortgage portfolio is also indirectly the reason for the low LCR. Loans and mortgages are long term assets, and do not contribute to the liquidity position of the bank. That's why they need to attract more liquid assets, such as cash and marketable securities

ABN AMRO Clearing will have to undergo the biggest reforms, as the MiFID II, EMIR and Dodd-Frank act are slowly starting to change the derivatives market. ABN AMRO has to adept their transaction processes the regulated OTC trading with central counterparty clearing. This is at the same time a big opportunity for ABN AMRO as a whole to reestablish themselves as a global player. With upcoming mandatory CCP clearing ABN AMRO can lead the way as a clearing facilitator for global corporations and other banks, especially within the energy, commodities, and transportation business.

BNP Paribas

BNP Paribas is the largest investment bank in this research. Half of their assets and liabilities are allocated to their corporate and investment banking business. Therefore they have riskier business model than most banks, which means they are likely to pay more contributions to the DGS (possibly up to about three times more than less riskier banks). This is the price they pay for funding their investment banking activities with deposits funding. On the other hand, the global presence of BNP Paribas can be exploited to the search for other (stable) funding opportunities to keep the cost of funding manageable.

Although BNP Paribas' debt securities are strongly affected by MiFID II and PROSP and requires some structural changes across the whole securities value chain, their large securities portfolio also has an important advantage. Due to the fact that these securities (bonds and treasury bills) are eligible as high quality liquid assets it should be no problem for BNP Paribas to reach the LCR requirements.

The NSFR on the other hand is largely under pressure due to the derivatives portfolio and the relatively large sum of non-collateralized loans which both require large amounts of stable funding. Therefore BNP Paribas either needs to attract large sums of deposits, or divest large parts of their derivatives portfolio. With a rising corporate deposit market and the large corporate client base of BNP Paribas these deposits can ideally be sought at their existing corporate clients (Watt, 2011). The fact that BNP Paribas is also disposing risky assets to reduce their RWA to reach the CAR target will also help lowering the NSFR, as risky assets tend to require large amounts of stable funding.

As pointed out, BNP Paribas is also one of the world leaders in derivatives trading and will be significantly affected by the MiFID II and EMIR, but also the Dodd-Frank act. They will have to shift large parts of their operations to regulated markets and Organized Trading Facilities, which limits their possibilities to tailor client contracts and obliges them to clear their derivatives through central counterparties. Also they're required to increase transparency and reporting requirements for their derivatives operations. This will require a major process transition on a relatively short term.

Combing the facts that BNP Paribas is seeking to reduce their RWA and their required stable funding, and the upcoming market and procedural changes in the derivatives market it is decision time for BNP Paribas, as they have to change course with their derivatives business.

Last but not least, FATCA will require BNP Paribas to enter into an agreement with the IRS, as they have significant U.S. banking operations. This requires far going new operations including: changing customer on-boarding; account servicing; and account upgrade processes in all channels for both individuals and entities. Also they need to set up new processes to request, collect and validate tax forms and subsequently report/ withhold on the customers.

Crédit Agricole

Crédit Agricole is a very large co-operative retail bank with a very large derivatives portfolio. With many domestic and foreign retail clients their estimated DGS contributions are by far the largest of the banks discussed in this research. This large deposit base ensures a large amount of stable funding. Unfortunately, similarly to BNP Paribas, this is not enough to cover the immense stable funding requirements of the large derivatives and loans portfolio. This requires for similar action. Crédit Agricole either needs to raise extra funds through their large retail customer base, or also divest a large part of their derivatives portfolio. But given the fact that the deposits base is already under pressure due to the DGS contributions, Crédit Agricole can also attract mid- or long-term funding by issuing debt securities via UCITS funds, as with the new UCITS V rules they become more and more marketable within, but also outside Europe.

With a possibly very low LCR due to the assumed large cash flows, and relatively few liquid assets Crédit Agricole has to attract more highly liquid investments to overcome these LCR problems. In other to reach the LCR requirements they can divest part of their derivatives portfolio and attracting more liquid instruments like sovereign debt securities.

For the currently relatively small portfolio of debt securities MiFID II and PROSP still have significant effects on Crédit Agricole, as they have very large asset management, private banking and advisement activities. These activities require enhanced transparency and reporting, especially for the relatively small clients, which is the largest part of their client base. They have to clearly align their product offerings to the new regulations with new conditions for clear cut target groups.

The CAR is not really a problem at this point due to the co-operative structure they have enough regulatory capital to meet the Basel III/CRD IV requirements, as long as the minority interest in the regional banks are recognized. The RWA will also decrease as a result of divesting part of the derivatives portfolio, which makes it even more likely that they will meet the requirements.

Finally the elephant in the room that basically hinders Crédit Agricole to reach the Basel III/CRD IV requirements and causes an estimated leverage ratio of 2.17 percent is the disproportionate derivatives portfolio. The problems with their derivatives portfolio reach far further than implementation issues of MiFID and EMIR (which of course will also force Crédit Agricole to change their processes). The fact that these financial instruments do not contribute to a better LCR or NFSR, and carry a high risk weight makes them a real issue, especially when there is not enough funding and liquidity in the first place. This requires serious restructuring of Crédit Agricole's balance sheet along with procedural and operational changes required by MiFID II and EMIR.

Dexia

Dexia is by far the worst bank, as already came forward during the assessment. Dexia's assets and liabilities have no structure and are spread across several non-strategic investments. Their assets are tight up in their legacy portfolio, and public and wholesale activities, and they've sold the largest part (DenizBank) of their only profitable business (their retail branch), leaving the rest of their retail operations for sales.

Issues about new regulations like the CAR, LCR, NSFR, leverage ratio, but also regulations like MiFID for example are not relevant at this point in time. The first thing Dexia needs to do is pay off their debts and divest their legacy portfolio. When this is done they can inventory the remaining assets and liabilities, and see whether there is basis for a going concern, but it is very well possible that they look for takeover candidates, or divest the company.

Some might consider this prognosis quite extreme, but would be virtually impossible for a bank with no capital, no client base and a heavily damaged image to build-up a new bank out of nothing, or repurchase the Belgium retail operations from the Belgium government.

ING

ING Bank is a textbook example of a straight forward retail bank, with geographically dispersed activities. They are almost exclusively funding by deposits and have a large mortgage portfolio. This combination carries very little risk, which results in a healthy capital ratio that ING intends to improve by strengthening their capital base, and divesting high risk weighted assets from their relatively small trading portfolio. On the other hand ING should not become too dependent of the retail interest rates.

Their current estimated NSFR of 85 percent is likely to increase already with the planned increase in capital and the divestments, but will be further improved by attracting additional funds through deposits. The new European DGS will help them do this by providing their customers extra safeguards.

Also their LCR is almost at the required level, and will be further improved by replacing maturing non-eligible assets with eligible ones. In this way ING will automatically grow to the target level of 100 percent. Although ING is not already fully Basel III/CDR IV proof, they have a very balanced strategy to reach these goals with a balance sheet that allows for quick adjustments to reach the requirements.

Since ING has little to no securities and do not actively trade in derivatives they are hardly affected by new regulations such as the Lamfalussy directives, EMIR or the Short Selling Directive. Also the fact that they sold their U.S. Banking operation makes that they experience no effects of the upcoming U.S. regulations.

KBC

KBC is just like ING a bank with a very homogeneous portfolio, which is combined with insurance operations. KBC is also almost entirely funded with deposits and has therefore has to pay significant contributions to the European DGS for a small bank. These funding costs can further increase when they need to attract extra deposits to meet the Basel/CRD IV requirements.

Their current CAR is very healthy, but expected to drop significantly as minority interests and their large amount of deferred tax assets will partially fall out the Common Equity Tier 1 capital requirements. This is especially troubling because they have a very high RWA of 44 percent. Therefore KBC has revised their strategy and will divest high-risk weighted assets such their ABS and CDO portfolio to reduce the total RWA. KBC has also relatively few mortgage loans and more un-collateralized customer loans than the Dutch banks with retail focus. These riskier loans also place a relatively heavy burden on the RWA and therefore the CAR. If divesting their foreign ABS and CDO portfolios turns out not to be enough KBC can consider, to gradually shift their loan portfolio to more collateralized loans to reduce their RWA.

The NSFR of KBC should be easy to manage, as they have large amounts of available stable funding with their deposits. Also un-collateralized customer loans that might require too much stable funding can be divested just like this option is available to decrease the RWA. The LCR is more of a concern for KBC. With relatively few high-quality liquid assets and large potential cash outflow it will be difficult to reach the LCR requirements. They certainly need to attract more liquid assets, which can be financed via the disposal of high-risk non-liquid assets.

KBC also has a large asset management division, which will be affected by MiFID II, PROSP, TD, UCITS V and AIFMD. They need to comply with MiFID II and TD in terms of reporting and transparency requirements, but they also need to realign their investment strategy to the changing funds regulations, as the dispersed European funds market is expected merge to create larger and more stable funds due to the new Master-Feeder structures and the EU passporting.

Rabobank

Rabobank is the best-positioned bank of the eight that were reviewed. They have the highest CAR, one of the highest leverage ratios, and good indicators for a healthy LCR and NSFR with large amounts of cash and available stable funding. Also the fact they already have amended their Member Certificates to make them eligible Common Tier 1 Capital signals a pro-active and transparent attitude.

If it's necessary to increase their LCR Rabobank can consider securitizing part of their large mortgage portfolio. Another option is to increase liquidity is to invest in marketable sovereign debt securities, as they have virtually no such assets in their portfolio at the moment, and gives better returns than their very large cash reserves. Sovereign debt securities also require little stable funding which makes them also beneficial for the NSFR.

Currently there are no signs that Rabobank should worry about their NSFR. They have relatively few high risk weighted financial instruments (except for their modest derivatives portfolio), and a large sum of deposits. Might Rabobank want to attract more available stable funding; Rabobank's international food & agri focus can help them raise extra funds via commercial deposits from food & agri related corporations as they have extensive knowledge of the food & agri market and are therefore the preferred bank for many food & agri corporations worldwide.

The food & agri focus also shows in Rabobank's derivatives portfolio. Rabobank specializes in creating and trading agricultural commodities to complement their services offered to their food & agri clients. Given their global approach, Rabobank will also be affected by the U.S. Dodd-Frank Act, and particularly the derivatives reforms. Fortunately the U.S. derivatives reforms are focused on swap clearing, and do not particularly affect the commodity business. Therefore Rabobank is only concerned with additional transparency and reporting requirements, along with an additional set of rules of business conduct. Ideally Rabobank should align these new requirements with the new European regulations such as EMIR and MiFID II who will standardize as many contracts as possible and shift part of the derivatives trading to exchanges and Organized Trading Facilities.

Another U.S. issue is FATCA. Rabobank will practically be forced to enter the IRS agreement, as abandoning their customers is not an option because the U.S. market is too important for Rabobank. Also obligating customer to pay withholding tax will cause them to switch to competitors. Just like with the new capital and liquidity requirements Rabobank already recognized the situation and pro-actively indicates that they will take on the new responsibilities.

Société Générale

Société Générale is a well-diversified bank in terms of operations, with significant retail banking, investment banking and asset management activities. Both in terms of geographical allocation and activities Société Générale is very comparable to Crédit Agricole.

Société Générale will encounter some serious problems to reach the Basel III/CRD IV requirements with (apart from Dexia) by far the lowest capital ratio of the investigated banks. The problem lies in their high risk portfolio, as they have more than enough capital compared to other (larger) banks. This is probably one of the reasons that Société Générale intends to reach the capital requirements without raising additional capital. This implies that they need to increase their earnings and seriously need to lower their RWA in a relatively short period of time. The risk mainly lies in their large derivatives portfolio, and partially in their un-collateralized loan portfolio, which therefore both need to be reduced significantly.

The other, more serious problem for Société Générale is their low NSFR. Just like with the other French banks, their large derivatives portfolio, and their relatively few collateralized loans require enormous amounts of stable funding, that only can be provided by deposits and equity. Since Société Générale already indicated not to raise extra capital they need to increase their deposits and divest assets that require stable funding. Fortunately these assets significantly overlap with the high risk weighted assets. Logically they should therefore divest assets with both a high-risk weight and a high required stable funding factor.

The current status of the LCR remains unknown, but considering the changes that already need to take place due to the CAR and NSFR the LCR shouldn’t be too much of Société Générale’s concern. The fact that they need to deleverage and divest part of their portfolio generates liquidity, which automatically improves the LCR. The best way for Société Générale is to keep a low RWA and NSFR, and also increase liquidity is by attracting low risk sovereign debt securities. Another potential investment objective could be UCITS, as they already have experience with these instruments, and the new UCITS V directive provides more safeguards.

The impact of MiFID II and EMIR, and also the Dodd-Frank act will have significant impact on their derivatives operations. As discussed MiFID and EMIR together introduce structural market changes, which require Société Générale, to change their derivatives trading processes (other than those coming from Basel III/CRD IV). The combined fact that they need to divest parts of their derivatives portfolio and this is the core of Société Générale’s investment banking activities that will face comprehensive regulatory reforms will turn the investment bank upside down. The real challenge for Société Générale is to formulate a new investment banking and derivatives strategy, and be very selective in derivatives investments as they place a large burden on the regulatory requirements.

Table 17: Concluding overview of opportunities and challenges

	Opportunities	Challenges
ABN Amro	➢ Let ABN Amro Clearing benefit from derivative reforms (MiFID II, EMIR, Dodd-Frank) by acting proactively and staying on top of the derivatives market	➢ Attracting more liquid assets to increase LCR due to large illiquid mortgage portfolio
BNP Paribas	➢ Large global presence can be used to attract new (stable) funding	➢ Tightly managing funding costs as they are likely to rise ➢ Reduce RWA to increase NSFR and CAR by disposing high risk assets
Crédit Agricole	➢ Investing in marketable debt securities to acquire more liquid assets and diversifying their portfolio to reduce RWA	➢ Raising additional stable funding in a saturated domestic market ➢ Align product offerings to MiFID II and PROSP while maintaining attractive retail products
Dexia	➢ Trying to rebuild a new brand around the remaining domestic retail operations after disposing their other assets	➢ Regaining strategic focus ➢ Raising new capital
ING	➢ Becoming a textbook example of a solid worldwide retail bank ➢ Exploiting their direct retail channels to raise additional funds worldwide when necessary	➢ Improving their liquidity ratios and remain in the top of healthy banks in Europe
KBC	➢ Exploiting multi-channel "bankasurer" market approach to attract funding at attractive rate to increase NSFR	➢ Proactively respond to the expected drop CAR drop ➢ Realign asset management strategy with changing fund market
Rabobank	➢ Expanding product offerings in food & agri niche ➢ Proactively implementing new U.S. regulations and capitalize on safe image and reputation in the U.S. and become a preferred overseas bank	➢ Maintaining image and reputation of one of the safest EU banks by keeping top-range capital and liquidity ratios
Société Générale	➢ Restructure their derivatives operations and take advantage of both the derivatives reforms and the need to divest part of the high risk portfolio	➢ Reducing RWA to increase NSFR and CAR by disposing high risk assets

Chapter 13 - Overall trends and observations in the banking sector

The first chapter of part IV concluded the outcome of the analysis of the eight individual banks. The remaining of this chapter will take a step back and will give an aggregated view of the trends and impact of the changing regulation on the banking sector as a whole. The following paragraphs will separately address the identified instrument categories and will focus on impact effects that influence multiple banks and identify common issues that arise from the new regulations. Table 18 and 19 will provide an overview of the main trends and conclusions per financial instrument category, after which the chapter will be concluded with an overall conclusion.

Un-securitized debt and deposits

All the banks in this research, as any retail bank, rely very much on deposits. It's therefore inevitable that the new European Deposit Guarantee Schemes and the according contributions will affect all banks. For many it's just an inevitable extra cost on top of the paid interest that comes with funding via deposits. Rough estimates made in chapter 3 indicate an increase of at least several base points. For banks with a higher risk profile (often with larger investment banking activities) such as BNP Paribas and Société Générale, the contributions can mount up to 3 times the contributions of a pure retail bank. Indirectly the DGS contributions are therefore also a penalty for having a higher risk profile and give riskier banks a higher cost of funding than banks with a safer risk profile. With these kinds of penalties these banks are forced to seriously reconsider their risk profile.

Additionally there are also the Investment Compensation Schemes, but these were not further discussed in part III. It's a very relevant new regulation for small private investors that benefit from a little extra protection, but for larger investors the protection is too little to make a difference. Besides that professional investors will incorporate the extra protection in their pricing and risk management models, which eliminate the protection effects for them. Also banks will have very little influence from the new schemes, as contributions are very limited because few clients have portfolios over €50.000, and the target fund level is only 0.5 percent of the value of the covered assets.

The minimum reserve requirements have not been discussed further in part III of this research. Although the regulations for the minimum reserve requirements have changed, they will not affect any of the banks. The fact that the requirements are lowered, and because each bank in this research has plenty of cash to meet the target requirement of 1 percent (see table 5 in chapter3) makes it not an issue in any way for these banks.

Debt securities

Markets in Financial Instruments Directive II

The Markets in Financial Instruments Directive II has a very broad scope, and affects all types of securities, a large part of the derivatives market, and also even some equity instruments. The new changes are split up in four groups: market structures, transparency, conduct of business and organizational requirements. It therefore impacts all banks engaged in securities and derivatives trading because MiFID II changes these markets, as it requires banks to improve their reporting systems; change the way they advise their customers; and implement detailed compliance and risk procedures. Given these facts MiFID II does not directly provide benefits to banks or instruments. Its objectives are to enhance the integration and efficiency of the EU markets, but also to create a plain level playing field for fair competition. Especially this last part stabilizes the market, and provides more customer protection, as banks have to comply with stricter regulations with regard to product offerings.

Prospectus Directive

The Prospectus Directive also affects many banks that target small private customers to invest for example (pension) savings. As the new exemption thresholds put many old potential "non-prospective clients" out of scope banks either need to publish prospectuses for many of their offerings that were previous offered without one, or they have to increase the minimum denomination for certain offerings to remain out of scope. This first option might be advisable for offerings of specialized retail banks such as Crédit Agricole or KBC, as they try to remain to serve the investment needs of private individuals. The latter option would be advisable for securities offerings that were already targeted to mid- and large-size corporations looking for investment possibilities. Due to their professional nature they have no need for a prospectus and benefit from less administrative burdens. These two options will force banks to create more distance between the investment activities of private individuals and larger corporations, which can eventually result in a stricter set of offerings to both categories in the future. This of course is mainly done to protect the private individual.

Other Lamfalussy Directives

The Market Abuse Directive II and the Transparency Directive ensure stricter supervision on the financial sector by strengthening the powers of the regulators and requiring banks to provide a regular flow of information. Although the MAD aims to detect and prevent market abuse, and the TD also has the objective to provide standardized market insight for investors they both have the same effect on banks. Both directives require additional administrative procedures for banks, but these can be considered to be the same for each bank. Also they're not substantial, and certainly do not influence the use of financial market instruments. Therefore they were therefore not further discussed in this research.

Equity and Basel III/CRD IV

The biggest influences of all the new regulations in this research are the Basel III rules and the Capital Requirement Directive IV. Main challenge for all banks is to get the capital and liquidity ratios at the target levels, especially the CAR, which already will be introduced in 2013. Especially Dexia and Société Générale will have a hard time reaching their target levels, as they already have very low CARs and also relatively large amount of deferred tax assets that will be eliminated as Tier 1 Capital. Other banks like BNP Paribas and Crédit Agricole, ING and KBC have to be very careful to reach the target level as they can expect a significant drop in their CAR due to the transition to stricter capital requirements, and increased risk weights. Therefore they probably also have to divest part of their high-risk weighted assets to reduce to total RWA.

Remarkable is that the banks with the most worrying capital positions are explicitly stating that they do not need to raise additional capital, as in fact they needed it the most. This could typically be explained as an attempt to reassure doubting investors to keep their money invested.

The other two ratios, the LCR and the NSFR are also a painful topic for banks like BNP Paribas, Crédit Agricole and Société Générale. This is mainly caused due to their large derivatives portfolios, which require large amounts of stable funding and are highly illiquid. As the LCR is a short-term measure it can be adapted relatively quickly by interchanging illiquid assets for liquid ones such as cash and marketable securities. Therefore the LCR problem should be solved relatively quickly, as illiquid assets can be replaced by liquid assets as they gradually flow out of the portfolio. The NSFR on the other hand is more difficult to manage on the short term, as stable funding almost solely comes from deposits, which cannot be increased on the short term. Also, many instruments that require large amounts of stable funding need to be replaced with assets that require less stable funding. These assets are also typically long-term assets, which might be difficult to divest at acceptable market rates on the short term. The key solution to increase all three ratios are (sovereign) debt securities, as will be explained in the next chapters.

Corporate and sovereign debt securities are beginning to play a significant role due to the Basel III/CRD IV reforms. The key parameters of these reforms are the CAR, LCR and NSFR and many banks have problems to meet these ratios with their current portfolio. As banks cannot raise infinite amounts of additional capital they are forced to lower their RWA to reach the target levels of the CAR. This is also indirectly linked to the LCR and NSFR, which will also be outlined in de next two paragraphs. Lowering the RWA can only be done by divesting high-risk weighted assets and replacing them with less riskier instruments. Debt securities are a very suitable option for this as they carry low risk and provide a steady yield.

Besides the CAR, debt securities also help lowering the NSFR. The NSFR relies only solely on deposits as stable funding and can be difficult to increase in a short period of time. To increase the ratio banks need to reduce the amounts of required stable funding, which means divesting assets that require high amounts of stable funding, such as derivatives, and un-collateralized loans, and replacing them with assets that require less stable funding. Again debt securities are the ideal assets for replacement, as they require very little stable funding.

On top of that debt securities can also increase the LCR. The best way to increase the LCR is to increase the high-liquid assets, as cash outflow is hard to alter without changing the entire portfolio. Besides cash and cash reserves, marketable debt securities are the only other assets eligible as high-liquid assets. This means that they also can be used to increase the LCR. As these debt securities can help increase these three very important ratios, these debt securities are very likely to become increasingly important and attractive for banks struggling with one or more of their Basel III/CRD IV requirements.

Funds

UCITS

UCITS are becoming more popular due to the low risk as they are by definition diversified and also relatively easy to market due to their uniformity. This makes them a good alternative to invest in next to debt securities, as they carry relatively little risk they are a good investment alternative to keep the required stable funding and risk weighted assets minimized. A potential downside is that UCITS do not positively contribute to the LCR.

For now UCITS are only used as a low risk investment instrument by few banks, but UCITS can also help banks sell issued debt securities, like for example with the covered bond program of ABN AMRO. In this way the securities are marketed within a diversified package that is marketable in the entire European Union with many standard features that are known throughout the market. Therefore UCITS are not only becoming more popular as an investment instrument, but also as a way to market their fund raising activities.

Lastly UCITS (and to a lesser amount also AIF) can also be used by private banker and asset managers to structure their clients' assets, and invest them in a diversified way, with the choice of many funds all across Europe. It's therefore expected that with UCITS IV, the UCTIS will also become more popular for investment managers and private bankers.

Money market funds

Money market funds, on the other hand, are becoming less popular (especially constant NAV funds) due to cash requirements and the fact that they are non-eligible as high-quality liquid assets for the LCR. Therefore they seem like a no-go for banks these days. Before the introduction of the LCR banks could count on money market funds for their liquidity and still earn a modest return. Now the LCR excludes money market funds as an eligible high-liquid asset these funds are practically useless for all banks that are confronted with the LCR. The only liquid assets that remain useful are cash and marketable securities.

The only purposes these funds can serve are as a liquid buffer for asset managers and private bankers. Many clients prefer to have a little part of their assets readily available. Money market funds are therefore a good solution, as they provide a better return than cash, and are (instead of marketable securities) very diversified, and are therefore less volatile. So unless banks have specific intentions like described, they are becoming less and less useful, and are therefore likely to almost entirely disappear within the banking sector.

Alternative Investment Fund Managers Directive

The AIFMD has little to no effect on the banks discussed in this research. Nevertheless the substantial opportunity has emerged to attract extra depository funding outside the DGS, as AIFMs are required to use independent third party depositories for their AIF assets to enhance customer protection. This is especially interesting for banks that already have relatively large wholesale and commercial banking activities with asset/liability management services, as it would require little extra to facilitate the AIFM depositories. This will lower the cost of funding, as these types of deposits generally require less compensation than retail deposits.

Additionally these deposits can also help to increase the banks' Net Stable Funding Ratio and (to a limited extend) their Liquidity Coverage Ratio as part of these assets are likely to be eligible high-quality liquid assets.

Derivatives

The most obvious new derivatives regulation that affects many banks is the European Market Infrastructure Regulation (EMIR), which mainly focuses on the previously unregulated OTC market. BNP Paribas, Crédit Agricole and Société Générale will be most affected, as they have large derivatives portfolios, but also ABN AMRO needs to readjust their clearing operations to comply with EMIR. The most important issue of EMIR is the mandatory CCP-clearing for contracts that have been standardized. This will tie-up extra cash with makes the banks less liquid. Additionally EMIR introduces extra transparency rules, which requires European financial intuitions to provided detailed information on OTC derivative contracts, and also requires them to publish aggregated data of their derivatives positions. The plus side of these changes is that the banks that are affected the most, also benefit the most in terms of lesser exposure to counterparty credit risk, which significantly lowers their risk profile.

Another big influence on the derivatives market is MiFID II. Although MiFID II does not specifically targets the derivatives market, new rules of business conduct, more transparency and reporting are required for all players in the derivatives market. Fortunately these measures can be implemented relatively easy for many players. The most significant change, which is more rigorous, is the mandatory shift towards exchange facilities and OTF's that requires mandatory CCP clearing for many contracts to capture new business models in the derivatives market.

The obvious trend (and not only in Europe as will be seen in the next paragraph) is the stricter regulation of the derivatives market in many ways: more transparency, stricter reporting criteria, but most importantly the shift from OTC markets to regulated exchanges and trading platforms to reduce the counterparty risk and exposure throughout the financial system. With this shift banks have less freedom to create their own products, as many types of derivatives need to be standardized for CCP-clearing and exchange trading. Also banks will need to reserve more collateral and post more margin, which discourages them to keep large exposure on their derivatives. This regulatory change is in line with the Basel III/CRD IV regulations, as they also strongly discourage large derivatives portfolio by imposing high risk weights and required stable funding on these instruments.

U.S. Regulations

Many banks fear the Dodd-Frank Act, as it drastically reforms the financial markets in the U.S., and little is known yet about the impact on European banks. This fear turns out to be largely unjustified, as remarkably enough the Dodd-Frank Act will not really be an issue for most European banks. This is because the Dodd-Frank Act only applies on banking operations within the U.S., and is irrelevant for banks that do not have U.S. banking operations. Even when they do have U.S. banking operations, they can quite easily work around many of the new rules. For example the Volcker rule, which bans proprietary trading, can be worked around by making sure that all proprietary trading is done in a European subsidiary, with no direct connections to the U.S. banking entities. Also the Collins amendment is not an issue, as it targets TRUPS, which are not held by European banks, as they do not profit from any tax benefits in the EU.

The only issue that will affect European banks is the derivative reform, which in a way is very similar to EMIR and MiFID II. The Dodd-Frank Act requires all swaps to be cleared through designated clearing organizations. Additionally they are subjected to stricter reporting requirements, they have to comply with a stricter set of rules of business conduct and position limits are introduced to control the exposure. This is particularly troubling for the larger banks that trade derivatives in the U.S. like BNP Paribas and Société Générale, but also for ABN AMRO that is trying to create a worldwide position in derivatives clearing.

The Foreign Account Tax Compliant Act is a new U.S. act that affects all foreign financial institutions that have operations in the U.S. Except for Dexia, ING and KBC all the banks discussed in this research will be affected in some way. Especially BNP Paribas and Rabobank will need to pay special attention to the FATCA implementation as they both have large retail branches in the U.S. It will not directly influence financial instruments, but it will interfere with all product offerings in the U.S. FATCA is therefore a burden for everyone and leaves banks no choice to either abandon their U.S. operations, or comply with the new Tax Act. Although the Dodd-Frank Act overshadows FATCA, FATCA will probably have a larger impact on European banks then the Dodd-Frank Act, as they cannot circumvent this tax law, as can be done with the main parts of the Dodd-Frank Act. Banks therefore have to carefully consult with their tax advisors and set- up the proper administrative and reporting processes, but also on-board their customers in an early stage and explain the requirements and consequences. If this is done properly FATCA should be no problem, and the banks can smoothly enter into the IRS agreement without scaring off clients with new tax-law or missing to report any of the requirements.

Table 18: Main trends and conclusions

	Main trends and conclusions
Un-securitized debt and deposits	➢ *EU Deposit Guarantee Schemes* contributions will increase the cost of funding via deposits with at least several base points. Especially retail banks primarily funded by deposits and investment banks with high risk profiles will be affected ➢ Investment Compensation Schemes and Minimum Reserve Requirements both have an insignificant impact on all investigated banks
Debt securities	➢ *MiFID II* affects all banks engaged in securities and derivatives trading and changes these markets, as it requires banks to improve their reporting systems; change the way they advise their customers; and implement detailed compliance and risk procedures ➢ New exemption thresholds in the *Prospective Directive* will force banks to create more distance between their investment offerings to retail clients and professionals/eligible counterparties. this will result in a stricter sets of product/instrument offerings to both categories ➢ Remaining *Lamfalussy Directives* have no substantial impact on financial instruments and only require changes of an administrative nature.
Equity and Basel III/CRD IV	➢ *Basel III* is the biggest challenge for all banks. The main priority for nearly all banks is to get the capital and liquidity ratios at the target levels, especially the CAR, which already will be introduced in 2013 ➢ Many banks are required to raise additional capital, deleverage, and/or (partly) divest high risk weighted portfolio. The latter will also help to increase their NSFR. ➢ (Short-term) Marketable debt securities will become increasingly popular, as they require little stable funding and are marked as high-quality liquid assets, which decreases the required stable funding in the NSFR, and increases the LCR

Table 19: Main trends and conclusions (continued)

	Main trends and conclusions
Funds	➢ *UCITS* are becoming more popular due to the low risk as they are by definition diversified and also relatively easy to market due to their uniformity. This makes them a good investment alternative next to debt securities for banks seeking to lower their risk profile, as they carry relatively little risk and keep the required stable funding and risk weighted assets minimized. ➢ *Money market funds*, on the other hand, are becoming less popular (especially constant NAV funds) due to cash requirements and the fact that they are non-eligible as high-quality liquid assets for the LCR, which makes other alternatives more favorable ➢ The *AIFMD* depository requirement is a good opportunity for banks to raise large amounts of depository funding outside the DGS scope and can potentially increase the NSFR and LCR
Derivatives	Both *EMIR* and *MiFID II* aim to largely reduce counterparty credit risk: ➢ The derivatives market will be largely shifted from OTC markets to Exchanges or Organized Trading Facilities, which standardizes derivative contracts and eliminates counterparty risk. ➢ Additionally, mandatory CCP-clearing will be introduces in large parts of the OTC market. Clearing houses need to be looped in the trading process. This will shift credit risk away from the brokers and dealers, which consequently will lower their fees, as it will significantly lower their risk exposure.
U.S. Regulations	➢ The *Dodd-Frank Act* has less impact on European banks than feared by most banks as it specifically targets U.S. banks and holding companies. Most new rules are easy to bypass for EU banks or simply not applicable. ➢ Nevertheless it does require all swaps traded in the U.S. to be cleared through designated clearing organizations and banks have to comply with stricter rules of business conduct and position limits are introduced to control their exposure. Both rules are quite similar to rules introduced by EMIR and MiFID II ➢ *FATCA* is a new U.S. tax law that affects all foreign financial institutions that have operations in the U.S. European banks will be subjected to strict reporting and notification duties. Banks need to set- up the proper administrative and reporting processes. Banks should also on-board their customers in an early stage as it will also affect the tax-collection process of their customers

Overall conclusion

With this final analysis it shows that the financial markets will be heavily regulated for the coming years. The financial reforms stretch throughout the entire financial sector, but particularly influence the relatively high-risk instruments such as derivatives markets and un-collateralized loans. First of all Basel III/CRD IV severely limits the possibilities to carry large portfolio with these instruments which requires many banks to dispose parts of these portfolios. Secondly the derivatives are also influenced directly through EMIR and MiFID, which requires banks to standardize contracts, move the instruments to regulated markets and requires them the clear as many derivatives as possible through central counterparties. This is turning the whole OTC market upside-down and will force involved banks to seriously readjust their strategy.

Other regulations like for example the Deposits Guarantee Schemes, Investment Compensation Schemes, MAD and UCITS (V) are all very welcome changes for everyone. Although some of these regulations bring along extra costs, they are evenly spread among the banks that receive the most protection, as for example with the DSG and ICS and provide great protection to all banks and their clients, which stabilizes the market. Also MAD requires additional reporting and gives more power to regulators to intervene in bank's operations, but that is the price they pay for a fair and stable market without abuse by some banks. Others like UCITS V pave the road for new opportunities, and clear out administrative roadblocks that hinder banks to easily market their products across the European Union.

Finally it can be said that with over a dozen of new or changed regulations that need to be implemented the coming 3 years, these are probably the most turbulent times that banks have ever faced in terms of regulatory changes. After 2015 most of the regulations are implemented except for Basel III/CRD IV and the DGS, which remain an issue until 2019 and 2020 respectively. Time will tell whether these regulations will be replaced by even stricter regulations that will further tighten up the financial sector or that after the recovery of the financial sector, these regulations will be deregulated to some extend to stimulate the free market, and allow for a clearer playing field.

Chapter 14 - Discussion

This final chapter will introduce and briefly discuss additional questions that arise from this research, and might be new starting points for additional research. It is divided in two sections. First some points of interest will be highlighted from a regulations and instruments point of view, and secondly the banks will be discussed as a whole (i.e. the macro impact of the changing regulations on the banks)

Regulations and Financial Instruments

Historical trends

As was already slightly touched at the end of the last chapter, these new regulations are altogether probably the most rigorous financial reforms in the history of the modern financial sector. Many markets that were previously relatively unregulated will now undergo severe reforms resulting in heavily regulated markets to prevent events like the 2007 financial (and subsequent economic) crisis. It can be argued that after a large financial crisis, regulators tend to come up with additional regulations in order to prevent such a crisis from ever happening again. This can for example be observed after the Great Depression in 1930s, after which the U.S. Government introduced famous Glass–Steagall Act in 1932; but also the introduction of the Sarbanes–Oxley Act in 2002 after the dot-com bubble burst, and the Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom scandals. Similar trends can now be observed with the Basel accord, the Lamfalussy Directives and the Dodd–Frank Wall Street Reform and Consumer Protection Act. Obviously things need to go real bad before regulatory action is taken, but in times of prosperity these regulations are also often adjusted to allow for competition and free market activities. Now the interesting question rises to what extend these regulations will hold-up the coming decades, or how they maybe even will become stricter. Suggested additional research could be conducted to identify long-term regulatory trends by taking together all the financial crises and recessions and the according regulatory actions. By doing so it can be verified whether all these changes are a one of a kind happening, of which the consequences will last for decades, or that these are typical regulatory adjustments that can be foreseen every decade. This will give a better understanding of the current changes and the impact it will last on the financial sector.

Globalized frameworks

Another trend that provides some food for thought is the tendency of regulators to create broader global regulatory frameworks to capture many rules in one regulation, directive or Act. The biggest example is the U.S. Dodd–Frank Wall Street Reform and Consumer Protection Act, which covers all financial topics from proprietary trading, tax benefits, derivatives reforms and securities regulations. Other examples are for example the Basel capital and liquidity frameworks, and the Lamfalussy process. All are set-up with a very broad scope, covering a lot of different topics.

There are two opposite points of view here. The generalist would say that this is a good response in trying to capture as much rules as possible in one regulation or framework that is recognized by the entire EU, or in case of Basel almost the entire world. This will bring uniformity in the market, and also allows for a plain level playing field in global markets such as the securities and derivatives markets. This would prevent having to pass several different laws for each market domain. With this line of reasoning one could argue for truly global financial regulations throughout the entire financial sector, like for example the Basel framework. A framework that can be implemented directly on a global scale, which for example only is applicable for globally operating financial corporations, without the interference of local governments that amend certain parts. This will homogenize the entire financial sector and will facilitate a plain level playing field and at the same time allows for quicker global adjustments.

On the other hand a sort of others could argue that all countries involved have different financial sectors, with different functions for banks, and regulations can therefore not be standardized. This is one of the reasons that for example the U.S. Dodd–Frank Wall Street Reform and Consumer Protection Act, has similar objectives as the European CRD IV, MiFID and EMIR, but is enforced differently, tailored to ensure the best enforcement on the local financial sector.

It will be difficult to achieve either of both visions, due to global politics, but the idea of such a fair market, without different regulations in the same market that only depending on a geographical location, remains an interesting topic of discussion.

Basel III follow-up

This research has put specific focus on Basel III/CRD IV, because it's the most influential change for the coming years and also affects the impact of other new regulations such as MiFID and EMIR. The analyses for Basel III were mainly of qualitative nature. The research could have been more meaningful with additional quantitative date about the CAR, LCR and NSFR, especially the ways they are calculated or estimated remains often unknown, as banks do not provide such information. The same goes for the RWA. It would be very interesting to see for some banks, which instruments carry the most RWA. Unfortunately there's little quantitative data available regarding Basel III for now, and it also goes beyond the scope and time span of this research to explore all the implications of such qualitative data. Nevertheless it would be very interesting to perform a quantitative research in 2013/2014 when all banks are required to report most of the Basel III ratios. This could verify the conclusions in this research, and as it can be solely focused on Basel III, and more data will be available it can be much more thorough than the analyses in this research.

Off balance sheet items

A final observation that needs to be addressed is the subordinated interest of the regulators in off balance sheet items. They are barely discussed in this research, but that is also partly due to the fact that they are hardly mentioned in all the new regulations that came across. Only Basel III slightly acknowledges the risk of off balance sheet items as they are incorporated in the RWA and required stable funding calculations, but only to a limited extend. The problem could be that off balance sheet items much harder to monitor, as they in many cases banks are not required to disclose much details of off balance sheet items in their annual reports. With all the effort that is put in regulating the securities and derivatives markets the next obvious step would also be to address the off balance sheet activities of banks and financial intuitions, and fully include these in the banking requirements. The shadow banking system still carries a lot of unrecognized risk, and banks are now stimulated to move more activities off their balance sheet, as current regulations tend to only attract the instruments that are on the balance sheet.

Banks

In order to maintain healthy during this time of changing regulations banks cannot only rely on their capital base anymore, as they are forced to lower their risk and make big adjustments to their portfolios in order to comply with the new regulations. Banks currently seek for extra competitive advantages to stay ahead (or alive). Looking at the banks in this research, many of the banks seek for those advantages in niche markets and specialized services, especially the Dutch banks. For example ABN ARMO focuses on Energy Commodities and Transportation (ETC), and provides specialized clearing services worldwide and Rabobank has a long lasting tradition in the food and agricultural business, providing a wide range of services to local farmers and agricultural entrepreneurs, and corporate financing services to large multinationals active in the food sector. ING bank on the other hands has no real niche market, but has a unique market strategy with many different direct channels to reach their customers all over the world. ING bank also has a very strong link with ING insurance, which is specialized in life insurances and pension schemes, through which they also have synergetic advantages. KBC also has a very strong insurance branch that is very much intertwined with its banking services. This gives them a unique position in the market, as a total solution for the private individual.

The French banks have lesser focus in their operations. Crédit Agricole also targets farmers and SMEs with a wide range of solutions, like Rabobank, but they focus merely on their domestic market. Also this is much less promoted, and not clearly communicated. BNP Paribas and Société Générale do not have such a clear focus or niche market at all. All three banks are very large wholesale banks, and are therefore presented in all kinds of banking operations.

Remarkable is that these last three banks, are the same banks that have trouble with their profitability (at least with part of their operations), and also have more trouble reaching the Basel III/CRD IV requirements than the other banks (except for Dexia). These facts therefore tend to suggest that such large banks are less viable these days, as they relatively underperform the smaller niche banks that have a very clear focus. The question remains whether this is because of the flexibility of smaller banks, or is it really because of their clear vision, and their strategy to position themselves in a niche market? It would be very interesting to see this investigated further in the future, as the conclusions could have a tremendous effect on the current status quo in the banking sector, especially with a lot of banks that have to reinvent themselves these days to remain in business or to reach the target levels imposed by the regulators. The fact remains for now, that smaller, specialized banks, with a clear focus remain much more agile and viable these days in a stressed market than the larger wholesale banks.

Appendix A - Retail & commercial banking, corporate & investment banking, and private banking & asset management

Today many banks operate in a broad variety of branches within the banking sector, with lots of different activities. Therefore it's not possible to compare these banks on a consolidated basis. Different operations need to be assessed individually. Therefore this chapter clearly states the different type of banking activities that exist (not exhaustive), and which of these activities will be considered in this research. Also in the light of the classification of financial instruments this clear distinction will be of interest, as these instruments are ultimately linked to certain types of business, in order to identify challenges and opportunities in certain business areas. Because this research focuses on largest (international) banks home-based in Gallia, this outline will comprise retail & commercial banking, corporate & investment banking, and private banking & asset management, as these are the main business domain of the banks in this research.

Retail & commercial banking

Commercial banks traditionally provide the "business as usual" banking services of small and large businesses. Typical services required by business are:

- Basis checking and savings accounts
- Lending money for real-estate and capital purchases (Backed loans)
- Lines of credit
- Letters of credits

Retail banks on the other hand provide banking services to the general public. Services provided typically are:

- Checking and savings accounts
- Certificates of Deposits
- Safe deposit boxes
- Mortgages
- Car loans
- Unsecured loans such as credit cards and personal credit

Although there's a (major) difference in transaction size between commercial and retail banking the nature of activities are the same, as the business models are alike: both only make use of interest rate instruments where they take short term deposits and provide long term loans. This also shows in the fact that there is no clear distinction between the two types of banks, as they all serve general public, as well as corporations nowadays (Pritchard, What is a Commercial Bank?, 2010) (Pritchard, What is a Retail Bank?, 2010) (Pritchard, What is an Investment Bank?, 2010).

Therefore commercial and retail banking are grouped together in this research. As the activities listed above make up the traditional business model of banks, and are still the core business of these banks, the financial instruments associated with these activities listed above are considered of particular interest to this research.

Corporate & investment banking

Investment banking is a more ambiguous term, as this term is widely used for several undertakings comprised with helping organizations use investment markets. Activities of investment banks can broadly be split into three main categories: (traditional) investment banking, market making and trading, and merchant banking. The three will be discussed in the below.

Traditional investment banking

Traditional investment banking consists of typical activities concerning corporate finance. Banks operating in this branch assist organizations with raising capital by helping them to issue stocks or bonds (only advice, not the actual IPOs), provide mergers and acquisitions services, or act as investment manager/advisor for organizations (Bloch, 1989). The fact that this type of banking only comprises advising and support activities, banks are typically not involved in the transaction process itself (i.e. the balance sheet of the bank itself is not affected). Instead, companies are billed for the services delivered by the bank. This also means that they don't use financial instruments themselves. Therefore these types of activities will not be considered in this research.

Market making and trading

Investment banks can also be involved in the actual trading process, by actively participation in the market. This can either be in the primary market as market makers, where they issue new equity and bonds for organizations (IPOs), or in the secondary market, where they assist buyers and/or sellers as broker or dealer. Within these three market structures (market making, dealer trading and brokered trading), banks profit from the price difference between the bid- and ask-price (spread). The three structures will be discussed below.

Underwriters that are active in the primary markets facilitate IPOs and act as market makers for some time after the issue is sold to the public and after the closing of the underwriting. As the market maker is always in-between the buyer and the seller, the position of the market maker represents the entire market structure on the other side of any trade by a seller of the security or by most buyers (Bloch, 1989). The market making structure is depicted in figure 1.

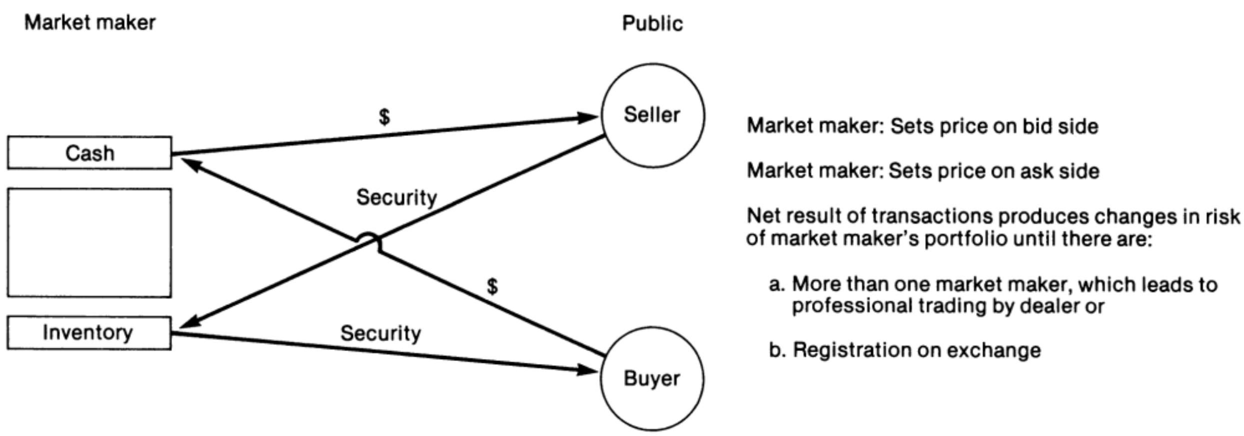


Figure 15: Market maker structure (Bloch, 1989)

In the secondary market one can either act as a dealer trader or a brokered trader. When acting as a dealer, the market participant sets a bid-and-ask price for each security that is offered: the price maker. When that bid is hit the security is bought from the seller with cash. The asset position is now less liquid and therefore riskier. The participant can readjust the entire bid/ask structure for the asset to lighten the security inventory, and reduce his risk; that is, lowering ask- and bid-prices. If on the other hand the dealer lays-off systematic or market risk in satellite markets, such as financial futures markets, the risk-reducing downward shift in inventory pricing may not take place. On the income side however, a fee has been charged to lay off the risk implicit in the larger securities inventory (Bloch, 1989). The dealer trader structure is depicted in figure 2.

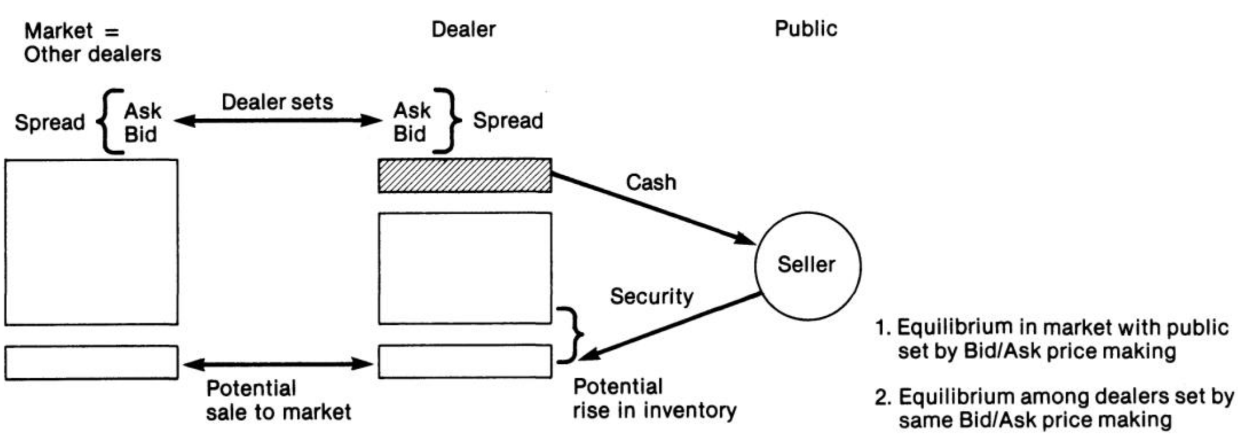


Figure 16: dealer trader structure (Bloch, 1989)

On the other hand brokered trading involves a buyer's agent and a seller's agent, both typically trading on an exchange. "Brokered markets are supported by a bureaucracy of floor personnel in charge of transacting securities, recording and publishing price and volume information, and reconciling cash flows and other transaction-related mechanics. A professional trading acting as an agent is a price taker, and all broker inventories in the market will be set by the same price –taking decision as those of other investors. Brokers incur no inventory risk for the completed agency transactions" (Bloch, 1989). The brokered trading structure is shown in figure 3 below.

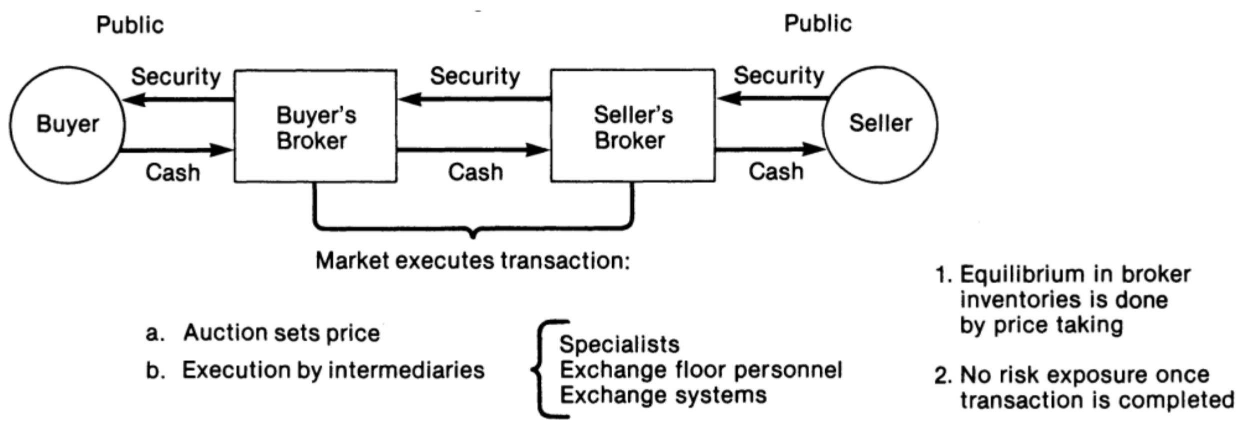


Figure 17: Broker trading structure (Bloch, 1989)

All these three discussed structures are applied by banks to facilitate services to their customers. The degree of risk mainly depends on the amount of security inventory that is held. Since securities and security regulation is a large part of this research, and securities are the main risk factor in market making and trading, these operations will be taken into account during this research, with special attention the amount and type of inventory that is held for these kinds of trading activities.

Merchant banking is a specific type of banking within the corporate and investment banking domain, which is associated with (private) equity investments in privately or publically held companies, and other associated advising services. Although no formal definitions exist, the Federal Deposit Insurance Corporation (FDIC) agrees on the following understanding: "negotiated private equity investment by financial institutions in the unregistered securities of either privately or publicly held companies" (Craig, 2002). The most commonly invested type of security is common stock, equity alike with equity participation features (preferred stock, convertible subordinated debt or warrants).

As equity is the primary investment instrument it will be of particular interest how equity-linked regulations (e.g. capital requirements) have their effect on these type of investment. Therefore the investment activities (and not the advisement-services, where no securities are held for) will be considered in the light of the equity related regulations.

Private banking & asset management

Private banking handles financial services wealthy, or so called 'High-net-worth individuals' (HNWI). To qualify for private banking services, clients must approximately have one million euro of free disposable income. The term private refers to the personal approach which characterizes private banking, in contrast to the mass market of 'ordinary' retail banking. The main job of private bankers is portfolio management, by saving and investing the client's capital, but they also engage in inheritances and tax (reduction) solutions (Bicker, 1996).

Private banking in the Netherlands and Belgium are traditionally a work area of exclusive banks small such as bank Degroof, Staalbankiers, Van Lanschot bankers, Schretlen & Co, Theodoor Gilissen bankers and bank Insinger the Beaufort. This is one of the reasons that the Dutch and Belgium banks in this research have little private banking operations (with ABN AMRO as exception, who traditionally also engage in private banking activities under the name of MeesPierson). This is in contrast with the French banks and particularly BNP Paribas, who's one of the largest private bankers worldwide as discussed in part III.

Summary

Three types of banking were considered to get a better understanding of what will be taken into account during this research. Part III of the research, which is the analysis phase will use these three types of banking to characterize the different domains of each bank. Retail & commercial banking is about the traditional banking function such as taking deposits and providing loans, mortgages and other lines of credit to private individuals, SMEs and large corporations. Corporate & investment banking offers corporate finance activities, mergers and acquisition services, but also provides market making and trading services such as equity and debt financing, derivatives trading for hedging purposes and other related activities. The last banking domain that was discussed is Private banking & asset management. This line of banking is concerned with managing the assets of high-net-worth individuals or wealthy families, and can, in some cases, be thought of as an all-round concierge service for all finance related issues.

Appendix B - Definitions as stated in IAS 32 (IASB, 2011)(see also paragraphs GA3 to GA23 of IAS 32)

The following terms are used in this Standard with the meanings specified:

A financial instrument is any contract that gives rise simultaneously to a financial asset in one entity and a financial liability or equity instrument in another entity.

A financial asset is any asset that is:

a) Cash;
b) an equity instrument of another entity;
c) a contractual right:
    i. to receive cash or another financial asset from another entity, or
    ii. to exchange financial assets or financial liabilities with another entity under conditions that are potentially favorable to the entity or
d) a contract which is or may be settled using equity instruments of the entity itself and is:
    i. a non-derivative, where the entity would or could be required to receive a variable amount of own equity instruments, or
    ii. a derivative that is or could be settled otherwise than by means of an exchange of a fixed amount of cash or another financial asset for a fixed amount of the equity instruments of the entity itself. For this purpose the equity instruments of the entity itself does not include financial instruments with option classified as equity instruments in accordance with paragraphs 16A and 16B, the instruments that impose an obligation on the entity to deliver to a third proportional of the net assets of the entity only at the time of settlement and are classified as equity instruments in accordance with paragraphs 16C and 16D, or instruments that are contracts for future delivery or receipt of own equity instruments of the entity.

A financial liability is any liability that is:

a) a contractual obligation:
    i. deliver cash or another financial asset to another entity, or
    ii. to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavorable to the entity or
b) a contract which is or may be settled using equity instruments of the entity itself, and is:
    i. a non-derivative, where the entity would or could be required to deliver a variable number of own equity instruments, or
    ii. a derivative that will or may be settled otherwise than by means of an exchange of a fixed amount of cash or another financial asset for a fixed amount of the equity instruments of the entity itself. For this purpose the equity instruments of the entity itself does not include financial instruments with option classified as equity instruments in accordance with paragraphs 16A and 16B, instruments that impose an obligation on

the entity to deliver to others a proportionate share of net assets of the entity only at the time of settlement and that are classified as equity instruments in accordance with paragraphs 16C and 16D, or instruments that are contracts for future delivery or receipt of own equity instruments of the entity.

As an exception, an instrument that meets the definition of a financial liability is classified as an equity instrument, if you have all the features and meets the conditions in paragraphs 16A and 16B or paragraphs 16C and 16D.

An equity instrument is any contract that shows a residual interest in the assets of an entity after deducting all its liabilities. Fair value is the amount for which an asset could be exchanged or a liability settled, between the parties involved and informed, conducting a transaction at arm's length.

An instrument with option (putt able instrument) is a financial instrument that gives the holder the right to return the instrument to the issuer for cash or another financial asset or is automatically returned to the issuer at the time an event takes place uncertain or the death or retirement, the holder of that instrument.

Appendix C - ISO 10962 CFI Classification for Financial Instruments

- E = Equities
    - S = Shares (common/ordinary)
        - 1: Voting Right
            - V = Voting
            - N = Non-voting
            - R = Restricted voting
            - E = Enhanced voting
        - 2: Ownership/transfer restrictions
            - T = Restrictions
            - U = Free
        - 3: Payment status
            - O = Nil paid
            - P = Partly paid
            - F = Fully paid
        - 4: Form:
            - B = Bearer
            - R = Registered
            - N = Bearer/Registered
            - Z = Bearer depository receipt
            - A = Registered depository receipt
    - P = Preferred Shares
    - R = Preference Shares
    - C = Convertible shares
    - F = Preferred convertible shares
    - V = Preference convertible shares
    - U = Units (units trusts/mutual funds)
    - M = Others
- D = Debt Instruments
    - B = Bonds
    - C = Convertible bonds
    - M = Others
    - T = Medium-term Notes
    - W = Bonds With Warrants Attached
    - Y = Money Market Instruments
- R = Entitlements (Rights)
    - A = Allotment Rights
    - M = Others (Miscellaneous)
    - S = Subscription rights
    - W = Warrants
- O = Options

- C = Call Options
  - 1: Exercise Style
    - A = American
    - E = European
  - 2: Underlying Asset
    - S = Stock
    - I = Index
    - D = Debt
    - C = Currency
    - O = Option
    - F = Future
    - T = Commodity
    - W = Swap
    - B = Basket
    - M = Other
  - 3: Delivery
    - C = Cash
    - P = Physical
  - 4: Standard/Non-standard
    - S = Standard
    - N = Non-standard
- P = Put Options
  - Same as Call
- M = Others Options
  - Same as Call

- F = Futures
  - C = Commodities Futures
    - 1: Underlying Asset
      - A = Agricultural
      - E = Extraction
      - I = Industrial
      - S = Service
    - 2: Delivery
      - C = Cash
      - P = Physical
    - 3: Standard/Non-standard
      - S = Standard
      - N = Non-standard
    - 4: not used
      - X = not used
  - F = Financial Futures
    - 1: Underlying Asset

            - S = Stock
            - I = Index
            - D = Debt
            - C = Currency
            - O = Option
            - F = Future
            - T = Commodity
            - W = Swap
            - B = Basket
            - M = Other
        - 2: Delivery
            - C = Cash
            - P = Physical
        - 3: Standard/Non-standard
            - S = Standard
            - N = Non-standard
        - 4: not used
            - X = not used
- M = Others (Miscellaneous)
    - M = Other Assets (Miscellaneous)
    - R = Referential Instruments
        - 1: Further grouping
            - C = Currencies
            - T = Commodities
            - R = Interest Rates
            - I = Indices

Examples:

- ESNTPB is Equities/Shares/Non-voting/Restrictions/Partly paid/Bearer
- ESXXXX is Equities/Shares (no more details)
- OPASPS is Options/Put/American/Stock/Physical/Standard
- FFIXXX is Futures/Financial/Index
- FXXXXX is Futures (no more details)
- RWXXXX is Rights/Warrant (no more details)

Appendix D - Derivatives in detail

Options

The buyer of the option gains the right, but not the obligation, to engage in that transaction, while the seller incurs the corresponding obligation to fulfill the transaction. As also indicated in the definition specified by ESA 95, there are two main option styles for options with an expiration date: European options and American options. European options can only be exercised on expiration, while American options can be exercised at any trading day before or on expiration.

Options (mostly exchange-traded ones) can usually be sold by its original buyer to a third party. They are created in standardized form and traded on an anonymous options exchange among the general public, while other over-the-counter options are customized ad hoc to the desires of the buyer, usually by an investment bank.

An option which gives the right to buy something at a specific price is called a call. An option which gives the right to sell something at a specific price is called a put. This prefixed price at which the underlying asset may be traded is called the strike price or exercise price.

There are several types of options. The nature and purpose of the options depend on the underlying asset and will be discussed below.

Currency option: Option contract that gives the right to buy or sell a currency with another currency at a specified exchange rate during a specified period. This category also includes exotic foreign exchange options such as average rate options and barrier options (Hull J. C., 2009) (Bank for International Settlements, 2011).

Commodity option: Option contract that gives the right to deliver or receive a specific commodity or commodity index at an agreed price at a set date in the future (Bank for International Settlements, 2011).

Equity option: Option contract that gives the right to deliver or receive a specific equity or equity basket at an agreed price at an agreed time in the future (Bank for International Settlements, 2011).

Interest rate option: Option contract that gives the right to pay or receive a specific interest rate on a predetermined principal for a set period of time (Bank for International Settlements, 2011).

The most used option is by far the interest rate option with 82 percent of the total markets (exchange and OTC combined). The second and third most traded are the currency option (9 percent) and the equity option (8 percent), where the currency option is almost exclusively OTC traded, where the equity option about 50-50 exchange and OTC traded. Commodity contracts (options, swaps and forwards etc. combined) only accounts for less than 1 percent of all traded derivatives. Therefore commodity options (and also other commodity contracts) will not be further discussed in this research (Bank for Internation Settlements, 2011) (Bank for International Settlements, 2011).

Warrants

Although warrants are classified as derivatives by the ECB, they actually are securities with derivative-like characteristics (Deutsche Börse Group, 2008). Therefore they fall under the security regulations. Also, warrants are almost exclusively traded by retail investors on specialized exchanges such as Scoach or Euwax. The below will give a short overview and the nature and purpose of warrants, but given the fact that they are not real derivatives and are traded very limited, they will not be taken into account in this research.

Warrants are options issued by a financial institution or nonfinancial corporations. It entitles the holder to buy the underlying stock of the issuing company at a fixed exercise price until the expiry date

Warrants and (stock) options are similar in that the two contractual financial instruments allow the holder special rights to buy securities. The main difference is that warrants are issued by private parties, typically the corporation on which a warrant is based, rather than a public options exchange. When the warrant issued by the company is exercised, the company issues new shares of stock, so the number of outstanding shares increases. This is fundamentally different from (stock) options, which gives the right to buy or sell existing shares of a corporation.

Warrants are frequently used to make bonds or preferred stock more attractable, allowing the issuer to pay lower interest rates or dividends. They can be used to enhance the yield of the bond, and make them more attractive to potential buyers (Hull J. C., 2009).

Besides the fact that warrants are not actually derivatives, they are also mostly traded in combination with/attached to debt securities or equity, and not traded solely in the market they will not be further addressed in this research.

Futures and forward contracts

Being addressed in the definition and briefly discussed in the futures option section, futures are contracts that obligated the holder to buy or sell an asset at a predetermined delivery price during a specified future time period. The contract is settled daily, and unlike forward contract traded via standardized contracts on an exchange. Underlying assets can vary from financial assets including stock indices, currencies and bonds, as well as nonfinancial assets like for example livestock, sugar, wool, steel, and gold. Settlements can either be physical delivery at a specified time and place, or a cash settlement (Hull J. C., 2009). As futures are standardized contracts, it can be expected that the rules and regulations regarding futures are pretty clear and straight forward, as there’s little to no leeway. Therefore this type of instrument will be addressed in general when investigating the regulatory changes.

Forwards on the other hand are non-standardized contracts between two parties to buy or sell an asset at a pre-specified future time and a price. As forwards are non-standardized contracts they are exclusively OTC traded. As forward contracts are tailor made to the specific needs of the two involved parties, they're often of little use to third parties, contracts are often held to maturity, and therefore there is no real secondary market exists. To shape some order in the non-standardized contracts, a brief overview will be given of the different types of forward contract in the below.

Outright forward: Transaction involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) at some time in the future (more than two business days later). This category also includes forward foreign exchange agreement transactions (FXA), non-deliverable forwards and other forward contracts for differences (Bank for International Settlements, 2011).

Equity forward: Contract to exchange an equity or equity basket at a set price at a future date (Bank for International Settlements, 2011).

Commodity forward: Forward contract to exchange a commodity or commodity index at a set price at a future date (Bank for International Settlements, 2011).

Forward rate agreement (FRA): Interest rate forward contract in which the rate to be paid or received on a specific obligation for a set period of time, beginning at some time in the future, is determined at contract initiation (Bank for International Settlements, 2011). A forward rate agreement (FRA) is a type of forward contract, which is similar to a futures contract, but traded over-the-counter and with more room for tailored agreements. A forward rate agreement is therefore traded over-the-counter, and is an agreement that a certain interest rate will apply to either borrowing or lending a certain principal during a specified future period (Hull J. C., 2009). Like swaps, forward rate agreements are used to hedge certain interest rate positions, mostly by large international corporations.

The FRA accounts for more than 65 percent of all forward contracts (Bank for International Settlements, 2011), and is therefore the most commonly traded one. In this perspective, together with the fact that commodity and equity forwards have extremely low outstanding amounts (both less than 1 percent), the FRA will be used as an example in the search of regulatory changes, but also general features of forward contracts will be discussed.

Swaps

Swap contracts have been created since the early 1980s, and keeps growing ever since, and take a central position in the current over-the-counter derivative market. Simply, a swap is a contractual agreement to exchange cash flows in the future. As pointed out in the definition, the calculations of the cash flows usually involve the future value of an interest rate, foreign exchange rate (or currency rate) variable. Whereas forward rate agreement usually comprise only one cash exchange or settlement in the future, a swap typically exchanges cash flows on multiple future dates. As there are many types of swaps, most commonly used swaps will be discussed below.

Foreign exchange swap: Transaction involving the actual exchange of two currencies (principal amount only) on a specific date at a rate agreed at the time of the conclusion of the contract (the short leg), and a reverse exchange of the same two currencies at a date further in the future at a rate (generally different from the rate applied to the short leg) agreed at the time of the contract (the long leg). Both spot/forward and forward/forward swaps should be included. Short-term swaps carried out as "tomorrow/next day" transactions should also be included in this category (Bank for International Settlements, 2011).

Currency swap: Contract which commits two counterparties to exchange streams of interest payments in different currencies for an agreed period of time and to exchange principal amounts in different currencies at a pre-agreed exchange rate at maturity (Bank for International Settlements, 2011).

The most common type is the interest rate swap: a company agrees to pay cash flows equal to interest at a predetermined fixed rate on a notional principal for a number of years. In return it receives interest at a floating rate on the same notional principal for the same period (or the other way around). Another popular swap is the currency swap (or foreign exchange swap). Here two parties agree on a principal and interest payment in one currency in exchange for a principal and interest payment in another currency. This requires the amount of the principal and the interest payment to be specified in both currencies, often using the exchange rate at the initiation date (Hull J. C., 2009).

Interest rate swap: Agreement to exchange periodic payments related to interest rates on a single currency; can be fixed for floating, or floating for floating based on different indices. This group includes those swaps whose notional principal is amortized according to a fixed schedule independent of interest rates (Bank for International Settlements, 2011).

Equity swap: Contract in which one or both payments are linked to the performance of equities or an equity index (e.g. S&P 500). It involves the exchange of some equity or equity index return for another or the exchange of some equity or equity index return for a floating or fixed interest rate (Bank for International Settlements, 2011).

Commodity swap: Contract with one or both payments linked to the performance of a commodity price or a commodity index. It involves the exchange of the return on one commodity or commodity index for another and the exchange of a commodity or commodity index for a floating or fixed interest rate (Bank for International Settlements, 2011).

Credit Default swap: A credit default swap (CDS) is a financial swap agreement that the seller of the CDS will compensate the buyer in the event of a loan default or other credit event. The buyer of the CDS makes a series of payments (the CDS "fee" or "spread") to the seller and, in exchange, receives a payoff if the loan defaults.

Although there are many types of swaps, the interest rate swaps and the credit default swap account for almost 90 percent of all the swaps outstanding. Of this 90 percent, the interest rate is by far the most dominant one.

Appendix E - CRD IV and Basel III clarifications

Additional information on capital requirements

Criteria for classification as common shares (Tier 1) for regulatory capital purposes

1. Represents the most subordinated claim in liquidation of the bank.
2. Entitled to a claim on the residual assets that is proportional with its share of issued capital, after all senior claims have been repaid in liquidation (i.e. has an unlimited and variable claim, not a fixed or capped claim).
3. Principal is perpetual and never repaid outside of liquidation (setting aside discretionary repurchases or other means of effectively reducing capital in a discretionary manner that is allowable under relevant law).
4. The bank does nothing to create an expectation at issuance that the instrument will be bought back, redeemed or cancelled nor do the statutory or contractual terms provide any feature which might give rise to such an expectation.
5. Distributions are paid out of distributable items (retained earnings included). The level of distributions is not in any way tied or linked to the amount paid in at issuance and is not subject to a contractual cap (except to the extent that a bank is unable to pay distributions that exceed the level of distributable items).
6. There are no circumstances under which the distributions are obligatory. Nonpayment is therefore not an event of default.
7. Distributions are paid only after all legal and contractual obligations have been met and payments on more senior capital instruments have been made. This means that there are no preferential distributions, including in respect of other elements classified as the highest quality issued capital.
8. It is the issued capital that takes the first and proportionately greatest share of any losses as they occur[13]. Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and *pari passu* with all the others.
9. The paid in amount is recognized as equity capital (i.e. not recognized as a liability) for determining balance sheet insolvency.
10. The paid in amount is classified as equity under the relevant accounting standards.
11. It is directly issued and paid-in and the bank cannot directly or indirectly have funded the purchase of the instrument.
12. The paid in amount is neither secured nor covered by a guarantee of the issuer or related entity or subject to any other arrangement that legally or economically enhances the seniority of the claim.
13. It is only issued with the approval of the owners of the issuing bank, either given directly by the owners or, if permitted by applicable law, given by the Board of Directors or by other persons duly authorized by the owners.
14. It is clearly and separately disclosed on the bank's balance sheet.

Criteria for inclusion in Additional Tier 1 capital

1. Issued and paid-in
2. Subordinated to depositors, general creditors and subordinated debt of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis bank creditors
4. Is perpetual, i.e. there is no maturity date and there are no step-ups or other incentives to redeem
5. May be callable at the initiative of the issuer only after a minimum of five years:
    a. To exercise a call option a bank must receive prior supervisory approval; and
    b. A bank must not do anything which creates an expectation that the call will be exercised; and
    c. Banks must not exercise a call unless:
        i. They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank; or
        ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.
6. Any repayment of principal (e.g. through repurchase or redemption) must be with prior supervisory approval and banks should not assume or create market expectations that supervisory approval will be given
7. Dividend/coupon discretion:
    a. The bank must have full discretion at all times to cancel distributions/payments[17]
    b. Cancellation of discretionary payments must not be an event of default
    c. Banks must have full access to cancelled payments to meet obligations as they fall due
    d. Cancellation of distributions/payments must not impose restrictions on the bank except in relation to distributions to common stockholders.
8. Dividends/coupons must be paid out of distributable items
9. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organization's credit standing.
10. The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.
11. Instruments classified as liabilities for accounting purposes must have principal loss absorption through either (i) conversion to common shares at an objective pre-specified trigger point or (ii) a write-down mechanism which allocates losses to the instrument at a pre-specified trigger point. The write-down will have the following effects:
    a. Reduce the claim of the instrument in liquidation;
    b. Reduce the amount re-paid when a call is exercised; and
    c. Partially or fully reduce coupon/dividend payments on the instrument.

12. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument
13. The instrument cannot have any features that hinder recapitalization, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified time frame
14. If the instrument is not issued out of an operating entity or the holding company in the consolidated group (e.g. a special purpose vehicle – "SPV"), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Additional Tier 1 capital

Criteria for inclusion in Tier 2 Capital

1. Issued and paid-in
2. Subordinated to depositors and general creditors of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis depositors and general bank creditors
4. Maturity:
    a. minimum original maturity of at least five years
    b. recognition in regulatory capital in the remaining five years before maturity will be amortized on a straight line basis
    c. there are no step-ups or other incentives to redeem
5. May be callable at the initiative of the issuer only after a minimum of five years:
    a. To exercise a call option a bank must receive prior supervisory approval;
    b. A bank must not do anything that creates an expectation that the call will be exercised;[19] and
    c. Banks must not exercise a call unless:
        i. They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank; or
        ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.
6. The investor must have no rights to accelerate the repayment of future scheduled payments (coupon or principal), except in bankruptcy and liquidation.
7. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organization's credit standing.
8. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument

9. If the instrument is not issued out of an operating entity or the holding company in the consolidated group (e.g. a special purpose vehicle – "SPV"), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Tier 2 Capital

Appendix F - Lamfalussy Process

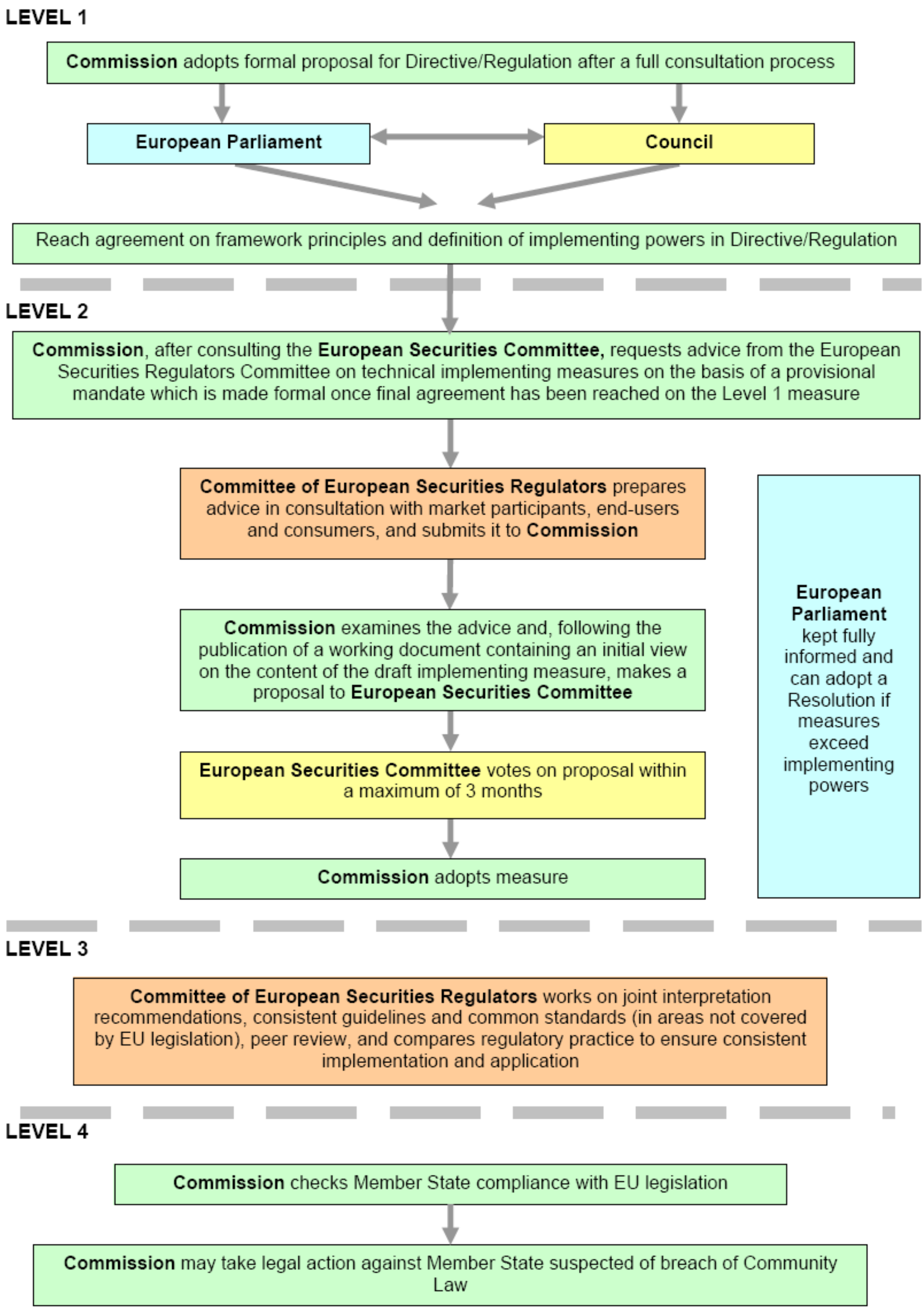


Figure 18: Lamfalussy Process (Lamfalussy, et al., 2001)

Appendix G - Previous Basel II Capital Definitions

To put the CRD IV and Basel III reforms into perspective, a brief overview of history of the capital framework will be given. After this the new reforms regarding the capital framework will be discussed. Tier 1 consists of common equity and additional Tier 1 capital. The following elements sum up the common equity (Tier 1) capital (Bank for International Settlements, 2011):

- Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies);
- Stock surplus (share premium) resulting from the issue of instruments included Common Equity Tier 1;
- Retained earnings;
- Accumulated other comprehensive income and other disclosed reserves;
- Common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital. See section 4 for the relevant criteria; and
- Regulatory adjustments applied in the calculation of Common Equity Tier 1.

Additional Tier 1 capital consists of the sum of the following elements (Bank for International Settlements, 2011):

- Instruments issued by the bank that meet the criteria for inclusion in Additional Tier 1 capital (and are not included in Common Equity Tier 1);
- Stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;
- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Additional Tier 1 capital and are not included in Common Equity Tier 1; and
- Regulatory adjustments applied in the calculation of Additional Tier 1 Capital

Tier 2 capital, also known as supplementary capital, include a number of important and legitimate constituents of a bank's capital base. Tier 2 capital consists of the sum of the following elements:

- Instruments issued by the bank that meet the criteria for inclusion in Tier 2 capital (and are not included in Tier 1 capital);
- Stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;
- Instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Tier 2 capital and are not included in Tier 1 capital;
- Certain loan loss provisions as specified in paragraphs 60 and 61; and
- Regulatory adjustments applied in the calculation of Tier 2 Capital.

Both Tier 1 and Tier 2 capital were first defined in the Basel I capital accord and remained substantially the same in the replacement Basel II accord. Tier 3 capital was introduced with Basel II, but will be excluded in the Basel II framework. They could only be used for the purpose of market risk and consisted of short-term subordinate debt that satisfies the following conditions:

- Is unsecured, subordinated and fully paid up;
- Has an original maturity of at least 2 years; and
- Is subjected to a lock-in clause that stipulates that neither interest nor principal may be paid (even when due at maturity) if the bank is below its minimum capital requirement or if such payment makes the bank go below the minimum capital requirement.

Appendix H - Liquidity Coverage Ratio details

Criteria for high-quality liquid assets (Bank for International Settlements, 2010):

There are two categories of assets that can be included in the stock. Assets to be included in each category are those that the bank is holding on the first day of the stress period. “Level 1” assets can be included without limit, while “Level 2” assets can only comprise up to 40 percent of the stock.

Level 1 Assets are limited to:

a) cash;
b) central bank reserves, to the extent that these reserves can be drawn down in times of stress;[9]
c) marketable securities representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs, the Bank for International Settlements, the International Monetary Fund, the European Commission, or multilateral development banks and satisfying all of the following conditions:
    1. assigned a 0 percent risk-weight under the Basel II Standardized Approach;
    2. traded in large, deep and active repo or cash markets characterized by a low level of concentration;
    3. proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions; and
    4. not an obligation of a financial institution or any of its affiliated entities.
d) for non-0 percent risk-weighted sovereigns, sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank’s home country; and,
e) for non-0 percent risk-weighted sovereigns, domestic sovereign or central bank debt securities issued in foreign currencies, to the extent that holding of such debt matches the currency needs of the bank’s operations in that jurisdiction. (Bank for International Settlements, 2010)

Level 2 assets are also permitted as liquid assets, but are subject to the requirement that they comprise no more than 40 percent of the overall pool of high-quality liquid assets after haircuts have been applied. A minimum 15 percent haircut is applied to the current market value of each Level 2 asset held in the stock.

Level 2 assets are limited to the following:

a) Marketable securities representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs or multilateral development banks that satisfy all of the following conditions:
    1. assigned a 20 percent risk weight under the Basel II Standardized Approach for credit risk;

2. traded in large, deep and active repo or cash markets characterized by a low level of concentration;
3. proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions (i.e. maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10 percent); and
4. not an obligation of a financial institution or any of its affiliated entities.

b) Corporate bonds and covered bonds that satisfy all of the following conditions:
   1. not issued by a financial institution or any of its affiliated entities (in the case of corporate bonds);
   2. not issued by the bank itself or any of its affiliated entities (in the case of covered bonds);
   3. assets have a credit rating from a recognized external credit assessment institution (ECAI) of at least AA-[12] or do not have a credit assessment by a recognized ECAI and are internally rated as having a probability of default (PD) corresponding to a credit rating of at least AA-;
   4. traded in large, deep and active repo or cash markets characterized by a low level of concentration; and
   5. proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions: ie, maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10 percent.

Appendix I - Net Stable Funding Ratio details

Available Stable Funding categories and factors

Table 20: Available Stable Funding factors (Bank for International Settlements, 2010)

ASF Factor	Components of ASF Category
100%	➢ The total amount of capital, including both Tier 1 and Tier 2 as defined in existing global capital standards issued by the Committee. ➢ The total amount of any preferred stock not included in Tier 2 that has an effective remaining maturity of one year or greater taking into account any explicit or embedded options that would reduce the expected maturity to less than one year. ➢ The total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective remaining maturities of one year or greater excluding any instruments with explicit or embedded options that would reduce the expected maturity to less than one year. Such options include those exercisable at the investor's discretion within the one-year horizon.
90%	"Stable" non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail customers and small business customers.
80%	"Less stable" non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail and small business customers.
50%	Unsecured wholesale funding, non-maturity deposits and/or term deposits with a residual maturity of less than one year, provided by non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs.
0%	All other liabilities and equity categories not included in the above categories.

Required Stable Funding categories and factors

Table 21: Required Stable Funding Factors (Bank for International Settlements, 2010)

RSF Factor	Components of RSF Category
0%	➢ Cash immediately available to meet obligations, not currently encumbered as collateral and not held for planned use (as contingent collateral, salary payments, or for other reasons) ➢ Unencumbered short-term unsecured instruments and transactions with outstanding maturities of less than one year34 ➢ Unencumbered securities with stated remaining maturities of less than one year with no embedded options that would increase the expected maturity to

	more than one year ➢ Unencumbered securities held where the institution has an offsetting reverse repurchase transaction when the security on each transaction has the same unique identifier (egg ISIN number or CUSIP) ➢ Unencumbered loans to financial entities with effective remaining maturities of less than one year that are not renewable and for which the lender has an irrevocable right to call
5%	Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, BIS, IMF, EC, non-central government PSEs) or multilateral development banks that are assigned a 0% risk-weight under the Basel II standardized approach, provided that active repo or sale-markets exist for these securities
20%	➢ Unencumbered corporate bonds or covered bonds rated AA- or higher with residual maturities of one year or greater satisfying all of the conditions for Level 2 assets in the LCR ➢ Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, non-central government PSEs that are assigned a 20% risk-weight under the Basel II standardized approach, provided that they meet all of the conditions for Level 2 assets in the LCR
50%	➢ Unencumbered gold ➢ Unencumbered equity securities, not issued by financial institutions or their affiliates, listed on a recognized exchange and included in a large cap market index ➢ Unencumbered corporate bonds and covered bonds that satisfy all of the following conditions: o Central bank eligibility for intraday liquidity needs and overnight liquidity shortages in relevant jurisdictions35 o Not issued by financial institutions or their affiliates (except in the case of covered bonds) o Not issued by the respective firm itself or its affiliates o Low credit risk: assets have a credit assessment by a recognized ECAI of A+ to A-, or do not have a credit assessment by a recognized ECAI and are internally rated as having a PD corresponding to a credit assessment of A+ to A- o Traded in large, deep and active markets characterized by a low level of concentration ➢ Unencumbered loans to non-financial corporate clients, sovereigns, central banks, and PSEs having a remaining maturity of less than one year
65%	➢ Unencumbered residential mortgages of any maturity that would qualify for the 35% or lower risk weight under Basel II Standardized Approach for credit risk ➢ Other unencumbered loans, excluding loans to financial institutions, with a remaining maturity of one year or greater, that would qualify for the 35% or

	lower risk weight under Basel II Standardized Approach for credit risk
85%	Unencumbered loans to retail customers (i.e. natural persons) and small business customers (as defined in the LCR) having a remaining maturity of less than one year (other than those that qualify for the 65% RSF above)
100%	All other assets not included in the above categories

Table 22: Composition of Off-balance Sheet Categories and Associated RSF Factors (Bank for International Settlements, 2010)

RSF Factor	**RSF Category**
5% of the currently undrawn portion	Conditionally revocable and irrevocable credit and liquidity facilities to any client
National supervisors can specify the RSF factors based on their national circumstances.	Other contingent funding obligations, including products and instruments such as: ➢ Unconditionally revocable "uncommitted" credit and liquidity facilities; ➢ Guarantees; ➢ Letters of credit; ➢ Other trade finance instruments; and ➢ Non-contractual obligations such as: ○ Potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities; ○ Structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs); and ○ Managed funds that are marketed with the objective of maintaining a stable value such as money market mutual funds or other types of stable value collective investment funds etc.

Appendix J - Leverage limitations for AIFMD

Leverage has contributed to the fragility of the financial markets and amplified the effects of the financial crisis. In the Directive leverage is defined as: "*any method by which the AIFM increases the exposure of an AIF it manages to a particular investment whether through borrowing of cash or securities, or leverage embedded in derivative positions or by any other means*" (European Commission, 2009). It is therefore necessary to ensure that leverage is used responsibly and that the associated risks are understood and managed prudently.

The AIFMD introduces a range of transparency requirements and robust safeguards in relation to the use of leverage by AIFM. Each AIFM will be required to set a limit on the leverage it uses and will be obliged to comply with these limits on an ongoing basis and quarterly disclose this to investors.

AIFM shall also assess on a quarterly basis whether the AIF employs high levels of leverage on a systematic basis and shall inform the competent authorities accordingly. An AIF shall be deemed to employ high levels of leverage on a systematic basis if the combined leverage from all sources exceeds the value of the equity capital of the AIF in two out of the past four quarters.

Besides the levels of leverage, an AIFM will also be required to inform competent authorities about their use of leverage. In this way the authorities can assess whether the use of leverage by the AIFM contributes to the build-up of systemic risk in the financial system. This information will be shared with the European Systemic Risk Board. When necessary, competent authorities can impose limits on leverage when deemed necessary in order to ensure the stability and integrity of the financial system. ESMA will advise competent authorities in this regard and will coordinate their action, in order to ensure a consistent approach.

Appendix K - Additional key data of analyzed banks

Table 23: Key Figures ABN AMRO

ABN AMRO	Total (MN)	Retail	Private	Commercial	Merchant	Other
Assets on Balance sheet	€ 404.682	41%	5%	11%	31%	13%
Operating income	€ 7.794	41%	17%	22%	17%	3%
Risk Weighted Assets	€ 118.300	27%	12%	24%	31%	7%
Total deposits	€ 188.000	38%	29%	18%	11%	4%

Table 24: Geographical breakdown of ABN AMRO's operations and Summary of balance sheet ABN AMRO

Geographical representation		Asset breakdown		Liability Breakdown	
Domestic market	82%	Mortgages	38%	Customer deposits	47%
Europe	14%	Customer loans	25%	Long term & Subordinated debt	20%
Rest of World	4%	Securities financing	11%	Security financing	6%
		Held for trading	7%	Equity	3%
		Other	19%	Other	24%

Table 25: Key Figures BNP Paribas

BNP Paribas	Total (MN)	Retail	Investment Solutions	Corporate and Investment	Corporate Centre
Assets on Balance sheet	€ 1.965.283	29%	11%	53%	7%
Operating income	€ 42.384	56%	15%	23%	6%
Risk Weighted Assets	€ 613.567	-	-	-	-

Table 26: Balance sheet summary BNP Paribas

Assets on Balance sheet	€ 1.965.283	Liabilities on Balance sheet	€ 1.965.283
Financial assets at fair value through P&L	42%	Due to central banks	0%
Loans and receivables to Credit Institutions	3%	Financial liabilities at fair value through P&L	39%
Loans and receivables to Customers	34%	Due to Credit Institutions	8%
Cash and balances at central banks	3%	Customer deposits	28%
Available for sale financial assets	10%	Securitized debt payables	8%
Other	9%	Insurance Company Technical reserves	7%
		Subordinated debt	1%
		Other	6%
		Equity	4%

Table 27: Geographical breakdown of BNP Paribas's operations

Operating income by geography	
Domestic market	63%
Rest of Europe	17%
Americas	12%
Asia – Oceania	5%
Rest of World	3%

Table 28: Key Figures Crédit Agricole

Crédit Agricole	Total (MN)	Retail	Specialized Financial Services	Asset Management, Insurance and Private Banking	Corporate and investment Banking	Other
Operating income	€ 20.783	33%	19%	25%	26%	-3%
Risk Weighted Assets	€ 33.700	29%	17%	5%	42%	7%

Table 29: Balance sheet summary Crédit Agricole

Assets on Balance sheet	€ 1.723.608	Liabilities on Balance sheet	€ 1.723.608
Financial assets at fair value through P&L	28%	Due to central banks	0%
Loans and receivables to Credit Institutions	22%	Financial liabilities at fair value through P&L	26%
Loans and receivables to Customers	23%	Due to Credit Institutions	10%
Cash and balances at central banks	2%	Customer deposits	30%
Available for sale financial assets	13%	Securitized debt payables	9%
Other	12%	Insurance Company Technical reserves	13%
		Subordinated debt	2%
		Other	7%
		Equity	3%

Table 30: Geographical breakdown of Crédit Agricole's operations

Geographical representation	
Domestic market	53%
Rest of Europe	31%
Americas	4%
Asia – Oceania	5%
Rest of World	6%

Table 31: Key figures Dexia

Dexia	Total (MN)	Retail and Commercial Banking	Public and Wholesale Banking	Asset Management and Services
Assets on Balance sheet	€ 412.759	3%	28%	0%
Operating income	€ -4.383	20%	5%	0%

Table 32: Key figures Dexia (continued)

Dexia (continued)	Group Center	Legacy Portfolio Management Division	Disposable Groups held for sale
Assets on Balance sheet	23%	19%	27%
Operating income	2%	-127%	

Table 33: Balance sheet summary Dexia

Assets Breakdown		Liabilities Breakdown	
Cash and balances central banks	1%	Due to Bank	26%
Loans and advances due from banks	11%	Customer borrowing and deposits	5%
Loans and advances to customers	42%	Derivatives	14%
Financial instruments	11%	Debt securities	26%
Derivatives	7%	Subordinated debt	0%
Other assets	1%	Other Liabilities	2%
Non-current assets and disposal groups held for sale	27%	Liabilities included in disposal groups held for sale	28%
		Equity	-0,1%

Table 34: Geographical breakdown of Dexia's operations

Geographical representation of operating income	
Belgium	-6%
France	-48%
Ireland	-20%
Turkey	24%
United States	-51%

Table 35: Key figures ING

ING	Total (MN)	Retail banking	Commercial Banking	Other (Incl. Real Estate)
Operating income	€ 17.195	63%	29%	7%
Risk Weighted Assets	€ 330.421	54%	41%	5%

Table 36: Balance sheet summary ING

Asset breakdown	€ 961.165	Liability Breakdown	€ 961.165
Loans and receivables	60%	Customer deposits	50%
Amount due from banks	5%	Long term & Subordinated debt	2%
Financial assets held for trading	14%	Security financing	14%
Financial investments	9%	Due to banks	8%
Assets held for sale	7%	Financial liabilities	14%
Other	3%	Other	9%
Cash and balances at central banks	3%	Equity	4%

Table 37: Geographical breakdown of ING's operations

Geographical representation	Operating Income	Assets
Total	**€ 17.195**	**€ 961.165**
Netherlands	37%	53%
Belgium	15%	18%
Rest of Europe	29%	32%
North America	11%	19%
Latin America	0%	1%
Asia	5%	5%
Australia	3%	4%
Eliminations	0%	-32%

Table 38: Key figures KBC

KBC	Total (MN)	Belgium Business Unit	Central & Eastern Europe Business Unit	Merchant Banking Business Unit	Group Centre
Assets on Balance sheet	€ 285.382				
Operating income	€ 8.182	40%	27%	15%	18%
Risk Weighted Assets	€ 126.333	23%	21%	33%	23%

Table 39: Balance sheet summary KBC

Asset breakdown	€ 285.382	Liability Breakdown	€ 285.382
Cash and balances at central banks	2%	Financial liabilities held for trading	10%
Financial assets held for trading	9%	Financial liabilities measured at amortized cost	59%
Loans and receivables	54%	Other financial liabilities	11%
Other financial assets	24%	Equity	15%
Non-current assets held for sale and disposal groups	7%		
Other assets	4%		

Table 40: Geographical breakdown of KBC's operations

Geographical representation	Assets	Operation income
Total	€ 285.382	€ 8.182
Home Country (BE)	63%	44%
Central & Eastern Europe (and Russia)	21%	38%
Rest of World	15%	19%

Table 41: Key figures Rabobank

Rabobank	Total (MN)	Domestic retail banking	Wholesale banking and international retail banking	Asset Management	Other
Assets on Balance sheet	€ 731.665	51%	70%	3%	-25%
Operating income	€ 13.378	€ 6.941	€ 3.750	€ 1.144	€ 1.543

Table 42: Balance sheet summary Rabobank

Asset breakdown		Liability Breakdown	
Customer loans	64%	Equity	6%
Cash	10%	Due to customers	45%
Banks	3%	Long term funding	23%
Securities	9%	Short term funding	10%
Derivatives	8%	Banks	4%
Other	6%	Derivatives	9%
		Other	3%

Table 43: Key figures Société Générale

Société Générale	Total (MN)	French Networks	International Retail Banking	Corporate & Investment Banking
Assets on Balance sheet	€ 1.181.372	17%	8%	52%
Operating income	€ 25.636	32%	20%	23%
Risk Weighted Assets	€ 349.275	25%	21%	35%

Table 44: Key figures Société General (continued)

Société Générale (continued)	Specialized Financial Services & Insurance	Global Investment Management and Services	Corporate Center
Assets on Balance sheet	12%	6%	5%
Operating income	13%	8%	3%
Risk Weighted Assets	12%	5%	2%

Table 45: Balance sheet summary Société Générale

Asset breakdown	€ 1.181.400	Liability Breakdown	€ 1.181.400
Financial assets at FV through P&L	37%	Due to central banks	0%
Loans and receivables	31%	Financial liabilities at FV through P&L	33%
Amount due from banks	7%	Due to banks	9%
Cash and balances at central banks	4%	Customer deposits	29%
Available for sale financial assets	11%	Securitized debt payables	9%
Other	10%	Subordinated debt	1%
		Other	14%
		Equity	4%

Table 46: Geographical breakdown of Société Générale's operations

Geographical representation	Operating Income	Assets
Total	**€ 25.636**	**€ 1.181.372**
France	50%	79%
Europe	34%	12%
Americas	7%	6%
Asia	4%	1%
Africa	6%	2%
Oceania	0%	0%

Bibliography

111th U.S. Congress. (2009, 12 2). H. R. 4173. *The Wall Street Reform and Consumer Protection Act of 2009*. Washington D.C., United States of America: United States Government Printing Office. Retrieved 3 22, 2012, from http://www.gpo.gov/fdsys/pkg/BILLS-111hr4173ih/pdf/BILLS-111hr4173ih.pdfltaYgLETclA&cad=rja

111th U.S. Congress. (2010, 7 2010). Public Law 111–203. *Dodd-Frank Wall Street Reform and Consumer Protection Act*. Washington D.C., United States of America: United States Government Printing Office. Retrieved 3 22, 2012, from http://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf

ABN AMRO. (2012, 3 9). *Investor Presentation: Results FY2011.* Retrieved 4 17, 2012, from ABN AMRO: http://www.google.nl/url?sa=t&rct=j&q=investor%20presentation%20results%20fy%202011&source=web&cd=1&ved=0CCgQFjAA&url=http%3A%2F%2Fwww.abnamro.com%2Fen%2Fimages%2F050_Investor_Relations%2F025_Presentations%2F20120309_Investor_Presentation_FY_2011_March_20

ABN AMRO Group N.V. (2011). *Annual Report 2010.* Retrieved 2 14, 2012, from ABN AMRO: http://www.google.nl/url?sa=t&rct=j&q=abn%20amro%20annual%20report%202010&source=web&cd=1&sqi=2&ved=0CCMQFjAA&url=http%3A%2F%2Fwww.abnamro.com%2Fen%2Fimages%2F010_About_ABN_AMRO%2F035_Reports_and_reviews%2F2010_Annual_Report.pdf&ei=B2s6T46iIMrF0QWQuI26Cw&

ABN AMRO Group N.V. (2012, 3 8). *Annual Report 2011.* Retrieved 4 17, 2012, from http://www.google.nl/url?sa=t&rct=j&q=abn%20amro%20annual%20report%202011&source=web&cd=1&ved=0CCMQFjAA&url=http%3A%2F%2Fwww.abnamro.com%2Fen%2Fimages%2F010_About_ABN_AMRO%2F035_Reports_and_reviews%2F2011_Annual_report.pdf&ei=YrWOT-eaE-PN0QXb59T_DA&usg=AF

Accenture. (2010, 4 23). *ViewPoint on... Path to UCITS IV.* Retrieved 3 20, 2012, from Accenture Knowledge Exchange: https://kx.accenture.com/Repositories/C20/34/48/ViewPoint%20on%20Path%20to%20UCITS%20IV.msg

Accenture. (2011, 12 16). *Accenture Finance Procedures Glossary.* Retrieved 1 3, 2012, from support.accenture.com: https://support.accenture.com/procedures/financeprocedures/Lists/Glossary/AllItems.aspx

Accenture. (2011, 10 19). *Foreign Account Tax Compliance Act (FATCA).* Retrieved 4 26, 2012, from Accenture Knowledge Exchange: https://kx.accenture.com/Repositories/C22/46/15/FATCA_Origination%20meeting%20discussion.ppt

Accenture. (2011, 4 20). *The Dodd-Frank Wall Street Reform Act.* Retrieved 6 11, 2012, from Accenture: http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_The_Dodd_Frank_Wall_Street_Reform_Act.pdf

Acharya, V. V., Cooley, T. F., Richardson, M. P., & Walter, I. (2011). *Regulating Wall Street.* New York: New York Stern School of Business. Retrieved 2 13, 2012

Allen Overy. (2010, 11). *Alternative Investment Fund Managers Directive: Allen & Overy Briefing Paper No. 2: Scope (AIF).* Retrieved 6 11, 2012, from Allen Overy: http://www.allenovery.com/AOWeb/binaries/60303.PDF

Allen Overy. (2011, 2). *Alternative Investment Fund Managers Directive: Allen & Overy Briefing Paper No. 4 Depositaries.* Retrieved 6 11, 2012, from Allen Overy: http://www.allenovery.com/AOWeb/binaries/60306.PDF

Arnold, J. C. (2011). Preparing Your Company for FATCA. *Pepper Hamilton LLP: U.S. - India Update, 2011*(4), pp. 18-19. Retrieved 4 26, 2012, from http://www.pepperlaw.com/pdfs/US_IndiaUpdate_2011_4.pdf#page=18

Association of National Numbering Agencies. (2011, 5 17). *CFI introduction (as of March 2011)*. Retrieved 1 23, 2012, from anna-web.com: http://www.anna-web.com/files/Status_CFI_Implementation_as_of_March_2011.pdf

Bangkok Bank. (2012). *Mixed Funds*. Retrieved 2 13, 2012, from Bangkok Bank: http://www.bangkokbank.com/Bangkok%20Bank/Personal%20Banking/Investments%20and%20Fixed/Mutual%20Funds/Mixed%20Fund/Pages/default.aspx

Bank for Internation Settlements. (2011, 12). *Statistics on exchange traded derivatives.* Retrieved 3 2, 2012, from Bank for International Settlements: Statistics on exchange traded derivatives

Bank for International Settlements. (2009, 8). *History of the Basel Committee and its Membership.* Retrieved 3 8, 2012, from Bank for International Settlements: http://www.bis.org/bcbs/history.pdf

Bank for International Settlements. (2010, 12). *Basel III: International framework for liquidity risk measurement, standards and monitoring.* Retrieved 3 12, 2012, from Bank for International Settlements: http://www.bis.org/publ/bcbs188.pdf

Bank for International Settlements. (2011, 6). *Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011.* Retrieved 3 9, 2012, from Bank for International Settlements: http://www.bis.org/publ/bcbs189.pdf

Bank for International Settlements. (2011, 11 16). *OTC derivatives market activity in the first half of 2011.* Retrieved 2 21, 2012, from Bank for International Settlements: http://www.bis.org/publ/otc_hy1111.pdf

Bank for International Settlements. (2011, 12). *Statistics on exchange traded derivatives: 23A Notional amounts (amounts outstanding and turnover).* Retrieved 2 21, 2012, from BIS: http://www.bis.org/publ/qtrpdf/r_qa1112_anx23a.pdf

Berndt, A., & Gupta, A. (2009, 5 9). Moral hazard and adverse selection in the originate-to-distribute model of bank credit. *Journal of Monetary Economics, 56*, 18. Retrieved 2 8, 2012

Beschermingsfonds voor deposito's en financiële instrumenten. (2011). *De depositobescherming*. Retrieved from ProtectionFund: http://www.beschermingsfonds.be/nl/mod_systeme.html

Bicker, L. (1996). *Private Banking in Europe.* London - New York: Routledge. Retrieved 6 2012, 7, from http://books.google.nl/books?id=rLkgK2ZegrYC&pg=PA1&dq=what+is+private+banking&hl=nl&sa=X&ei=wpzQT6O_HOOK0AXz8unJCw&ved=0CFQQ6AEwAg#v=onepage&q=what%20is%20private%20banking&f=false

BlackRock. (2010, 9). *The rise of UCITS III.* Retrieved 3 21, 2012, from BlackRock: https://www2.blackrock.com/webcore/litService/search/getDocument.seam?venue=PUB_IND&source=GLOBAL&contentId=1111125006

Bloch, E. (1989). *Inside Investment Banking* (Second Edition ed.). Washington D.C.: Dow-Jones-Irwin. Retrieved 2 17, 2012, from http://books.google.nl/books?id=kMy6M-8v4P4C&lpg=PR9&ots=mcvH5EZPin&dq=investment%20banking%20activities&lr&hl=nl&pg=PP1#v=onepage&q=investment%20banking%20activities&f=false

Bloomberg. (2011, 19 9). *BNP Plans to Reach Basel III Ratio Without Capital Increase.* Retrieved 17 6, 2012, from Bloomberg: http://www.bloomberg.com/news/2011-10-09/bnp-plans-to-reach-basel-iii-ratio-without-capital-increase.html

BNP Paribas. (2011). *Consolidated Financial Statement: First half 2011.* Retrieved 2 14, 2012, from BNP Paribas: http://media-cms.bnpparibas.com/file/86/1/2q11-financial-statement.15861.pdf

BNP Paribas. (2012). *2011 Registration Document and Annual Financial Repory.* Retrieved 6 11, 2012, from BNP Paribas: http://media-cms.bnpparibas.com/file/21/0/document_de_ref_2011_-_gb.22210.pdf

BNP Paribas. (2012, 5 4). *First Quarter 2012 Results.* Retrieved 6 17, 2012, from BNP Paribas: http://media-cms.bnpparibas.com/file/70/2/1q12-slides.22702.pdf

Buiter, W. H. (2007, 12). Lessons from the 2007 Financial Crisis. *CEPR Policy Insight*(No.18), p. 17. Retrieved 2 7, 2012, from http://www.cepr.org/pubs/PolicyInsights/PolicyInsight18.pdf

Business Link. (2011, 11 28). *Shares and shareholders*. Retrieved 2 9, 2012, from BusinessLink: http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1074433335&type=RESOURCES

Caceis. (2010, 3). *UCITS IV: Being well prepared for changes.* Retrieved 3 8, 2012, from Caceis: http://www.caceis.com/fileadmin/pdf/reference_presentations_en/ucits4_EN.pdf

Christensen, H. B., Hail, L., & Leuz, C. (2011, 10). *Capital-Market Effects of Securities Regulation: The Role of Prior Regulation, Implementation and Enforcement.* Retrieved 3 26, 2012, from http://www.gsb.stanford.edu/facseminars/events/accounting/documents/acct_11_11_leuz.pdf

CMS - Cameron McKenna. (2011, 10 20). *MAD II – Revisions to the Market Abuse Directive.* Retrieved 4 10, 2012, from Law-Now: http://www.law-now.com/cmck/pdfs/nonsecured/MAD2.pdf

Committee of European Securities Regulations. (2009, 10 20). *A common definition of European money market funds.* Retrieved 6 11, 2012, from ESMA Europa: http://www.esma.europa.eu/system/files/09_850.pdf

Committee of European Securities Regulators. (2010, 5 19). *CESR's Guidelines on a common definition of European money market funds.* Retrieved 3 13, 2012, from ESMA: http://www.esma.europa.eu/system/files/10_049.pdf

Committee Of European Securities Regulators. (2010, 1). *Feedback statement on the Consultation on "Classification and identification of OTC derivative instruments for the purpose of the exchange of transaction reports amongst CESR Members".* Retrieved 1 24, 2012, from www.esma.europa.eu: http://www.esma.europa.eu/system/files/09_987.pdf

Community Development and Policy Studies Division of the Federal Reserve Bank of Chicago. (2011, 4). The asset-backed Securities markets, the crisis, and TALF. *ProfitWise*. Retrieved 2 8, 2012, from http://www.chicagofed.org/digital_assets/publications/profitwise_news_and_views/2011/PNV_Apr2011_ReEd_FINAL_web.pdf

Craig, V. V. (2002, 6 2002). *Merchant Banking: Past and Present.* Retrieved 2 20, 2012, from Federal Deposit Insurance Corporation: http://www.fdic.gov/acrobat.html

Crédit Agricole. (2012, 3 23). *Registration document Annual report 2011.* Retrieved 6 11, 2012, from Crédit Agricole: http://www.credit-agricole.com/en/content/download/10614/175394/version/4/file/Registration+document+2011+CASA.pdf

Credit Suisse. (2010, 5 10). *European Bank: Net Stable Funding Requirements.* Retrieved 6 18, 2012, from Scribd: http://it.scribd.com/edwardnh/d/31174906-The-Bailout-Cost-to-Euro-Banks-Net-Stable-Funding-Ratio

De Tijd. (2011, 6 13). *KBC gaat voluit voor plan B.* Retrieved 6 20, 2012, from De Tijd: http://www.tijd.be/nieuws/ondernemingen_financien/-Basel_III_verhindert_snelle_terugbetaling_aan_staat-.9081135-3096.art?ckc=1

Deloitte. (2011). *AIFM Directive: Crossing the finish line.* Retrieved 6 11, 2012, from Deloitte: http://www.deloitte.com/assets/Dcom-Ireland/Local%20Assets/Documents/Investment%20management/ie_IM_AIFMCrossingFinishLine_1110.pdf

Deutsche Börse Group. (2008). *The Global Derivatives Market: An Introduction.* Frankfurt/Main: Deutsche Börse AG. Retrieved 2 22, 2012, from http://www.google.com/url?sa=t&rct=j&q=the%20global%20derivatives%20market&source=web&cd=1&ved=0CCoQFjAA&url=http%3A%2F%2Fmath.nyu.edu%2Ffaculty%2Favellane%2Fglobal_derivatives_market.pdf&ei=abJET-_UG8O-8AOfhIyxBA&usg=AFQjCNFk6o5nMvRIcg5AGxuEVL7qg91LDw&ca

Deutsche Bundesbank. (n.d.). *Minimum reserves*. Retrieved 3 7, 2012, from Deutsche Bundesbank: http://www.bundesbank.de/gm/gm_mindestreserven.en.php

Dexia. (2011). *Annual report 2011.* Retrieved 6 11, 2012, from Dexia: http://www.dexia.com/EN/shareholder_investor/individual_shareholders/publications/Documents/RA_2011_EN.pdf

Diamond, D. W., & Rajan, R. G. (2001). Liquidity Risk, Liquidity Creation and Financial Fragility: A Theory Of Banking. *Journal of Political Economy, 109*(2), 287-327. Retrieved 4 5, 2012, from http://www.jstor.org/pss/10.1086/319552

Douglas, N. (n.d.). *Managing Money Market Funds in a Post-Basel III World*. Retrieved 3 13, 2012, from Treasury Management International: http://www.treasury-management.com/article/4/198/1705/managing-money-market-funds-in-a-post-basel-iii-world.html

Dutch National Bank. (2012, 1 25). *Depositogarantiestelsel*. Retrieved 2 7, 2012, from De Nederlandse Bank: http://www.dnb.nl/over-dnb/de-consument-en-dnb/de-consument-en-toezicht/depositogarantiestelsel/index.jsp

EC Council. (1996). *Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community.* Retrieved 1 23, 2012, from Eur-lex.Europa.eu: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1996R2223:20071230:EN:PDF

Estrella, A., Park, S., & Peristiani, S. (2000). Capital Ratios as Predictors of Bank Failure'. *FRBNY Economic Policy Review, 6*(2), 33-52. Retrieved 4 5, 2012, from http://www.newyorkfed.org/research/epr/00v06n2/0007estr.pdf

European Central Bank. (2003, 2 10). *Regulation (EC) No 1745/2003 of the ECB of 12 September 2003 on the application of minimum reserves (ECB/2003/9).* Retrieved 3 7, 2012, from European Central Bank: http://www.ecb.int/ecb/legal/pdf/l_25020031002en00100016.pdf

European Central Bank. (2005, 7). *Statistical Classification of Financial Markets Instruments.* Retrieved 12 13, 2011, from European Central Bank: http://www.ecb.int/pub/pdf/other/statisticalclassificationfmi200507en.pdf

European Central Bank. (2011, 5). *Manual on Investment Fund Statistics.* Retrieved 2 10, 2012, from European Central Bank: http://www.ecb.int/pub/pdf/other/manualinvestmentfundstatistics200905en.pdf

European Central Bank. (n.d.). *How to calculate the minimum reserve requirements*. Retrieved 3 7, 2012, from European Central Bank: https://www.ecb.europa.eu/mopo/implement/mr/html/calc.en.html

European Commision. (2012, 2 16). *Deposit Guarantee Schemes*. Retrieved 2 20, 2012, from European Commision: http://ec.europa.eu/internal_market/bank/guarantee/index_en.htm

European Commission. (1994, 5 39). *Directive 94/19/EC of the European Parliament and of the Council of 30 May 1994 on deposit-guarantee schemes.* Retrieved 4 3, 2012, from European Commission: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31994L0019:EN:pdf

European Commission. (2006, 11 15). *White Paper on Enhancing the Single Market Framework for Investment Funds: Impact Assesment.* Retrieved 3 21, 2012, from European Commission: http://www.google.nl/url?sa=t&rct=j&q=white%20paper%20on%20enhancing%20the%20single%20market%20framework%20for%20investment%20funds%3A%20impact%20assesment&source=web&cd=1&ved=0CDcQFjAA&url=http%3A%2F%2Fec.europa.eu%2Finternal_market%2Fsecurities%2Fdocs%2

European Commission. (2006, 11 15). *Whitepaper on Enhancing the Single Market Framework for Investment Funds: Impact Assesment.* Retrieved 3 26, 2012, from European Commission: http://ec.europa.eu/internal_market/investment/docs/legal_texts/whitepaper/impact_assessment_en.pdf

European Commission. (2009, 4 30). *Proposal for a Directive of The European Parliament and of The Council on Alternative Investment Fund Managers and amending Directives 2004/39/EC and 2009/…/EC.* Retrieved 5 29, 2012, from European Commission: http://ec.europa.eu/internal_market/investment/docs/alternative_investments/fund_managers_proposal_en.pdf

European Commission. (2010). *Commission Staff Working Document: Impact Assessment accompanying document to the proposal for a Directive ... on Deposit Guarantee Schemes ... and ... Review of*

Directive 94/19/EC on Deposit Guarantee Schemes. Retrieved from European Commission: http://ec.europa.eu/internal_market/bank/docs/guarantee/20100712_ia_en.pdf

European Commission. (2010, 7 12). *Deposit Guarantee Schemes – Frequently Asked Questions .* doi:MEMO/10/318

European Commission. (2010, 11 24). *DIRECTIVE 2010/73/EU of The European Parliament and The Council.* Retrieved 3 28, 2012, from European Commission: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:327:0001:0012:EN:PDF

European Commission. (2010, 11 11). *Directive on Alternative Investment Fund Managers ('AIFMD'): Frequently Asked Questions.* Retrieved 6 12, 2012, from European Commission: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/572&format=PDF&aged=1&language=EN&guiLanguage=nl

European Commission. (2010, 7 12). *Investor Compensation Schemes – Frequently asked Questions.* Retrieved from Europa.eu: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/319&format=PDF&aged=1&language=EN&guiLanguage=fr

European Commission. (2010, 7 12). *Ommission Proposes Package to Boost Consumer Protection and Confidence in Financial Services.* Retrieved 3 7, 2012, from Europa.eu: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/918&format=HTML&aged=0&language=EN&guiLanguage=en

European Commission. (2010, 9 15). *Proposal for a Regulation on Short Selling and Credit Default Swaps - Frequently asked questions.* Retrieved 6 11, 2012, from European Commission: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/409&format=PDF&aged=1&language=EN&guiLanguage=en

European Commission. (2011, 10 20). *Commission Staff Working Paper Executive Summary of The Impact Assesment, Accompanying the document Proposal for a Directive of The European Parliament and The Council, Markets in Financial Instruments (Recast) and the Proposal for a Regulation of the ...* Retrieved 3 27, 2012, from European Commission: http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1227_en.pdf

European Commission. (2011, 10 20). *Commission Staff Working Paper Executive Summary of The Impact Assesment, Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on Insider Dealing and Market Manipulation (Market Abuse) and Proposal for a Dir...* Retrieved 3 27, 2012, from European Commission: http://ec.europa.eu/internal_market/securities/docs/abuse/SEC_2011_1218_en.pdf

European Commission. (2011, Q1). *Feedback on public consultation on the UCITS V.* Retrieved 3 21, 2012, from European Commission:

http://ec.europa.eu/internal_market/consultations/docs/2010/ucits/summary_of_responses_en.pdf

European Commission. (2011, 7 20). *Proposal for a Directive of The European Parliament and of The Council on the access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms and amending Directive 2002/87/EC of the European Parlia.* Retrieved 4 4, 2012, from European Commission: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0453:FIN:EN:PDF

European Commission. (2011, 7 20). *Proposal for a Regulation of The European Parliament and of The Counsel on prudential requirements for credit institutions and investement firms.* Retrieved 4 4, 2012, from European Commissoin: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0452:FIN:EN:PDF

European Commission. (2012, 3 14). *Regulation (EU) No 236/2012 of The European Parliament and of The Council of 14 March 2012 on short selling and certain aspects of credit default swaps.* Retrieved 6 11, 2012, from European Commission: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:086:0001:0024:en:PDF

European Commission. (2012, 3 29). *Regulation on Over-the-Counter Derivatives and Market infrastructures – Frequently Asked Questions.* Retrieved 6 11, 2012, from European Commission: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/12/232&format=PDF&aged=0&language=EN&guiLanguage=en

European Commission. (2012, 2 14). *The EU Single Market: Investment Funds*. Retrieved 3 9, 2012, from European Commission: http://ec.europa.eu/internal_market/investment/index_en.htm

European Parliament. (2011, 6). *CRD IV - Impact Assesment of the Different Measures within the Capital Requirements Directive IV.* Retrieved 4 4, 2012, from European Commission: http://www.europarl.europa.eu/document/activities/cont/201108/20110818ATT25062/20110818ATT25062EN.pdf

Fidelity.com. (2012). *What is a Bond Fund?* Retrieved 2 13, 2012, from Fidelity: https://www.fidelity.com/learning-center/fixed-income-bonds/what-is-a-bond-fund

Financial Times. (2010, 9 17). *Fear of money market funds 'breaking the buck'.* Retrieved 3 9, 2012, from Financial Times: http://www.ft.com/intl/cms/s/0/696e3dc0-84e4-11dd-b148-0000779fd18c.html#axzz1PBgup83O

Financial Times. (2010, 8 5). *US hedge funds embrace the benefits of Ucits*. (S. Jones, Editor) Retrieved 3 9, 2012, from Financial Times: http://www.ft.com/intl/cms/s/0/77d8731a-a0b9-11df-badd-00144feabdc0.html#axzz1oWohVvVl

Financial Times. (2011, 5 8). *Basel III to hit money fund sector*. (S. Johnson, Editor) Retrieved 3 13, 2012, from Financial Times: www.ft.com/intl/cms/s/0/93c33d9e-782c-11e0-b90e-00144feabdc0.html#axzz1oumbgTZa

Financial Times. (2012, 5 4). *BNP Paribas closes in on Basel target.* Retrieved 6 17, 2012, from Financial Times: http://www.ft.com/intl/cms/s/0/442b873c-95bd-11e1-a163-00144feab49a.html#axzz1y2Wv1cng

Fonds de Garantie des Depôts. (2011, 7 22). *Garantie des Dépôts*. Retrieved 2 7, 2012, from Garantie des dépôts, dite "garantie espèces": http://www.garantiedesdepots.fr/spip/spip.php?article6&lang=fr

Gallardo, E., Gibson, & Dunn & Crutcher LLP. (2010, 7 17). *Key Changes to the EU Prospectus Directive.* Retrieved 3 28, 2012, from Harvard Law: http://blogs.law.harvard.edu/corpgov/2010/07/17/key-changes-to-the-eu-prospectus-directive/

Heath, R., & Dipperlsman, R. (2011, 7 7). *Balance of payments and international investment position manual (BPM6)*. Retrieved 1 30, 2012, from European Commision: Eurostat: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Balance_of_payments_and_international_investment_position_manual_%28BPM6%29

Herbst, J., Meakin, H., & Ingram, W. (2012, 2). *European Market Infrastructure Regulation: what you need to know.* Retrieved 6 11, 2012, from Norton Rose: http://www.nortonrose.com/knowledge/publications/62449/european-market-infrastructure-regulation-what-you-need-to-know

HFMweek. (2011, 4 1-7). UCITS Funds. *HFM Focus*. Retrieved 3 8, 2012, from http://www.hfmweek.com/article_assets/articledir_1051/525892/025_027_HFM181_ucits%20RT.pdf

Hull, J. C. (2009). *Options, Futures, and other Derivatives.* (S. Edition, Ed.) New York: Pearson, Prentice Hall.

Hull, J. C. (2010). *Risk Management and Financial Institutions* (Second Edition ed.). Boston, Massachusetts, United States of America: Pearson, Prentice Hall.

IASB. (2010, 12 31). *IFRS 7, International Financial Reporting Standard 7.* Retrieved 1 1, 2012, from IFRS/IASB: http://eifrs.iasb.org/eifrs/bnstandards/en/ifrs7.pdf

IASB. (2010, 10). *IFRS 9, International Financial Reporting Standard 9.* Retrieved 1 23, 2012, from IFRS/IASB: http://eifrs.iasb.org/eifrs/bnstandards/en/ifrs9.pdf

IASB. (2011). *IAS 32 Financial Instruments: Presentation.* Retrieved 1 23, 2012, from IFRS: http://eifrs.ifrs.org/eifrs/PDFArchive?viewFile=4995

IASB. (2011). *IAS 39 Financial Instruments: Recognition and Measurement.* Retrieved 1 30, 2012, from IFRS: eifrs.ifrs.org/eifrs/PDFArchive?viewFile=5001

IMF. (2009). *Balance of Payments and International Investment Position Manual, Sixth Edition.* International Monetary Fund. Washington, D.C.: IMF Multimedia Services Division. Retrieved 1 30, 2012, from IMF: http://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf

ING. (2011). *ING Commercial Banking*. Retrieved 5 9, 2012, from ING: http://www.ing-wholesalebanking.nl/

ING. (2012). *2011 Annual Report ING Bank N.V.* Retrieved 6 11, 2012, from ING: 2011 Annual Report ING Bank N.V.

ING. (2012, 1 13). *Balance sheet transformation- Capital, funding and liquidity.* Retrieved 6 19, 2012, from ING: http://www.google.com/url?sa=t&rct=j&q=balance%20sheet%20transformation%20%E2%80%93%20capital%2C%20funding%20and%20liquidity%20-%20ing&source=web&cd=1&ved=0CFQQFjAA&url=http%3A%2F%2Fwww.ing.com%2Fweb%2Ffile%3Fuuid%3D8f09ab53-13c4-4e83-8b52-81a179091d02%26

ING Groep N.V. (2011). *ING Group Annual Report 2010.* Retrieved 2 14, 2012, from ING: http://www.ing.com/web/file?uuid=0165217a-76a0-4613-b95f-1c0aa7e5c751&owner=b03bc017-e0db-4b5d-abbf-003b12934429&contentid=8984

Institutional Money Market Funds Association. (2010, 10). *The impact of the Basel Committee liquidity proposals on money market funds.* Retrieved 3 13, 2012, from Citibank: http://www.citibank.com/transactionservices/home/oli/files/immfa_161110.pdf

Internal Revenue Services: United States Department of the Treasury. (2012, 2 23). *Summary of Key FATCA Provisions*. Retrieved 2 25, 2012, from Internal Revenue Service: http://www.irs.gov/businesses/corporations/article/0,,id=236664,00.html

International Association of Risk and Compliance Professionals. (2011, 3 5). *The five key objectives of the Dodd Frank Act.* Retrieved 4 23, 2012, from Risk-compliance-association: http://www.scribd.com/doc/50101561/The-Five-Key-Objectives-of-the-Dodd-Frank-Act

International Monetary Fund. (2010). *Global Financial Stability Report: Sovereigns, Funding, and Systemic Liquidity.* Washington D.C.: IMF Multimedia Services Division. Retrieved 3 7, 2012, from http://www.imf.org/external/pubs/ft/gfsr/2010/02/pdf/text.pdf

Invesco. (2010, 10). *Investment Perspective: Reviewing the Basel III Impact on Money Market Funds*. Retrieved 3 13, 2012, from Citigroup: http://www.citigroup.com/transactionservices/home/oli/files/invesco_baselimpact.pdf

Investment Company. (2011). *Total Net Assets, Number of Funds, Number of Share Classes, and Number of Shareholder Accounts of the U.S. Mutual Fund Industry.* Retrieved 3 21, 2012, from Investment Company Fact Book: http://www.icifactbook.org/pdf/11_fb_table01.pdf

InvestorGuide. (2011). *Common Stock versus Preferred Stock, and Stock Classes Explained*. Retrieved 2 9, 2012, from InvestorsGuide: http://www.investorguide.com/igu-article-818-stock-basics-common-and-preferred-stock.html

ISITC. (2010, 2 4). *http://www.isitc.org.* Retrieved 1 24, 2012, from ISITC Classification Code List: http://www.isitc.org/publish/showDoc.cfm?contentId=0000005696_001_20100419.pdf

ISO. (2011, 5 16). *ISO/FDIS 10962 - Securities and related financial instruments -- Classification of financial instruments (CFI code)*. Retrieved 1 23, 2012, from ISO.org: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=44799

J.P. Morgan. (2010, 6). *UCITS 4 – The Reality of Execution.* Retrieved 3 21, 2012, from J.P. Morgan: http://www.google.nl/url?sa=t&rct=j&q=ucits%204%20%E2%80%93%20the%20reality%20of%20execution&source=web&cd=1&ved=0CCUQFjAA&url=http%3A%2F%2Fwww.jpmorgan.com%2Fcm%2FBlobServer%3Fblobcol%3Durldata%26blobtable%3DMungoBlobs%26blobkey%3Did%26blobwhere%3D115862

KBC Bank. (2012). *Annual Report 2011.* Retrieved 6 11, 2012, from KBC: https://multimediafiles.kbcgroup.eu/ng/published/KBCCOM/PDF/COM_RVK_pdf_jaarverslag_2011_EN.pdf

KBC Bank N.V. (2012). *KBC Bank N.V. Annual Report 2011.* Retrieved 6 20, 2012, from KBC: javascript:NgPopup_other('https://multimediafiles.kbcgroup.eu/ng/published/KBCCOM/PDF/COM_RVK_pdf_jaarverslag_2011_bank_EN.pdf','N103CE','','','');

KBC Group NV. (2011). *2010 KBC Annual Report.* Retrieved 2 14, 2012, from KBC: https://multimediafiles.kbcgroup.eu/ng/published/KBCCOM/PDF/COM_RVG_pdf_08042010_jaarverslag_KBC_Groep_2010_EN.pdf

Kiema, I., & Jokivuolle, E. (2011). *Leverage Ratio Requirement, Credit Allocation and Bank Stability.* Bank of Finland, Research Department. Helsinki: Bank of Finland. Retrieved 4 5, 2012, from http://www.suomenpankki.fi/fi/julkaisut/tutkimukset/keskustelualoitteet/Documents/BoF_DP_1110.pdf

KPMG. (2011). *MiFID II: An initial impact analysis.* Retrieved 3 27, 2012, from KPMG: http://www.kpmg.com/NL/nl/IssuesAndInsights/ArticlesPublications/Documents/PDF/Financial%20Services/MiFID_II_An_initial_impact_analysis(def).pdf

Lamfalussy, A., Herkströter, C., Rojo, L., Ryden, B., Spaventa, L., Walter, N., & Wicks, N. (2001, 2 15). *Final Report of The Committee of Wise Men on The Regulation of European Securities Markets.*

Retrieved 3 26, 2012, from European Commission: http://ec.europa.eu/internal_market/securities/docs/lamfalussy/wisemen/final-report-wise-men_en.pdf

Linklaters. (2011, 2). *Basel III: Capital Changes.* Retrieved 6 11, 2012, from Frank Oertel Math: http://frank-oertel-math.de/On_Basel_III_Feb_2011.pdf

Litten, R., & Schwenk, A. (2012, 1). *EMIR - Impact of the regulation of the OTC derivates market for companies in the real economy.* Retrieved 6 11, 2012, from Norton Rose: http://www.nortonrose.com/knowledge/publications/62030/emir-impact-of-the-regulation-of-the-otc-derivates-market-for-companies-in-the-real-economy

Londen Market Systems. (2010, 7). *londonmarketsystems.com.* (M. Sexton, Ed.) Retrieved 1 23, 2012, from MartinSexton-July10.pdf: http://isitc.eu/files/MartinSexton-July10.pdf

London Market Systems. (2010, 6 24). *londonmarketsystems.com.* (M. Sexton, Ed.) Retrieved 1 23, 2012, from FinancialInstrumentClassificationFacetsAbridged.pdf: http://www.londonmarketsystems.com/FinancialInstrumentClassificationFacetsAbridged.pdf

LoveToKnow Corp. (2012, 1 29). *redeemable shares business definition*. Retrieved 2 9, 2012, from YourDictornary: http://business.yourdictionary.com/redeemable-shares

Mc Dermott Will & Emery. (2012, 3 5). *European Market Abuse Regulation Extended to the Commodities Sector*. Retrieved 3 27, 2012, from Energy Business Law: http://www.energybusinesslaw.com/tags/market-abuse-directive/

Morningstar. (2011, 6 9). *De impact van Bazel III op Europese banken.* Retrieved 6 17, 2012, from Morningstar: http://www.morningstar.nl/nl/news/33945/De-impact-van-Bazel-III-op-Europese-banken-%281%29.aspx

Morrison & Foerster. (2010). *The Dodd-Frank Act: A cheat sheet.* Retrieved 6 11, 2012, from Morrison & Foerster: www.mofo.com/.../SummaryDoddFrankAct.pdf

Morrison & Foerster. (2012, 6 11). *Extraterritoriality: The Volcker Rule.* Retrieved 6 11, 2012, from Morrison & Foerster: http://www.mofo.com/files/Uploads/Images/120611-Extraterritoriality-Volcker-Rule.pdf

Parker, C., Stretch, K., & Price, B. (2009). *The New UCITS IV Directive: Risks and Opportunities.* Retrieved 3 15, 2012, from Paul Hastings: http://www.paulhastings.com/assets/publications/1355.pdf

PricewaterhouseCoopers. (2011, 2 16). *Examining the Implications and Practicalities of the Leverage Ratio.* Retrieved from PwC: http://www.pwc.com/gx/en/banking-capital-markets/pdf/Monika_mars_Presentation.pdf

Pritchard, J. (2010, 6 10). *What is a Commercial Bank?* Retrieved 2 17, 2012, from About Banking/Loans: http://banking.about.com/od/businessbanking/a/commercialbank.htm

Pritchard, J. (2010, 6 10). *What is a Retail Bank?* Retrieved 2 17, 2012, from About Banking/Loans: http://banking.about.com/od/businessbanking/a/retailbank.htm

Pritchard, J. (2010, 06 10). *What is an Investment Bank?* Retrieved 2 20, 2012, from About Banking/Loans: http://banking.about.com/od/businessbanking/a/investmentbank.htm

Rabobank. (2010, 11). *Liquiditeitseisen uit Bazel maken bankieren een stuk lastiger.* Retrieved 6 21, 2012, from Rabobank: overons.rabobank.com/content/images/TB1011nsm liquiditeitseisen uit Bazel maken bankieren een stuk lastiger_tcm64-108604.pdf

Rabobank. (2011). *Payment & Account Services Financial Institutions.* Retrieved 6 21, 2012, from Rabobank: http://www.rabobank.com/content/products_services/financiallogistics/payments/fatca.jsp

Rabobank. (2012). *Annual report 2011.* Retrieved 6 11, 2012, from Rabobank: http://www.annualreportsrabobank.com/FbContent.ashx/downloads/Annual_Report_2011_Rabobank_Group_(complete).pdf

Reuters. (2012, 1 26). *Foreign Account Tax Compliance Act threatens investment in the U.S.* Retrieved 4 26, 2012, from Reuters Financial Regulatory Forum: http://blogs.reuters.com/financial-regulatory-forum/2012/01/26/foreign-account-tax-compliance-act-threatens-investment-in-the-u-s/

Société Générale. (2012). *2012 Registration Document.* Retrieved 6 11, 2012, from Société Générale: http://www.societegenerale.com/sites/default/files/documents/Societe-Generale_Registration-Document-2012.pdf

Société Générale. (2012, 5 3). *Société Générale: Group Results 1st Quarter 2012.* Retrieved 6 21, 2012, from Société Générale: http://ww2.sgcib.com/canada/UserFiles/Files/news_Societe_Generale_Q1_2012_Financial_Results/Q1-12_GLOBAL.pdf

Sparkasse Bank. (2011, 8). *A synopsis of Premature, Uncertain and Far from Perfect: An Analysis of the Impact of the Dodd-Frank Wall Street Reform and Consumer Protection Act on the Investment Banking Industry.* Retrieved 6 11, 2012, from Sparkasse Bank Malta: www.sparkasse-bank-malta.com/file.aspx?f=507

Spiegel. (2011, 12 14). *European Banks Stop Serving American Customers*. Retrieved 4 26, 2012, from Spiegel: http://www.spiegel.de/international/business/0,1518,803742,00.html

Standard Bank. (n.d.). *The Foreign Exchange Market.* Retrieved 2 13, 2012, from Corporateand Investment, Standardbank: http://corporateandinvestment.standardbank.co.za/pages/docs/foreign_exchange_mkt.pdf

The Local/mdm. (2011, 12 15). *German banks abandon US customers*. Retrieved 4 26, 2012, from The Local: http://www.thelocal.de/money/20111215-39519.html

The Wallstreet Journal. (2012, 5 24). *Dexia Seeks to Sell Denizbank to Sberbank.* Retrieved 6 19, 2012, from The Wallstreet Journal: Deals & Deal Makers: online.wsj.com/article/SB10001424052702304707604577424182709297016.html

The World Bank. (2009, 12). *The Leverage Ratio: A New Binding Limit on Banks.* Retrieved 3 12, 2012, from The World Bank: http://www.worldbank.org/financialcrisis/pdf/levrage-ratio-web.pdf

Transposition of Lamfalussy Directives . (2012, 8 3). Retrieved 3 27, 2012, from European Commission: http://ec.europa.eu/internal_market/securities/transposition/index_en.htm

U.S. Securities and Exchange Commision. (2010, 3 29). *Bond Funds and Income Funds*. Retrieved 2 13, 2012, from SEC: http://www.sec.gov/answers/bondfunds.htm

Verschuren, P., & Doorewaard, H. (1995). *Het ontwerpen van een onderzoek.* Utrecht: LEMMA.

Warren, L. D. (2011). Additional Time to Implement FATCA. *Pepper Hamilton LLP: U.S. - India Update*, pp. 19-20. Retrieved 4 26, 2012, from http://www.pepperlaw.com/pdfs/US_IndiaUpdate_2011_4.pdf#page=19

Watt, M. (2011, 9 2). *Regulators wary of new corporate deposits that sit outside Basel III LCR.* Retrieved 6 25, 2012, from Risk.net: http://www.risk.net/risk-magazine/news/2105260/regulators-wary-corporate-deposits-sit-outside-basel-iii-lcr