"Regulatory (r)evolution, impacting products, processes and software applications within the Western-European banking industry"

A Thesis on the different means of regulation that affects the way banks operate today.

Rickert Iwema
Financial Engineering & Management
November 2007
Henk Kroon & Marcel van der Wal

Executive Summary

The financial sector has been constantly changing in the last decades. External influences as globalization, consolidation, technological innovation and upcoming markets are only a few causes for the changes in banking activity. The (constantly changing) regulatory environment is also a factor that has an enormous impact on the finance sector. During this Thesis, it will become clear to the reader that by community concerns, the mutual influences of regulation and the market, the limitation of freedom and political games, regulation is not something that can or should be overlooked.

This Thesis is valuable to the financial sector by providing an overview of the total regulatory environment in Western Europe, both the globally and the locally. This Thesis shows that the EC evolves towards a powerful, influential institute that is directly or indirectly responsible for over 90% of the existing regulation in the financial sector. However, this Thesis does not exclude any worldwide influences or local deviations. It uses key regulations as a guideline, but discusses developments from a point of view more than only from these regulations.

The EC, head of the EU, has gained in power. The integration of the European countries towards a single market with uniform regulation, fiscal system and currency has taken up speed in the last decades. Together with the expansion of the EU towards Eastern Europe, this integration requires new regulation developed Europe-wide. Concerns about market stability and competitiveness of Europe also results in regulation development activity of the EC. It is not possible to discuss every new directive, legislation or incentive to lawmaking, but through strict criteria five main regulations are chosen to be discussed in more dept and to function as a guideline for the regulatory trend in the financial sector.

The regulations that have been chosen can be found in the table on the next page. Each of the individual regulations directly or indirectly influences banking activities. In the Thesis, the most visible impacts of each of the regulations are discussed, but there are too many impacts to mention all of them within the Executive Summary. The headlines of the five main regulations however, will be mentioned next:

- MiFID, developed by the EC, is involved in securities trading. The EC wants to create more transparent trading relations and give a higher degree of protection to the clients.
- SEPA is a continuation of the Euro currency incentive. The SEPA target is to create a payment system where it does not matter whether payments are domestic or cross-border.
- SOX is not European regulation, but by its size and impact, SOX can not be left unnoticed when discussing the regulatory impacts.
- Basel II covers the European market, but other countries are also eager to adopt Basel II by its added value towards risk modeling and management.
- AML is a good example of evolution, not revolution, and has since its first introduction reached a lot. But, as with evolution, the target is moving. So are criminal activities.

Next to individual regulation, the ever changing regulatory environment has its influences on the financial sector as well. Again, more than only briefly mentioning the developments that arise under the influence of regulation is not the purpose of an Executive Summary.

- *Innovation of financial products*: banking experts try to create new products and instruments to avoid regulation on specific products, or to make smart use of the structure of legislation;
- *Consolidation*: the intention of the EC for banks is consolidation. With high pressure on small scale activities, banks start up-scaling in order to stay competitive;
- *Changing role in the community*: by changes in the finance sector, and the interaction with clients, the role of banks change. Trust is not self-evident and industrialization takes place.
- *Rise of consultancy firms*: through the continuous stream of new regulation, together with the desire for new opportunities, financial institutions heavily depend on consultants;
- *(Business Process) Outsourcing*: since regulators allow non-banking institutions to perform banking activities, banks start to outsource activities or even processes to third parties;
- *Modular Systems*: regulatory pressure on IT creates a desire for technology development. Modular systems allow for quick adaption and interfaces are common earlier than exception.
- *Application Service Providers*: also IT can and will be outsourced. Regulation creates the need for low-investment solutions with short payback periods;
- *Flexible Business Processes*: another possibility to handle the required frequent changes in business processes is to organize processes in a flexible environment.

Regulation does not always serve the best interests of the community, even though that is what regulation is originally intended to do. Punishment of individual financial organizations can put the financial sector in a bad daylight, but without punishment, regulation looses the execution of its power. Also, moral hazard requests constant attention since there is often no advantage in compliancy to regulation. Moral hazard is a much discussed topic in literature, and is still an actual issue. Ideally, financial organizations should create more trust to the community. The market players with bad intentions should be excluded for doing business and future contracts.

Now regulation slowly starts to open up the financial sector for other parties to do business, financial organizations better have another look on their efficiency, image and customer orientation. Examples for benchmarking can be found in the telecom sector or in the retail sector. These typical highly customer oriented sectors are more efficient and quickly gain market share now they are also allowed to sell basic banking products and services.

It is remarkable that, although banking has obviously become a global sector, regulators not yet provide global regulation. This has led to the creation of regulatory paradises in the past.

Much of the gains and losses in terms of profit, market share, customer satisfaction and operational excellence that are observed in the financial sector are due to the business process and IT design. Efficient process structures reduces operating costs and maintenance for often longer periods of time. Although IT design typically follows business process design, IT design remains very important since it facilitates the processes and functions as the infrastructure of the bank.

Further research is necessary on influences on individual organizations, but the outcome of that research is not suited for general use since each organization has a different progress on regulatory compliance, is operational in different countries and is of different size. The size of the bank really matters, in terms of organizational difficulties, competitiveness and requirements. This will change in the near future, so any bank better realize it should stay up to date about new developments.

Content

Part 6

Table Overview

Figure Overview

Introduction to the Subject

Introduction

Literature

Objectives

Deliverables

Problem Statement

Research Questions

Research Design

Introduction

No industry is as heavily impacted as the financial sector by today's globalisation process, leading to increased complexity, constant changes and extensive growth. The growth of hedge funds, introducing even more complex derivatives, consolidation of financial institutions (M&A), increased integration of historical financial geographies, and the introduction of new regulations, are important developments, which demonstrate a highly dynamic industry.

The landscape as drawn above, causes a great need for change which needs to be managed, implemented and monitored thoroughly by regulatory institutions, specific committees and industry specialists. One aspect that has always affected the way in which financial organizations operate is regulation.

Regulation appears in many different forms, and differs and is treated different in each country by means of a different culture, a different regulatory system or different international interests. By this differing treatment, regulatory influences show up in different degrees of impact as well. Beside the different regulations in existence in the different countries, common regulation is also under development by central authorities and associations in order to strive to a level playground for the organizations in or related to the financial sector.

In this document, the different means of regulation will be discussed. The currently most involving regulations will be introduced and their individual influences will be set out in more detail. The impact of regulation in general will be given attention to as well, followed by conclusions on the main statement in this document, clarified later in the chapter 'Problem Statement'.

This document attempts to create a complete overview of the involved parties in regulation development, execution and governance, thereby adding value to the financial market. The overview should also be complete in terms of the existing legislation both locally, Europe-wide and globally.

Literature

This chapter contains a fundamental background on which the research during this Thesis will be reflected. The issues in this chapter are: different types of regulation, effects of regulation on market efficiency, regulatory effects on merger activity, relevant departments of banking organizations to the topic, the systematic observation of internal and external drivers for change, development of intended and unintended effects of regulation and the discussion of the regulatory pendulum.

Different Regulation types

According to the European Commission[1] (EC), every currently existing directive, guideline or other measure can be grouped into one of the following three categories:

- *Legislation:* Legislation, or 'statutory law', is law which has been enacted by the EC. The term can refer to a single law, or the collective body of enacted law, while "statute" is also used to refer to a single law. Before any legislation becomes law it is very often called "legislation" already, while it remains under active consideration.
- *Self-regulation:* The possibility for economic institutions, the social partners, non-government organizations or associations to adopt, amongst themselves and for themselves, common guidelines at European level (particularly codes of practice or sectoral agreements).
- *Co-regulation:* The mechanism whereby a 'Community legislative act' entrusts the attainment of the objectives defined by the legislative authority to parties, which are recognized in the field (such as economic operators, social partners, non-government organizations or associations).

Regulation vs. Deregulation in the financial sector

Theory on regulation points out four major failings of regulation[2]:

1) Regulation creates moral hazard. It causes people to behave in a counter productive way.

[1] http://ec.europa.eu/governance/better_regulation/instruments_en.htm

[2] Howells & Bain, "The Economics of money, banking and finance", 1998

2) The regulatory process is likely to be captured by producers since the activities of regulators are much more important to each of the relatively small numbers of producers than to each of the much larger number of consumers.
3) Regulation creates compliance costs for producers. The effects of such costs depend on the degree of competition in the industry and the nature of the costs. If producers are able to pass the costs down to the consumers, the result is higher prices and lower output.
   Complying with regulations may also have benefits for firms. They might be required to keep better records than they would have voluntarily and later discover advantages in having done so.
4) The need to comply with regulations increases the costs of entry into and exit from markets. This helps to preserve monopoly positions and make cartels more stable.

These failures of regulation lead to two statements about regulation of the financial sector.

- Regulation keeps out new entrants who, if they could enter, would force existing firms in the market to be more efficient and would compete prices down, removing monopoly rents. #

- Regulation prevents mergers and acquisitions and allows small inefficient firms to remain in business. Thus, deregulation would lead to mergers which would result in economies of scale, economies of scope and the replacement of poor management by superior management. ##

#: The benefits of lower prices which might arise from deregulation have to be weighed against costs such as possible reductions in the stability of the system and increased risk of loss for consumers.

##: Studies of the very considerable merger activity which took place in US banking in the 80's and 90's have produced no convincing evidence of increased efficiency or profitability.
See: S A Rhoades 'Banking Acquisitions' in P Newman, M Miligate an d J Eatwell (eds) 'The New Palgrave Dictionary of Money, Banking and Finance'

Merger and Acquisitions (M&A) Activity within Europe

Especially, the last point (##) within the previous paragraph is interesting for development of M&A activity within Europe. Why is the policy on integration of the internal market within the European Union (EU) across different sectors based on the assumption that consolidation and M&A activity will increase the efficiency of the market, resulting in a more competitive Europe, while there is evidence that merger activity does not increase efficiency or profitability?

Until the early 90's, there has not been any indication of a comprehensive economic theory on mergers. Research on mergers was based on ad hoc hypotheses. Although it was frequently argued that bank acquisitions will result in economies of scale, economies of scope and synergy and that acquisitions replace bad management with the control of the well-managed banks that try to take advantage of purchasing the poorly managed banks, empirical research did not provide any of these statements.

The actual results of several different researches on mergers in America were that profit rates and expense ratios of acquired banks did not improve significantly after acquisition. Important to note that all research has been performed on the American market, since Europe did not have high merger activity which made sufficient data collection and comparisons almost impossible.

The fact that research has been carried out in America only, is a very important nuance for the EC which has consolidation and M&A activity as a spearhead in their financial policy. The ECB has been monitoring and analyzing M&A activity in the European countries for the last decade, and showed very different results, explaining the successful mergers within Europe.

The ECB says in its report on M&A[3]: *"Unlike results from most of the US-based event studies literature, we found that there are improvements in performance in the European Union after the merger has taken place particularly in the case of cross-border M&As."*

The report concluded with the findings that broad similarities among the merging partners are conducive to an improved performance, although there are important differences between domestic and cross-border M&A and among strategic dimensions.

Categorisation of Banking Divisions

Organizations consist of different departments and the departments are structured through several different mechanisms to create the organizations as it is. Independent from the structure, there are always Business and Operations functions present within (banking) organizations. As a result of the very fast development of technology in the last ten to

[3] Working Paper Series, No. 398, October 2004, "M&A and Banking Performance in Europe: The role of strategic similarities"

twenty years, together with the increased demand for data storage and calculation power, Information Technology has become a separate function within financial institutions, next to Business and Operations.

Divided within three categories as shown below.

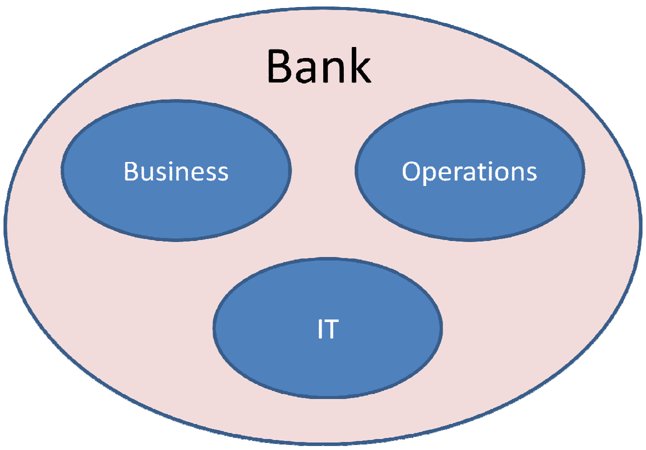

Figure 1: Bank functions divided into three categories

The departments categorization into Business, Operations and IT functions not coincidentally conforms to the three areas that will be discussed answering the Problem Statement, being Product, Process and Software Applications.

- The Business group of departments, being marketing, sales and after-sale support, is involved in the customer side (front-office) and therefore refers to Products.
- The Operations group of departments is involved in transaction processing, investment, inter-bank credit and debit etc., which are all back-office activities, and refers to Process.
- The IT group of departments, which is most often one single department heavily supporting the back-office but also involved in front- or even middle-office applications and therefore refers to (Software) applications.

Internal and External Drivers

Within organizations, changes are either internally or externally driven. Internal drivers for change finds its origination within proactive or independent behaviour of management or employees, whereas external drivers for change are derived from a reaction on changing environment. According to the PESTEL framework, the environment is divided into six areas.

Environment	Driver
Political	Authorities require or allow for certain actions by the organization.
Economical	By economic reasons, actions are undertaken or avoided.
Social	Public opinion has its smaller or lager influence on the direction of the organization.
Technical	The availability of technology restricts the set of possible actions.
Ecological	The environment becomes more important on what can be done.
Legal:	Law (different from authorities!) restricts or provide a framework for possible action.

Table 1: PESTEL Framework (theoretical).

The separation of external drivers into these areas will be used later as a guideline.

Although the PESTEL framework is intended to be used in commercial organizations, it also applies for governments or authorities. Governments get impulses from the environment which requires them to undertake action. These influences will become more apparent in the chapter 'The European Union & European Commission'.

Intended and Unintended effects of regulation

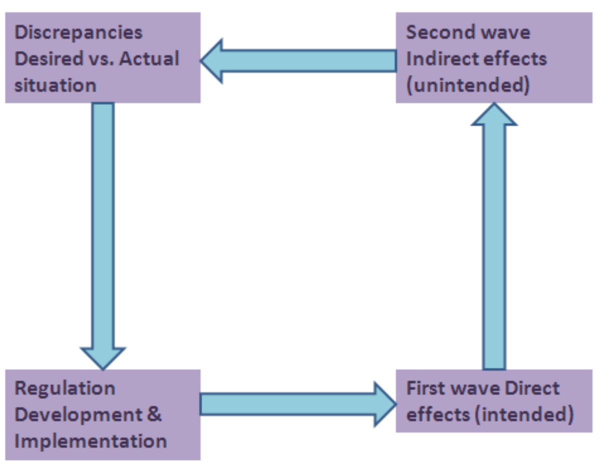

Figure 2: Regulatory effects: Intended & Unintended

The diagram of regulatory intended and unintended effects gives a visualization of the relationship between rulemaking and market reaction.

The figure does not show that it is not always necessary for first wave effects to be direct or intended, or for second wave effects to be indirect and unintended. Though, it can be said that indirect effects will be unrevealed later after implementation of the regulation.

The direct effects are a result from the interpretation of the written legislation and there should be very little to discuss, considering the heavy debates preceding the execution of law. That is why these effects are called intended.

Regulatory Pendulum

Together with the intended and unintended effects on regulation, which constantly creates and resolves deviations from regulators' policies, another effect exists. This side-effect is called the regulatory pendulum and explains the increases and decreases in regulatory burden. Each time regulation has been developed and implemented, minor or major failings can be observed in the performance of the regulation. These failings require new regulation, which makes the burden higher and the intentions of these regulations less clear. Without a clear goal, and high expenses to comply to regulation, it is advantageous to avoid rather than comply to regulation. This again, requires even more elaborate regulation.

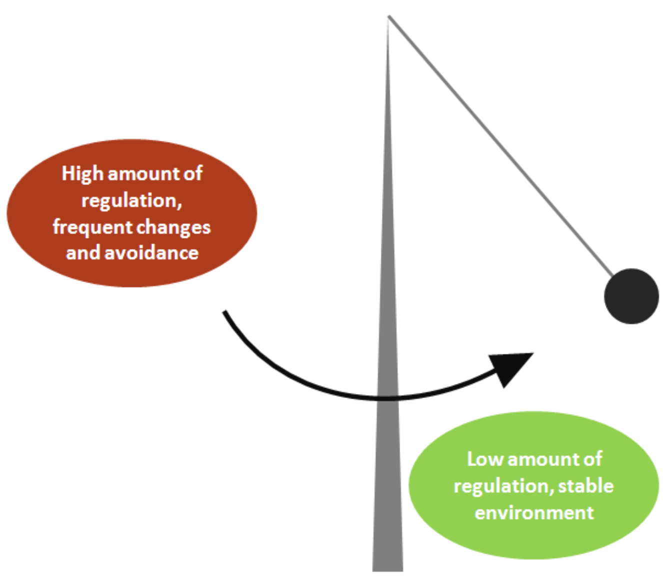

Figure 3: Regulatory pendulum

Only after this collapses, or a new system structure (decentralization, market consolidation) is brought into the community, the vicious circle can be broken and the regulatory burden can be reduced.

After reduction, and with a paradigm shift, it shows that monitoring can be reduced even further. This creates a period in which regulation density is low and the regulated sector shows low regulatory avoidance.

This can hold for longer times, but when calamity happens, the amount of regulation starts to go up again. With new regulation into existence, the burden starts to go up. New deviations are observed, and the pendulum starts to sweep again.

Objectives

Before giving any direction towards the deliverables of this Thesis, a decision must be made on the target group this Thesis is intended for.

Concerning the topic of regulatory evolution and products, processes and applications in a general sense, the group that would be most interested in this document is likely to be senior managers or executives of banks, other financial institutions, committees or IT vendors. These people have functions within the organization directly placed under the board or two layers down, and involved in the strategic management of (Departments of) their organizations. These functions are concerned with the execution and monitoring of the Business functions as well the Operations and IT functions on a strategic level.

Deliverables

The deliverables are meant to give direction towards answering the research questions. This gives the deliverables a high priority before turning towards these questions.

- A consolidated overview of recent developments within the banking industry, providing senior executives not having deep knowledge on regulations and regulatory impacts on the banking industry with a fast and easy update;
- Conclusions on the shared effects of the implemented regulations in order to show senior executives the commonalities among the different regulations;
- Give an indication of the governmental institutions' intentions behind the evolution of regulation and legislation. This will be divided into Internal and External drivers for change;
- Providing the reader with recommendations for handling future implementation of new regulations in a way that is advantageous for his organization through creating opportunities instead of compliance;
- A framework providing financial experts with the availability to enclose more detailed information on specific regulations useful for more specialized jobs within this business area.

Problem Statement

Regulations have evolved into complex directives, guidelines and measures and are nowadays present in numerous amounts. Regulations differ in different geographical areas and can even be conflicting for companies that operate worldwide. For the complexity of regulation and the broad scope, strictly narrowing down the scope of the problem statement is necessary.

According to the literature on regulation and in line with the deliverables, the following statement in this Thesis is chosen to be the main problem statement:

"Regulatory (r)evolution, impacting products, processes and software applications within the Western-European banking industry."

In this Thesis, research is only done on regulation that is specially devoted for the banking industry. Furthermore, research is limited to regulation that affects the banking industry in Western-European countries. Only regulation under development, or the implementation of regulatory measures will be considered.

Research Questions

From the above statement, the research question, main questions, as well as the sub-questions, are derived. The research questions are discussed next and give a complete overview on the relevant aspects involved in regulation in the sense that is stated above. The research questions are necessary to address the actually identified problem central to the ideas of this Thesis.

"What are the historical, current and expected future implications of individual regulations on one side, and of the regulatory environment in general on the other, on the daily activities of banking institutions in Western Europe, related to effects on products, processes and software applications?"

Regulators

It is reasonable to assume that the group of readers are moderately informed about the organizations, governments and committees that regulate the financial sector and thereby affecting the daily business of the target group of readers. To be complete, and to update knowledge of less informed readers, the next question, with its sub-questions, are asked about regulators.

- *Which regulators have controlled or are currently controlling the financial sector within Western-Europe?*
    - How can organizations within Western-Europe be controlled?
    - On which level can regulations and legislations be developed?
    - Which organizations are responsible for development and implementation of regulations and legislations and monitoring of the affected organizations?

Regulations & Legislations

The introduction to the regulation starts with a brief overview of the regulations that are currently implemented by the regulators mentioned in the previous part. There are a lot of regulations, but many of them are already existent, thereby less affecting changes in daily business operations. There are also regulations implemented that do not affect the business operations, and are thereby less interesting for this Thesis.

An overview to senior managers of the different parties involved in implementation of the regulation and legislation is a valuable addition to their knowledge. It is further good to know which issues are covered in each of the discussed regulations.

- *What are the main regulations and legislations within Western-Europe, most heavily impacting the financial industry?*
    - What are the reasons for the regulators that control Europe to implement these regulations and legislations?
    - What are the topics covered by these regulations and legislations and is there a commonality between them?
    - Why do these regulations and legislations place the largest burden on the financial industry?

- What are the involved parties to develop and implement each of the regulations and legislations?

Direct impact

After an introduction to the regulations that are so much influential to the financial sector that they are a constant concern to the previously mentioned managers, it is good to start the research on the impacts of these regulations. It is good to know why these regulations are most heavily impacting the financial sector and even more important, the effects to the financial institutions and their interrelationships that come with these regulations. Next to the impacts of the individual regulations, the effects of implementing all these regulations simultaneously are to be discussed as well.

- *What are currently the main developments within the financial sector, originating from the implementation of these regulations and legislations?*
    - For each regulation / legislation:
        - Which issues cause the largest changes on financial products & processes?
        - What direct effects can be observed on financial products & processes?
        - Which issues will cause the largest changes on software applications & IT within financial organizations?
        - What direct effects can be observed on software applications & IT within financial organizations?
    - What are currently the common effects of the implementation of the regulations and legislations?

Future perspective

Finally, with the information retrieved earlier, it should be possible to give some comments on future developments. Although these comments are only predictions, some assumptions can be made with high reliability. As an example, it can be argued that with the combination of the regulators' policy and the actual set of regulations, a reasonable expectation of the next set of regulations can be made. Also, in existing literature, there should be an indication of a general trend within regulation.

- *What will be the effect of the discussed regulations and legislations in the medium term future (ten years)?*
    - Which regulations and legislations will be developed further within the coming years?
    - Which topics, being targets to be met within the regulator’s policies, require new regulations and legislations to be developed and implemented?
    - What will be the effect of the discussed changes on the financial industry?

Research Design

Although some authors argue otherwise, there are many ways to structure a Thesis. There are also many different sources of information, which makes it is easier to find any structure and piles of information than to choose the right structure and the for that structure optimal information sources. Reasons for designing a research model that is on the one hand only allowing for answers to predetermined questions and on the other hand, also trying to find market relationships through bulk information are given next. The research design is somewhat uncommon for an academic Thesis.

To find the boundaries of the regulatory influences, it is necessary to start with the outer layer in the figure. Market structure and general relationships of economic events need to be revealed for signalling the scope of the Thesis and during a deeper analysis later on. The collection of large amounts of information linked to the subject, even only sideways, is good for finding these boundaries.

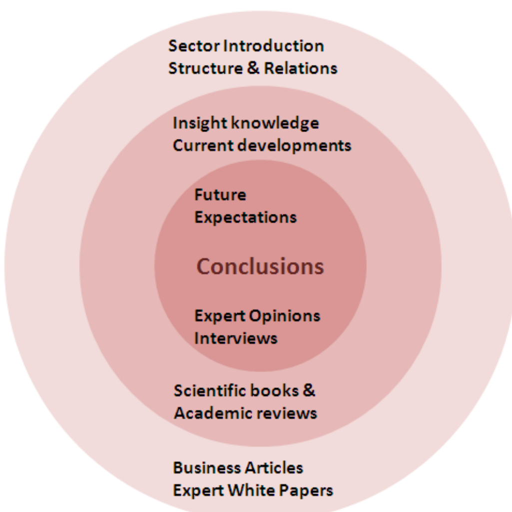

Figure 4: Research design

After an exploration of the background of regulatory impact on banking products, processes and software applications, a more thorough analysis on individual regulations and their effects requires more specific information and scientifically written articles that provide reliable information on specific and causal relationships. Finally, the most important but also most difficult part of correctly and usefully answering the research questions is in giving overviews of (cause-and-effect) relationships and other links.

The research questions are grouped according to separate themes, represented by the main questions. The questions across the different themes should be answered in the following order as they are presented because part of the questions are based on the answers of preceding questions. The available information sources for answering the research questions will be briefly mentioned.

The first and most easily accessible source of information can be found on internet. In the area of regulatory influences on the banking industry, a treasure of information is available. This are mainly whitepapers written by business or product experts or articles published by academics in scientific journals. The latter are not always very useful since they are abstract in nature and do not fully cover certain aspects of this Thesis. The internet information is very suitable for answering the first part of the questions.

The second source of information that is used is more comprehensive and consists of scientifically written books and more enhanced articles discussing the topics in more depth. These can be found in electronic or physical libraries. The information within the books or articles are suitable for the scientific background and the explanation of economics within the financial sector. This is useful for the first and the middle part of the Thesis.

Expert opinions and expert knowledge, being highly valuable, is not easy to retrieve but will be essential for the last part of the Thesis. Although experts typically write articles, columns, or other publications based on their experiences with the topics discussed by them, inquiries through interviews by phone, e-mail or direct contact is more valuable to this Thesis.

For deeper analysis and conclusions on a broad subject like the one in this Thesis, there will typically never be enough information available. This makes the (direct contact) interviews with experts even more valuable than has been said before

The advantages of using interviews are that they give a detailed picture of the preferences of the actors in question and allow the interviewee to describe her or his thinking that went into decisions in a way that is only possible in an interview. These interviews provide a rich and detailed base of data for assessing the argument.

Governmental & Regulatory issues

History

Present

Necessity of European integration

Necessity of European regulation

The European Union & European Commission

The European Commission (EC), as government of the European Union (EU), performs daily governance. The EC is also involved in the development and implementation of regulation across the EU. Apart from the Sarbanes Oxley Act, all discussed regulations in this Thesis are directly or indirectly founded by the EC. The EC states in its policy, which governs several different areas of interest in Europe, the targets that the EC wants to have met as well as the timeframes in which these targets are desirably met. In accordance with policy objectives, committees are founded with the purpose of operationalization and implementation of specific objectives. Different Special Purpose Entities (SPE) exist and will be mentioned in the relevant chapters.

Figure 5: EC Logo

The policies of the different Ministers of the EC are public and can for example be found easily on the website of the EC.

History

Ten years ago, the EU & EC were by far not as heavily involved in daily life as it is now. While European integration is now standing for development of an area that has a common currency, common law and one common constitution as well as a competitive advantage and an efficient internal market, this has not always been this way[4].

Back then, only the European Community existed, which was the predecessor of the EU. The goals concerning the European integration were free transportation of commodities, services, citizens and money. The latter target, free transportation of money has not been fully fulfilled. SEPA, one of the regulations that will be discussed in more detail, is a major incentive in finalizing the process for freely transferring money digitally across EU member states.

Present

The EC has evolved into a sophisticated authority with, besides short and medium term goals, also longer term goals. Commissioner McGreevy is a prominent member of the EC and is daily occupied with the development of the regulatory policy for the banking industry. He

[4] R. Baldwin, C. Scott & C. Hood, "A reader on Regulation", 1998

sates he ‘wants to have the number of different market areas and the administrative burden reduced in order to improve the appearance of the European market’. He says ‘consolidation and up scaling will lead to lower costs, higher demand and a competitive advantage’.
McGreevy’s goals are[5]:

- To maximize the potential of the Internal Market to boost growth and employment.
- To eliminate remaining barriers to an effectively functioning internal market for services across Member States.
- To deepen the integration of Europe’s capital markets and improve its financial infrastructure so that the cost of capital is reduced, the inefficiencies of fragmentation are minimized, and competition is intensified to the overall benefit of Europe’s economy.
- To ensure that existing internal market rules are properly enforced.
- To improve public procurement procedures to ensure that the European taxpayer gets value for money.
- To ensure an effective framework for the protection of intellectual property rights to encourage innovation in the new knowledge economy.

Necessity of European integration

The Western world can not stay ahead of global competition anymore without any efforts, as conservative people like to think for ease of their mind[6]. Consolidation of the European market, both for consumers and producers, will be necessary to keep up with the pace of economic growth in the rest of the world. Emerging markets, where the BRIC countries are the best known and largest emerging markets: Brazil, Russia, India and China[7], as well as the huge wealth in the Middle East, are far more attractive for setting up new business relations. These new markets, together with the United States, have something to offer that the EU and its member countries have not: a large and homogeneous consuming market.
A homogeneous market is a market where the:

- Language
- Culture
- Currency
- Fiscal System

[5] http://ec.europa.eu/commission_barroso/mccreevy/index_nl.htm
[6] ‘World Economic Outlook, Public Debt in Emerging Markets’, Internationally Monetary Fund (IMF), 2003
[7] See Appendix: E7 Emerging Markets

are the same in the complete market. The advantage of homogeneity in a market allows producers and service providers to have large sales quantities with low costs. It is therefore more important than ever to come to an area in which we do not only have one currency, but also have one regulatory system, one fiscal system and if it would be possible in any way, one language. At least as important as homogeneity is the size of the consuming market. It is therefore no surprise that lately, the EU has been expanding at a fast rate. Turkey, rated in the top ten of emergent markets, in this light shed, becomes very attractive to be included in the EU. Turkey has a lot of consumers and is growing at a fast rate. The Turkish market is homogeneous and can enrich the EU with its large demand.

Necessity of European regulation

What has European integration to do with regulatory evolution? The regulatory environment evolves under influences of, and in parallel with the European market. Every development in EC policy brings along new regulations and regulatory changes. The need for change in regulations from the EC can be categorized in two groups: the internal drivers and the external drivers for change. Internal drivers are derived from the EC policy.

The two most important internal drivers, covering more than half of the EC policy are:

- The desire of regained market competitiveness and a financial stability in EU member states;
- The leveling of the playing field when the EU expands with new member states.

External drivers can be found in the direct environment of the EC, being best classified according to the PESTEL framework[8] on the next page.

Note that the external drivers discussed in the table are only examples of those drivers that put pressure on the policy of the EC. These drivers are major issues, but because they are external and only cause for, and are not a result of, regulatory changes, these drivers will not be discussed in more depth.

[8] Johnson & Scholes, 1998, Exploring Corporate Strategy

Environment Area	Driver
Political	Local governments, UN, NATO, or cooperation agreements can force EC to undertake action. Top-down, local authorities can be pressured to involve in regulatory activities as well.
Economic	1) The increasing pressure on the EU by other for a better competitive advantage to compete with upcoming markets. 2) The desire for a reduction of risk & more stability within financial sector. 3) Abandonment of calamities through better monitoring of risk concentration that has been created by up scaling and consolidation.
Social	Changing community require action. Money Laundering, Fraud and Terrorism Financing are social issues. (Financial) crime becomes more organized. Needed is a framework for cooperation between regulators, banks and crime investigators.
Technological	The increasing automation requires a political and legal framework for operations.
Environmental	The investment in durable projects and environmentally friendly companies becomes a greater issue in industrialized countries.
Legal	Obligations by Quran on Islamic banking activities require daily governance and regulation that enables this banking form.

Table 2: PESTEL Framework applied.

Other regulatory associations within Western Europe

There are also other, European oriented associations involved in regulation development, implementation and monitoring. These will be discussed briefly for a more complete insight in the interrelationships in the financial sector.

The European Central Bank

The Monetary Policy Objectives of the European Central Bank (ECB):

"The primary objective of the ESCB shall to maintain price stability. Without prejudice to the objectives of price stability, the ESCB shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the Community, being a high level of employment, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance".

The European System of Central Banks (ESCB) consists of the ECB as policy maker and the National Central Banks (NCB) within the member countries as executing organs.

The ECB is involved in monetary policy, governance of banking activities and implementation of regulation. The primary activities are overnight lending, short term money provision, money retrieval and interest rate setting. With these instruments, the ECB has enough instruments to control the community. Although the ESCB has monetary goals rather than financial activity monitoring goals, it is mentioned for completeness of the authority discussion that are influencing daily business activities of financial organizations as banks, brokers, security issuers, intermediaries, derivatives firms, market makers etc.

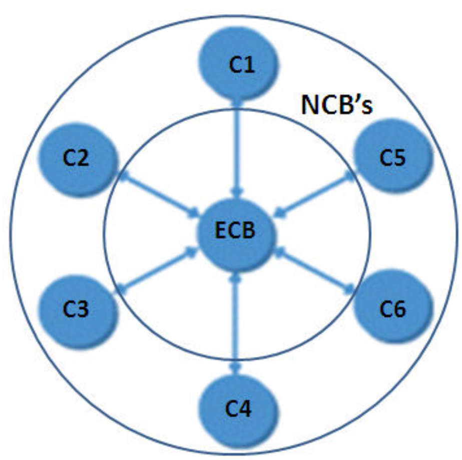

Figure 6: The Hub-and-Spoke Eurosystem

History

The ECB only exist now for a few years. The ECB has been established on 1 June 1998, by a joint initiative of the NCB's and the EC. By the fact that in 1998, Germany was a dominant player in the European Community, the ECB's policy structure very much reflected the policy structure of the

German Central Bank. The structure similarities did not mean that policy and behavior itself was alike. Due to the fact that France, a large player in the EC as well, and Germany did not come to an agreement about the leadership of the ECB, the Dutch Mr. Duisenberg became president of the ECB. After his first and only period as the president, a new French president, Mr. Trichet replaced him.

The ECB, as the core of both the ESCB and the Eurosystem, has been assigned exclusive responsibility for the single monetary policy for the euro area[9]. A single currency requires a single monetary policy with centralized decision-making. The EC and the ECB (in 1998, the European Monetary Institute or EMI) independently assessed both economic and legal convergence and report their findings to the EU Council.

Other International Authorities

The four committees that are involved in more than half of the regulation implementation next to the EC, ECB and domestic regulation implementation are :

- Basel Committee on Banking Supervision,
- European Banking Committee,
- European Securities Committee and the
- Committee of European Banking Supervisors.

By their influence, these parties are important for the financial services sector. When from a perspective of an individual regulation one is concerned, it will be given attention to.

National Authorities

National authorities are responsible for the development of local legislation. Local legislation will be discussed further on, and the concerned national authorities will be discussed as well. It is good to mention, that each member country has its own specific set of regulations. These regulations are developed in coordination with European Directives, as far as these were present in the time that the regulations have been developed.

[9] For further details: ECB Report on "ECB: History, Role & Functions", by Hanspeter K. Scheller, 2004.

Existing legislation in Western European countries

Within the financial industry, whether in China, France or the US, regulation is necessary to control banking operations. Next to the regulation discussed in this Thesis, many others exist as well. These regulations place a burden on the banking organizations. The regulations discussed in this chapter are not that encompassing that they will be taken for further discussion. For a complete overview, these will be mentioned, described briefly and the existence will be compared across European member states.

When dividing all regulation present in the EU into three categories of existence and importance, the following three types come up:

- Local regulation & legislation, differing for each of the member countries within the EU;
- Regulation & legislation, developed by the EC and four of the five regulations given more attention to in the rest of this document. They heavily change the regulatory environment;
- Regulation & legislation created after worldwide debate or taken into use by US origins;

Domestic legislation

A few commonalities can be seen between the regulatory design in the different EU member states. Each country has designed a basic set of regulations to make honest and controlled banking possible and provides instruments for monitoring and controlling organizations to influence banking operations and behaviour. Common for most of the member states are the following regulations / legislations:

1) Constitutional Banking acts,
2) Constitutional Financial Services acts,
3) Central Bank acts,
4) Bankruptcy acts,
5) Anti Money laundering acts,
6) Mortgages acts,

A brief description of the locally applied regulations and legislations other than the six mentioned above can be found in Appendix 2.

	Banking Act	Financial Services Act	Central Bank Act	Bankruptcy Act	AML Act	Mortgages Act
Netherlands	X	X		X	X	
Belgium	X	X	X	X		X
France	X	X	X			
Germany	X	X	X	X		
Spain	X	X	X			
Switzerland	X	X	X		X	X
Italy	X	X		X		
United Kingdom	X	X	X	X		
Denmark	X	X	X	X	X	X

Table 3: Overview of regulatory environment

Explanation of the lack of certain laws

Not always are all six different topics covered. Some countries combine topics within one set of legislation. Another reason for the lack of certain law is that has not been publicized by the regulators / authorities. Most often, the countries provide any form of regulation of all six discussed issues by means other than national legislation. Only in very few rare situations, regulators do not provide a framework for dealing with the topics mentioned earlier at all.

If in this case, higher level authorities do not provide a framework, and there is no self-regulating body present in that country, issues are not fully covered. This brings consequences for trading relationships in other countries, which can be disadvantageous for these trading parties. It seems that, although protection of domestic markets has been officially abandoned, national governments are not always highly motivated to change regulation for open markets, or regulation development is not starting quick to provide for trading on an international level.

European

Regulation within this Thesis

Regulation	Abbreviation	Description
Markets in Financial Instruments Directive	MiFID	MiFID is legislation by itself, and replaces and extends the previous coverage of the ISD
Instrument Services Directive	ISD	Old directive on securities trading
Single European Payments Area	SEPA	SEPA is not legislation by itself but regulation implemented through the specially for SEPA written PSD
Payments Services Directive	PSD	Directive on payments services within Europe
Anti Money Laundering	AML	As far as the European influences on legislation, the 3rd EU Directive on AML has been provided. This by itself is not law for financial institutions, but gives a framework to countries to create their own legislation on AML.
Basel II	N.A.	Basel II is not legislation by itself but regulation implemented through the specially for Basel written CRD
Capital Requirements Directive	CRD	Directive on regulatory capital that must be held for risk compensatory use.

Table 4: Overview of European regulation discussed in this Thesis

Others

Other directives from the European governing body are mentioned below. These directives provide basic banking regulations and guidelines, which allow local governments to create their own set of regulations:

- First Banking Directive on Coordination of Regulations Governing Credit Institutions (1977)
- Directive on the Supervision of Credit Institutions on a Consolidated Basis (1983)
- Second Banking Coordination Directive (1989)
    - Own Funds Directive of 1989
    - Bank Solvency Ratio Directive of 1989
    - Second Consolidated Supervision Directive of 1992
    - Large Exposures Directive of 1992
    - Deposit Guarantee Directive of 1994
- Directive Coordinating the Conditions for the Admission of Securities to Official Stock Exchange

Worldwide

Regulation	Description
Sarbanes Oxley Act (SOX)	This US act created a legal environment where all organizations became obliged to show that their activities were legal and in line with the intention of the shareholders. For banks, this created an enormous burden on the accounting process, since banks typically have very large amounts of complex derivatives trading.
Anti Money Laundering (AML)	Since the globalization of the economy and business has started, so did banking and so did fraud. AML is being discussed in a worldwide context to effectively combat fraud. The globally supported Financial Action Task Force (FATF) has created a guideline with 40 (+4) recommendations.
Gramm Leach Bliley Act (GLBA)	This US act replaced the GSA, which prohibited banks from offering investment and commercial banking services and insurance services. Under the GLBA, this is allowed, which created a legal environment that was very desirable for larger banking firms.
International Accounting Standards (IAS)	General accounting policies, not only suited for banks, but also for other organizations. However, since banks typically have large amounts of derivatives etc., their accounting activities will be heavily affected.

Table 5: Overview of US / Worldwide regulation

Worldwide regulation and the US

Probably three out of each four incentives of global regulation and legislation are originated in the US. The historically high influences and the community size as well as the education level of the citizens lead to a wide reach of impact of the US actions.

The development of worldwide regulation meant to replace American law (for example the IAS / IFRS that was contradicting the US GAAP) finds much resistance. The US dominance is decreasing due to the upcoming countries with high educated people and large influences on the world economy. This will finally rebalance the relationships on a global scale.

In Appendix – 3 there is a full overview of communication and development relationships for regulatory influences, for the convenience of the reader.

Framework for regulatory evolution

To give a full presentation of the regulatory evolution, it is important to give attention to all the aspects involved in this process. First, as within any evolution, changes are only small or moderate and these changes are happening through time. Therefore, it will be necessary to describe history, present and future states of the regulations. The time dimension is therefore one of the dimension that will be used for creation of the framework.

Second, for regulatory evolution, it must be clear to the reader which regulations will be described. Although it is not necessary and not even possible for regulation to create a 'dimension', a continuous spectrum between two extremes, it would be possible to have the different regulations separated. Because of the size and complexity of regulation in its nature, and the regulations and legislations directed towards the financial sector specifically, only few regulations can be discussed. Conditions are therefore strict:

- Regulations should be developed or implemented by European regulators or governments;
- Implementation of these regulations should require more than 10% of the yearly budgets for projects & IT within banks;
- Effects must be visible internationally, multiple regions should be affected and cross border cooperation and monitoring is necessary;
- Changes required should be large over a long time period.

Through use of internet and whitepapers, as well as inquiries at financial experts, or in depth interviews with senior bankers, it is not difficult to find the regulations and legislations.

Impacting Regulations

Regulation	Full Name	Theme	Due Date
MiFID	Markets in Financial Instruments Directive	Transparent securities trading, better client informing	November 2007
SEPA	Single European Payments Area	Improvements and cost reduction of European payments	Scheduled up to 2010 / 2012
Basel II	2nd Directive from Basel Committee	Risk analysis and capital requirements, client classification	Mainly January 2008
SOX	Sarbanes Oxley	Operational risk, improved accounting and auditing	Past, implemented in different organizations
AML	Anti Money Laundering	Financial crime fighting, reduce laundering possibilities	December 2007

Table 4: Regulations that will be discussed

Note that in Table 5, SOX is an exception in several ways. First, SOX is not European regulation or has a direct and obligatory effect on European organizations. Second, SOX is not specifically developed to regulate the financial services sector. However, the impact of SOX is visible globally and has been rumoured for its rigidness and its heavy sanctions. SOX can therefore not be left unnoticed when discussing regulatory influences on the financial sector.

The three domains Product, Process and Applications, together with the five most important regulations AML, MiFID, SEPA, Basel II and SOX lead to a matrix with no less than fifteen domains of interest.

	MiFID	SEPA	AML	Basel II	SOX
Product	1	2	3	4	5
Process	6	7	8	9	10
Software Applications	11	12	13	14	15

Table 5: Areas of interest

A different categorisation can be possible as well, causing a division of the fifteen domains of interest into even more areas of attention. The Western-European banking industry consists of different regulatory regions or areas which are in different stages of business development towards these regulations. France for example, has not finished their guidelines for SEPA implementation yet, whereas Belgium has started working out detailed programs already (*see www.gtnews.com for detailed information on SEPA readiness of the different member countries*).

Whereas the matrix shows five regulations and three viewpoints resulting in fifteen domains, a further classification is necessary. To attain the goals set earlier, which includes information on the evolution of regulations, a historical and current view will be necessary, as well as (well supported) predictions on future developments.

Even another viewpoint can be shown. The involved parties within regulatory evolution, being Governmental commissions, Intermediary committees and Commercial (financial) institutions, have different stakes in the developments. The matrix mentioned earlier would become more enhanced:

		MiFID			SEPA			AML			Basel II			SOX		
		Govern	*Inter*	*Comm*	*Govern*	*Inter*	*Comm*	*Govern*	*Inter*	*Comm*	*Govern*	*Inter*	*Comm*	*Govern*	*Inter*	*Comm*
	History															
	Present															
Product	*Future*															
	History															
	Present															
Process	*Future*															
	History															
	Present															
Software	*Future*															

Figure 7: Enhanced Areas of Interest Matrix

- *Govern* – Governmental issue
- *Inter* – Intermediary issue
- *Comm* – Community issue

Each of the individual cells within the matrix framework represent the amount of work suitable for a single Thesis. Therefore, this matrix is obviously too large to be completed within this Thesis. On top of that, the interrelation of the cells will likely be even more interesting in order to find the impact of regulatory evolution on the financial industry.

Therefore, during the next Chapters, the regulations will be introduced briefly with giving a short history which will be followed by the discussion of the common effects and the interrelation with the financial sector. The last Chapters try to give predictions of future developments within these regulations. That means that some of the cells within the matrix above will be 'layered', will be taken together for discussion or an analysis of the interrelationship.

Introduction to Regulation

Sarbanes Oxley

3rd EU Anti Money Laundering Directive

Basel II

Markets in Financial Instruments Directive

Single European Payments Area

Introduction

Regulation

Business

Sarbanes Oxley Act

Introduction

The Sarbanes Oxley Act (SOX), is American law. SOX is founded early in 2002 through a combination of the Senator Sarbanes' Senate Bill and Rep. Oxley's Senate Bill. SOX regulation is directed to public companies that are being traded on one of the US stock markets. SOX sets a framework for dealing with operational risks, to a larger extent in non-financial terms. SOX has quickly become famous within business by its rigidity. Many people concerned with SOX consider it as one of the most comprehensive set of rules without any possibilities for dispensation.

SOX is a response to a few major collapses of public companies, involving enormous fraud, bankruptcy and huge costs for the companies' shareholders, customers and business partners. The fraud was found within the administrative department of the companies (Accounting), but also within the lack of employee supervision by higher management (In-Control). These parts are two major themes dealt with by SOX.

Regulation

One of the first actions undertaken after SOX was approved, was the foundation of the Public Company Accounting Oversight Board (PCAOB). This board is independently monitoring the preparation of informative audit reports in compliance with SOX regulation.

Another party involved in the SOX environment is the SEC, the Securities Exchange Commission. The SEC has a stake in SOX since derivatives trading is becoming more popular, which can either result in a well-hedged position or a speculative one. Companies that tempt themselves to take speculative positions, are a danger for the financial stability of the economy locally or globally.

The PCAOB has an intensive program of inspections within the companies under their control, testing compliance with SOX regulations, following the PCAOB rules and the SEC rules. This means that close communication between the PCAOB and SEC is necessary.

A last party to be mentioned is the Government Accountability Office (GAO), which is responsible for reviewing the government's expenditures but which is also occupied with fraud detection and the accountability environment. This organization has its interests in the costs and benefits incurred by the community of the principal-agent relation existing between the government and the affected companies.

Business

Since SOX is directed to companies of which their shares are traded on one of the US stock markets, this affects a lot of internationally oriented organizations as well. Consider Danone, ING, Sara Lee, Ford Motor Company, which are examples of common names within Europe and are companies that have to comply with SOX by their shares on the S&P500 or Dow Jones.

There are two major sections within SOX that need special attention. These are Section 404 and Section 302. Section 404 deals with internal control and reporting the results of internal evaluation, while section 302 deals with the content of external reports and audits and disclosure. Furthermore, SOX states that controllers and management can be held personally responsible for operational risk, fraud or other illegal activities performed by the part of the organization within their control. This is a new phenomenon within the European world, but in the US, this is something that has happened more often.

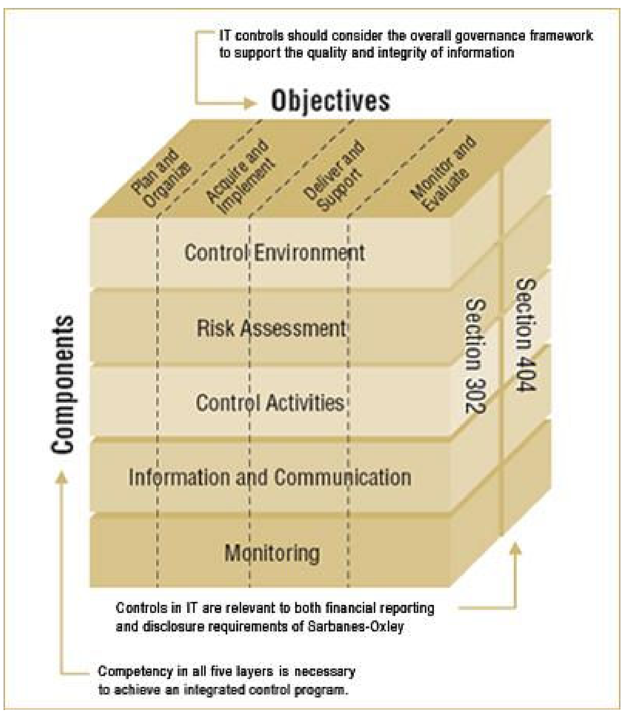

Figure 8: Three Dimensional View of SOX areas

The model shown presents a three dimensional view on the Objectives, Components and Sections of SOX. The desired outcome through the attention on all these dimensions is the improved control on the business processes and the higher transparency of the yearly report.

Anti Money Laundering Regulations

Introduction

Before explaining what exactly money laundering is, it is good to notice that it is related to fraud and very often also to terrorism financing.

The generally accepted definition of money laundering within the financial industry and governance is: "*a process whereby the origin of funds generated by illegal means is concealed… in order to erase all trace of criminal activity*"[10].

There are a lot of possibilities for fraud, ranging from simple debit card fraud to complex wire transfer transactions whereby multiple employees of the concerned bank are involved. Money laundering is just one type of fraud out of many, but through the implementation of the third AML Directive, it is the only relevant type during this project.

Money that is to be laundered can originate from different criminal activities. Abusive tax avoidance, illegal drugs trafficking, gun (or treasure commodities) smuggling or corruption from bank or other businesses are common and well-known types of activities that result in illegal obtained funds.

Money laundering can occur in several forms with different complexity, the core process being almost equal in each of these forms. There are three different steps, as can be seen in the following picture.

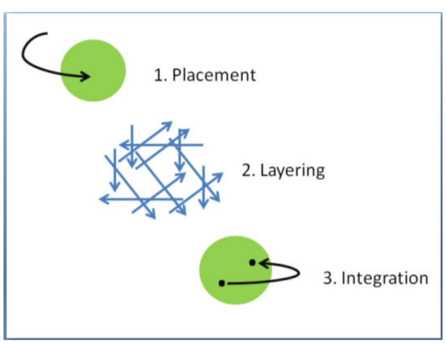

Figure 9: Money Laundering process

Placement: The initial point of entry for funds obtained by criminal activity.

Layering: Creation of complex networks in an attempt to disguise the entry point and the money's destination.

Integration: Return of the funds to the economy for later use.

[10] NetEconomy, Fighting Financial Crime, October 2005

Legislation

The financial industry has the obligation towards the community to undertake actions preventing money laundering activities since financial institutions have the reputation to be integer organizations 'trusted third parties', carefully handling money of civilians and not a support to criminal activity.

Observing gaps between the desired and actual situation by a lack of prevention efforts on the financial institutions side, The European Union has developed directives on anti money laundering (AML) activity. The first AML Directive was presented in 1991, giving financial institutions an obligatory guideline on AML activity. The second Directive was agreed on in 2001, widening the scope of AML activities to other professions devoted to financial / legal services. The second and probably more important enhancement of this second Directive is the inclusion of other criminal activities giving rise to illegal obtained funds. This makes tackling terrorism finance possible as well.

The third AML Directive has been developed recently and is currently being implemented in several countries in the European area. There is a map of Europe available in the appendix which presents the different phases the European countries are in concerning the implementation of the 3rd EU AML Directive.

Each country has its own legislation through which it can comply to the European Directive. The Dutch "Melding Ongebruikelijke Transacties" (MOT) law and the "Wet Identificatie financiële Dienstverlening" (WID) are just a few examples.

Business

Going from legislation of a governmental point of view towards legislation from a business point of view, a lot of different issues start to arise. Whereas the government is devoted to a strategic view on money laundering prevention, financial institutions deal with money laundering daily on an operational level. There are several support systems available with intelligent software to help recognize money laundering. A lot of service providers which help in designing business processes that prevent fraudulent actions from clients or employees.

Basel II

Introduction

The regulations among Basel II are coming from BIS, Bank for International Settlements. Basel II is the more enhanced successor of Basel I. Basel II regulation is concerned with risk management from a financial point of view. Credit risk, market risk and operational risk are three issues that Basel II wants to cover. These three risks cover 90% of the risks for banks. Each of these risks are estimated and analyzed through commercially available or internally developed risk models. To create a lower threshold of reserved capital that compensates for the risk, authorities started to develop and implement Basel regulation. While Basel I has already been in place for a long time, a lot of debate has been going on about the effectiveness of the Basel Accord.

Regulation

Basel I was due in 1988, with basic regulation on capital requirements. A few years after the implementation of Basel I in 1996, governing institutions showed their intentions to follow up on Basel I with a more enhanced framework on risk management. In June 2004, Basel II was born and the due date for Banks is currently set to January 2008 with full operation in 2012.

Basel II is built on a three pillar basis. See the picture below.

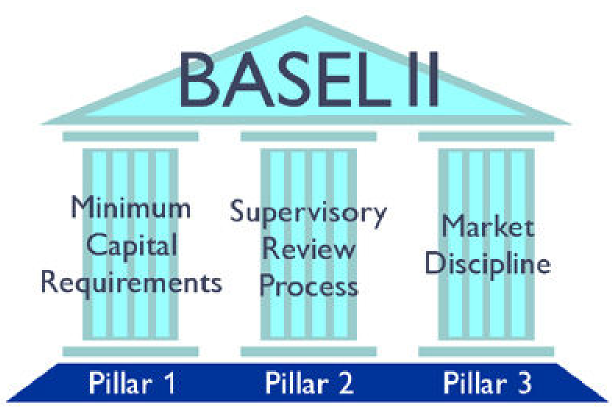

Figure 10: Three Pillar System

The first Pillar consists of the Minimum Capital Requirements. This is the most comprehensive Pillar for calculation processes, as the these requirements are based on complex models on risk estimates and predictions.

The second Pillar is involved within other types of risk, which are less tangible. Examples of these risks are legal risk, systemic risk, reputational risk etc. This 2^{nd} Pillar also gives a framework for control on the calculations mentioned within the 1^{st} Pillar.

The third Pillar is more comprehensive for the auditory purpose. Banks are obliged within the 3^{rd} Pillar to show how they control their process of risk calculations and how they use these calculations to accurately react on market circumstances.

Business

Participating countries are from the G10, since the BIS committee is founded by these well-developed countries concerning the financial industry. These countries are:

- Belgium;
- Canada;
- Germany;
- France;
- Italy;
- Japan;
- The Netherlands;
- US;
- UK;
- Sweden.

Non-G10 countries are allowed to adopt the Basel II system, but are not obliged. This same principle holds for banks. Banks are allowed to adopt the framework, but are not obliged by government.

If a financial institution within one of the G-10 countries does not comply with Basel II, this financial institution will be getting a competitive disadvantage by being required to pay higher interest rates for loans or other financial instruments.

Markets in Financial Instruments Directive

Introduction

The Markets in Financial Instruments Directive (MiFID) is a directive developed as an answer to the ever increasing complexity of financial products and services. Basically, the directive requests banks and other financial institutions for more transparency towards their clients on the products and services offered. But the directive has other intended effects. This directive directly affects the organizations established the member countries of the EC that are involved in securities trading in every form.

This directive is primarily meant to protect consumers from activities they do not know the possible consequences of and to protect consumers from paying more than on cost base necessary for their services.

Regulation

The first developments around MiFID were in 2001. Before MiFID was introduced, the International Services Directive (ISD) already existed but this ISD is much less encompassing. The EC is responsible for MiFID regulation, but other governmental associations are involved as well. Local authorities, member country governments, are concerned with the adaption of MiFID regulation into measures for steering and control in their own area. Associations concerned with this steering and control are for example the Financial Services Authority (FSA), or the Dutch AFM. Another larger organization involved within the MiFID regulations is the Joint Working Group (JWG), founded from within the Financial Information Services Division (FISD), being a monitoring group within the financial industry in Europe. There is also a council that represents the EC interests.

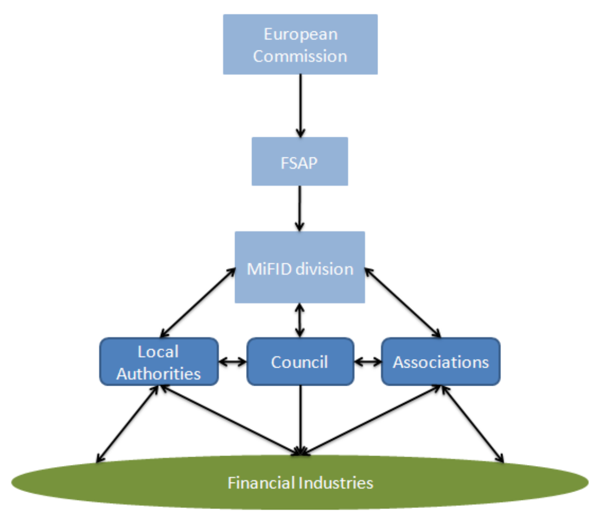

Figure 11: Governmental Structure MiFID

Business

MiFID has led to different levels of attention within the European countries. The more developed countries, located in Western Europe, having already sophisticated domestic regulations on financial instruments services, are less concerned about the obligations directed towards service provision. However, these Western-European countries are involved in more complex instruments dealing, bringing along more guidelines on the integrity and traceability of exchanges.

The due date of MiFID is November 2007. Until one year ago, less attention was given to compliance on this regulation, thereby trying to postpone the due date being the main objective, which has led to high pressure on software vendors, process consultants and ultimately, banks and their managers to finish the conversion of financial institutions into compliant organizations.

Later in this Thesis, it will be made clear that, although some countries and their financial organizations that used to be progressive on protection and informing of their clients still believe that MiFID will not have a large impact on their business processes and their market position, major shifts in the operations of the involved organizations are to be expected. Regulators have in their minds a new playing field where security dealing and handling clients is very deviant from the current operations.

Single European Payments Area

Introduction

The Single European Payments Area (SEPA) is intended to develop a closer integration among the payments and transactions services industry within the EU. This area is very often named pan-Europe, which is a somewhat traditional term for the Western-European countries that want to become more integrated to form a single European area.

Regulation

The regulation involved in the transition of Europe towards a more integrated payments system is the Payments Services Directive (PSD), and comprises the legislative part of the regulation. The PSD has been developed by the EC, and will be implemented in the EU area by self regulation through the European Payments Council (EPC) and the European Central Bank (ECB), having a coordinating function within the banking sector in Europe .

The involved countries are naturally the countries with Euro currency but there is an intention from the EC to let other EU countries participate as well, and also Norway, Switzerland, Iceland and Liechtenstein will be requested to join the SEPA project.

Business

The improved integration towards payments and transactions between banks or other financial institutions should make it easier and more cost-effective for businesses and individuals to make cross-border payments. SEPA also provides common standards concerning transaction processing speed, safety and error handling. Also, the ECB is expecting a growth in innovation on a domestic level with the introduction of SEPA, easing the payment traffic.

> ***"SEPA will be the area where citizens, companies and other economic actors will be able to make and receive payments in Euros within Europe under the same basic conditions, rights, and obligations, regardless of their location." — The EU Commission***

The changing environment requests a change in business processes for banks and payment institutions. An important rule is fulfilled by the Automated Clearing Houses (ACH or PEACH). These ACH's act as an intermediary organization or a third party service provider.

The picture shows the payment process in which the ACH plays a role.

1. By purchasing, the receiver of the invoice initializes the payment process.
2. The originator of the invoice processes this transaction towards his bank.
3. The Credit Bank, in its turn, transmits the file to the clearing house, which processes this file.
4. After processing, the clearing house sends its ACH file to the consumer (receiver's) bank.
5. This bank sends the funds to the Originator's bank, also called the Underwriter bank.

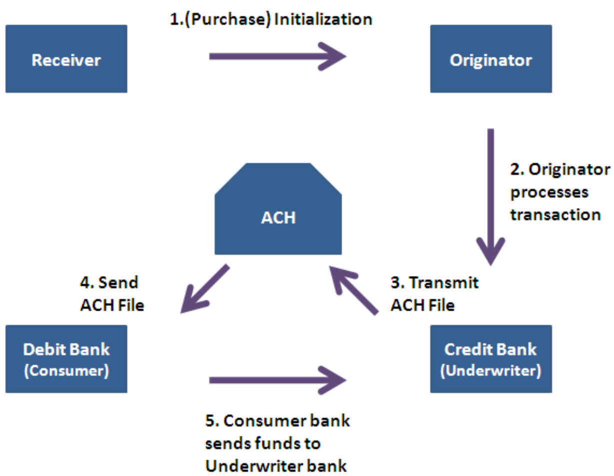

Figure 12: ACH in payment process

Transaction services also include cash withdrawals from Automated Teller Machines (ATM) and Credit card services. The intention from the EC is to remove any costs for consumers to withdraw money from an ATM in a foreign country and to reduce prices for credit card transactions towards a level that actually reflects the true transaction costs. In some countries, for example the Netherlands and the UK, as well as Belgium, banks are generally very sophisticated on payments services already. An example of the advanced payments services are service packages that include free cross-border ATM and transaction services. Unfortunately, credit card companies still have high fees on credit card services within and outside the home country of consumers.

Influences on Product / Process / Software by regulations individually

Sarbanes Oxley

3rd EU Anti Money Laundering Directive

Basel II

Markets in Financial Instruments Directive

Single European Payments Area

Products

Processes

Software Applications

SOX Impact

SOX is the only regulation within the scope of this Thesis that has not been developed specifically for banking institutions. This makes the impact on the business also more general, but by no means smaller. Several different interviews with senior managers on both the business side of banking operations and the technical side of banking and software make clear that SOX puts an enormous burden on daily management and corporate governance, which classifies SOX as the regulation creating the highest administrative burden.

SOX prescribes many procedures in detail, from the relationship between the enterprise and its auditors, via how to deal with "whistle blowers," fines and jail terms for the deliberate and willful destruction of audit-related data, to the specific retention periods and standards for the documentation surrounding an audit. It also makes an auditor responsible for oversight of an enterprise's internal documentation and accountability processes[11].

The impact of SOX on banking institutions will be mainly visible in the processes and the supporting software applications. There will be virtually no effect on products or on IT not devoted to the support of decision making and corporate governance. It is, however, supposed to change the attitude towards the relationships with clients, suppliers and governing parties in terms of transparency, reliability and credibility.

Archiving

One of the basic targets of SOX, the collection and storage of performance indicators in order to be able to present a traceable history of operations, is one issue that requires a lot of attention in both the process (re-)engineering and software implementation. Since 99% of the organizations consider themselves as integer and performing satisfactory, the archiving for evaluation purposes is considered redundant. Because organizations are often not aware of the possible deficiencies present in their company, there started to become initiatives from out of the software branch to develop compliancy monitoring software that automatically detects and warns for incompliant activity during processes.

[11] Inside Gartner: The SOX Act Will Affect Your Enterprise, 02 April 2003, by Debra Logan and Frank Buytendijk.

Auditing process

Another aspect that is heavily affected by SOX, is the audit and the auditing process. This is closely related to archiving, since auditing is a process of collecting, storing and processing data to provide shareholders and other interested parties with the necessary information.

All audits, including the working papers and all correspondence between auditor and company needs to be stored for seven years. This requires (digital) storing capacity and processes that makes information storage possible without the risk of information loss.

In control statement

The in-control statement is important for SOX compliance. This is also a heavily discussed issue, because there lacks a lot of clarity on the in-control statements. Thereby, to become in control is a very expensive element of SOX regulation implementation within management and often leads to huge increases in audit fees for American companies[12]. For many, the question rises to what extent the in-control statement has added value for the company. By definition of the term ‘in-control’, the company has access to the right resources and is able to exploit these resources in a way that its long term continuity is guaranteed. So, the in control statement is there only to provide the shareholders and other interested parties that management is acting in the best possible way in its capacity as management.

Business relations

Due to SOX being developed as a regulation to restore the confidence in the large companies in the US, it is very likely that not only authorities, but also companies gain more confidence in their SOX compliant business relations than in their non-compliant relations. This will result in a competitive advantage for SOX compliant organizations. Since trust is an even more discussed issue in the financial sector, this will eventually lead to even larger competitive advantages for SOX compliant financial institutions.

In the same way, it can lead to organizations being forced by their business relations to actively become SOX compliant. The organizations that are not obliged to become SOX

[12] Audit Magazine, Volume 3, September 2005.

compliant, but still do so, can be seen as a good development, since this enforces regaining the trust in large financial organizations.

Software

For a support of the above discussed changes in processes, only few IT systems need to be adapted or implemented. There are two type of systems important for SOX compliance, the Business Intelligence systems (BI) and the Corporate Performance Management systems (CPM). BI is involved in the provision of insights by giving access to quantitative data and analysis. CPM is a general term for methodologies and systems (also BI) to manage performance of an organization.

A records management system for example, is part of CPM. To give an understanding of the adaption of the existing systems for SOX compliance, this example will be worked out. If, in an organization, a document management system is already in place, this will be a good basis for the implementation of a records management systems. Especially for smaller banks, this reconfiguration of systems will be preferable by the restrictions of small budgets. Note though, that smaller banks are less likely to actively start to implement SOX regulation when this is not necessary.

At a more operational level, the next issues act as a basis for software requirements to comply with SOX[13].

- Programs with key-application controls embedded, must have trusted functionality. This means there must be no more or less functionality as specified and the existing functionality must meet the specifications.
- The operating effectiveness of the application controls must be guaranteed over a period of time, which can be supported by the IT General Controls.
- SOX related evidence must be kept undisturbed, and this must be proven.
- Availability of financial data must be guaranteed, also in case of major continuity problems.

[13] Atos Origin & Ngi, during a presentation on SOX and the effects on IT Management, April 2005.

AML Impact

It is not easy to filter the exact impact of the 3rd EU Anti Money Laundering (AML) Directive for two reasons. The first reason is that there have been in place already two previous Directives for almost 20 years now. This renewal of Directives is an evolutionary process.
The second reason is the constant evolution of money laundering and fraud techniques, which reshapes the environment of money laundering. Individual persons who try to slightly reduce their tax burden belong to the past. Currently, a larger concern for the financial industry is the organized financial crime, employee fraud and terrorism financing.
Financial crime and fighting against is happening globally. The FATF is a global committee set up to come to a unified policy for crime fighting. By the FATF 40 recommendations, which very generally describe procedures and regulation, the EU set up the 3rd AML Directive.
Globally, countries are updating their AML regulatory regime, which means that global financial institutions have a greater challenge to ensure that they are complying with the regulations that govern their worldwide activities[14].

Products

The efforts to fight financial crime in every form will not have a large impact on products offered by financial organizations. According to concerned authorities and AML business experts, any changes in available products will not lead to a decrease in money laundering activity. Instead, the interaction process with the customer will be influenced by AML legislation, with the intention to fight criminal activity at the source. A part of the influences on the interaction with customers are classified as business processes and mentioned later. The other part of customer interaction, being completely on the front-end side of financial institutions, can be classified as impact on product offerings and will be discussed here.

From all activities deployed as financial crime, the diagram below shows that AML is the area with the highest priority, followed by fraud / criminal deception.

[14] Michael Zeldin, Global Practice Leader for AML Services, Deloitte (Washington, D.C.)

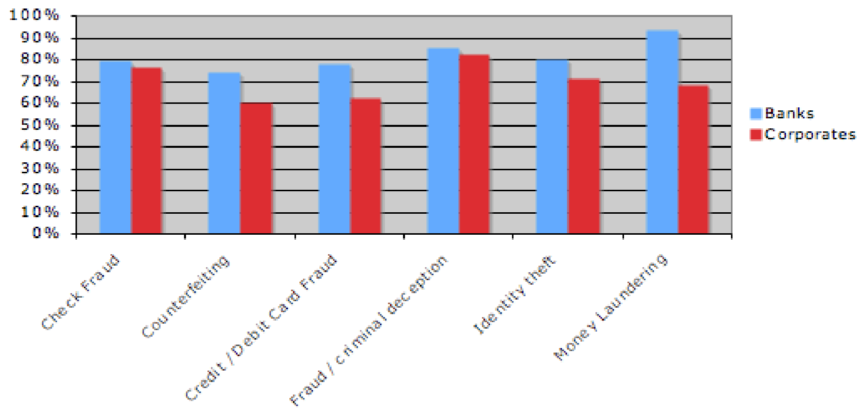

Figure 13: Survey results GT News 04 May 2006[15]

Know your customer

The often used term Know Your Customer (KYC), is both applicable to the AML regulation and for MiFID purposes. KYC states that financial organizations should actively acquire satisfactory information on their clients to be reasonably sure that these clients are not involved in criminal activity. Among many, a few important issues of KYC are:

- The abandonment of anonymous accounts,
- The notification for transactions of over € 15.000 to authorities ,
- Identification of customers and employees.

The activities concerning KYC are expanded due to the introduction of electronic and mobile banking which decreased the frequency of contact with customers. AML solutions for banks need to shift focus into dynamic risk profiling and move into risk assessment matrices. The current KYC norms are static and specify only basic data such as residential address, locality and educational background. The risk profile of each customer needs to change based on current account activities, including suspicious transactions or transfers in accounts that would not otherwise see such activities[16]. Individual risk profiles need to have that type of information that is relevant for the individual client, based on its relationship with the bank and his type of activities.

Processes

AML solutions are currently deployed at the back end operations in the banking and financial sectors and it becomes difficult to detect suspicious behavior at the front end[17]. By the large

[15] A survey conducted under 396 professionals, bankers and corporate mangers. Also see: www.gtnews.com.
[16] Mr. Hanuman Tripathi, managing director, Infrasoft Tech, an AML software vendor
[17] Mr. Ravi Duvvuru, group head (compliance) Kotak Mahindra Bank

variety of ways that financial crime can take place, it is nearly impossible for regulators and authorities to fight financial crime. The 40 recommendations of the FATF mentioned earlier must ensure an active attitude of financial organizations towards fighting financial crime and money laundering. The implementation of the 40 recommendations requires an assessment of the current capability of the organization (whether an authority or a financial institution) to monitor and handle suspicious behavior.

It is good for financial organizations to have the process infrastructure adapted to fighting financial crime. The relational ties with financial authorities allow for early recognition of criminal activity and by intergovernmental cooperation, black lists like the Taliban list can be kept up to date and complete. The Taliban list provides names, addresses, account numbers and banks that are involved in terrorism financing in the Middle-East. Other black lists are generally prepared for local action towards criminal activity.

Suspicious activity is expected to be assessed through the following steps[18]:

1. Client Risk Assessment: Using detailed information and transaction activities which are collected at the time that an account is opened, to investigate all aspects of the customer's profile.
2. Transaction Risk Measurement: Identifying and filtering account-related transactions that pose the greatest risk for potential money laundering activities.
3. Behavior Detection Technology: Using specific technologies that are able to detect suspicious patterns of behavior that may be hidden beneath large volumes of financial data.
4. Workflow and Reporting Tools: Using tools that will assist in alert investigation and compliance reporting.

Software

To effectively fight organized financial crime, enhanced computer software is necessary to find patterns in large amounts of data that can be an indication of money laundering activity. New software that is in use for detecting and opposing money laundering activity have dual functionality. It should provide for compliance with the AML regulation both from the EU

[18] Understanding the Role of Technology in AML Compliance by Rajesh Menon & Sanjaya Kumar in January 2005, at that time working at Infosys.

and local authorities and it should cover all the processes dealing with the newest money laundering techniques.

For AML software vendors to stay ahead of competition with criminal activity development, it is advantageous to start intensive cooperation with AML associations, banks, and central banks. Platforms are created for the interaction of banks and the spreading of news concerning money laundering.

Although AML technology is moving forward at a fast pace, shortcomings are still well observable. Next, three topics that require constant attention for essential improvement and updates of the software and technology will be discussed:

- Transactions below defined thresholds: The € 15.000 threshold that has been mentioned earlier for notification will not always be reached. Smart money laundering techniques avoid this notification by multiple transactions below this threshold. Only latest generation software is able to detect and notify these transaction schemes.
- False positives: Not always is a transaction suspicious or illegal when the predefined threshold has been reached. If the number of transactions above the thresholds is large, it makes it very complex to detect the real suspicious activities.
- Behavior profiling: For finding suspicious activities or deviating behavior of individual companies, industry information will be used to compare with. Unexplainable high sales, strange inter- and intra organizational payments and other money transfers can be found through the comparison with other organizations.

These difficulties can only be overcome when financial institutions stay closely related to AML associations and authorities.

It is apparent that a lot has been written and spoken about AML, compliance towards AML regulation and process- and software implementations, but not about concrete solutions. The monitoring of transactions is important and this process itself is simple. However, the analysis and interpretation of the results is more complex. This analysis differs for each bank, and calibration and configuration of the analysis tools needs attention. Support by AML experts with the calibration of analysis tools can, through the experience these experts have, lead to improved results and more effective tracking. This should be given more attention to by governments, associations and AML experts.

Basel II Impact

While Basel I was already implemented and the Basel II has been discussed by the authorities for several years now, there will not be any revolutionary changes. However, over the years, since the start of the debate around Basel I and the Basel I accord in 1988, the influence on the banking operations concerned with capital requirements is easily visible. Many risk models are created since then to get insight in the different risk sources. The evolutionary process is evident according to the number of Whitepapers devoted to the Basel II issue. The basic capital requirements that allow for further detailed requirements will be mentioned below, together with a few explanations and a discussion of the results of these requirements for the banks' clients.

Three Pillar Model

The three Pillar Model is the fundament of Basel II. Although this Model is well known for the majority of the people working within the financial industry, the background as well as the fundamentals are less common good.

The first pillar is involved in Capital Requirements, which will discussed below in greater depth. This first pillar is the most extensive pillar, concerning the risk model. The other pillars are also very complex, but this is less known by people due to the fact that the requirements are more qualitative in nature. The second pillar is concerned with the Self-assessment of Operational Risks and controls. The third pillar is occupied with Disclosure of the items in the yearly report.

Capital Requirements

Two types of capital requirements exist, being economical and regulatory. This paragraph will focus on the regulatory capital requirements, being held by the authorities (BIS). The regulatory capital requirements are categorized into Tier 1, Tier 2 and Tier 3 capital.

Tier 1 (Core Capital)	Tier 2 (Supplementary Capital)	Tier 3
Equity (Common, non-cumulative stocks perpetual preferred shares)	Cumulative perpetual preferred shares	Subordinated debt (>2year)
Retained Earnings	Subordinated debt (>5year)	
	Loan loss provisions	

Table 6: Capital categories

The regulatory capital requirements prescribe the amounts of Tier 1, 2 and / or 3 capital reservations held, dependent on the Risk-Weighted Assets being held by the financial institution. BIS (§40)

- The amount of Tier 1, 2, and / or 3 capital held needs to be bigger than 8% of the total RWA (RWA will be discussed);
- The amount of Tier 1 capital held needs to be larger than the amount of Tier 2 capital held;
- The amount of subordinated debt (Tier 2) held for reservation can not be larger than 50% of the Tier 1 capital held;
- Tier 3 can be held only for Market RWA and should be smaller than 250% of the Tier 1 capital held for Market RWA;
- Provisions in Tier 2 capital should be smaller than 1.25% of RWA.

Risk Weighted Assets are categorized into Credit Risk, Market Risk and Operational Risk. Each of the assets should be rated a risk-level, which is an indication of the likelihood of failure of this asset. The greater the likelihood of failure, the more capital needs to be held for compensation. Through the Basel II model, this means a greater risk-weight.

If, for example, the likelihood of failure of a certain asset is nearly 100%, this means that Tier 1, 2 and 3 capital needs to compensate 100% of the amount. Since this compensation is only 8% of the RWA, the risk-weight of this asset will be 1250%.

Change in product offerings

The stricter regulation on Risk-weighted assets and the more reality based capital requirements have an effect on banks to offer customers mortgages and loans with conditions that closer follow the involved risks of the customer party.

For SME's and a large part of the private customers, this brings serious disadvantages. If SME's or individuals who do provide 100% guarantee on their loans, interest rates will rise. This will have a tempering effect on investments made by the affected parties. Especially SME's, who are supposed to invest only in those projects that deliver positive returns, will see more difficulties. For a positive net return, the cash inflows need to be higher since the higher interest rates need to be compensated.

For banks, it will not be easy to find a good compromise between the higher capital requirements and the customers that do not want to be confronted with higher interest rates. One very plausible outcome is to have no compromise. Another, less plausible but more favorable outcome is to reduce cumulative risk by applying portfolio theory[19]. Portfolio learns that when accumulating loans with a certain risk, by the nature of the spreading of risks, the total risk will be smaller than the sum of the risks of the individual loans. IT vendors are already offering sophisticated software products that account for this.

Adapting the organization towards the regulation on Basel II

One of the results of a large survey conducted by i-flex solutions, IBA and Oracle[20] is 94% of the bankers surveyed cited Process Standardization, Cost Control, Standardizing and Storing Data, and acquiring the necessary Skill Sets, as the primary challenges to Basel II compliance. IT vendors are actively working towards solutions for Basel II compliance. According to Gartner[21], "The quadrant tends to be occupied by vendors with integrated Basel II software application suites covering all the risk disciplines and who have also achieved a high level of market acceptance as well. The software products however, are not only focusing on compliance, but it is necessary for good operations within the financial institutions that they provide enhanced risk models covering risk management beyond the Basel II requirements.

[19] www.riskglossary.com/link/portfolio_theory.htm

[20] Look for the survey on www.moneycontrol.com posted at March 12, 2007.

[21] Cited in the 'Basel II Software Application Magic Quadrant' report, published November 29, 2006 by

MiFID Impact

The changes caused by MiFID may well be the largest within the securities industry. That experts within and outside banks and securities trading firms are taking and active approach and are working with full capacity on the interpretation and implementation of this Directive should be enough evidence to indicate the importance and the impact of MiFID. Through a few themes, the brokerage and securities environment will be dramatically reorganized. These themes are:

- Best execution;
- MTF (Multilateral Trading Facility);
- Pre- and post trade transparency;
- Trade reporting.

There are other issues as well, but the other issues are less comprehensive, with lower priorities and of a smaller impact.

Best execution

The term 'Best execution' gives the trading facility, which can be the broker, the stock market or the bank, and under MiFID other parties will be added to this list, the obligation to provide the customer with a deal that has either: the best price, the fastest transaction speed or the lowest transaction cost. Only one of these obligations has to be met. The back-office transaction processes need to be adapted onto the chosen policy in different ways.

Figure 14: Three areas of best execution

If best price is chosen by a broker to be their target for best execution policy, this means that this broker has to be connected to all stock markets that are trading the securities that this broker is selling or buying for its clients. This requires an extensive network in terms of both physically and the membership of several stock markets (Euronext, Deutsche Börse, Nordic Exchange etc.).

For fastest transaction time, both the processes and the IT needs to be adapted to speeding up the transaction. This will very often require new systems, new software applications and a reduction in the number of process steps in order to decrease the time between the request of a customer and the execution on the market.

The lowest cost policy will often require new systems or an adaption of the system as well, but with less speed and more efficiency. Every redundant step within the transaction process needs to be eliminated in order to reduce costs.

Multi Trading Facility

Within the new MiFID environment, not only the traditional stock markets are allowed to provide exchange facilities, but larger brokers, under stringent conditions, are also allowed to provide these facilities. This can be very interesting for financial institutions that are actively involved in securities dealing and handle an above average number of transactions.

By this new opportunity, where MiFID sets the framework, the impact will be the largest on the relations and not on products or processes. Original relations are broken down and new relations, not only between brokers and the market facilitator, but also between brokers, are set up. The new environment will create more competition in the whole securities market which will result in an advantage for the investors: lower transaction costs, better securities prices or faster purchase and sales processing.

Pre- and post trade transparency

For a more level playing field, it is important that customers and trading parties all have the same information which reduces the discrepancies between broker and customer. This results in a more level playing field and a more competitive environment. To provide the customers with the necessary information, trading organizations, whether that being facilitators, brokers or banks, must provide customers with pre- and post trade information concerning their transactions. The bid and ask prices must be updated frequently and after the transaction, the transaction price should be compared with the market prices. The reach of this obligation is in July 2007 still a moving target, but there are expectations of post trade information concerning the comparison of transaction prices with prices on several different market facilities (also see MTF's).

Trade reporting

The trading parties should have a reporting system to provide the local government with trading information of every transaction that has been executed. This places an enormous burden on the systems of the trading organizations, since each transaction will bring a transaction report and the local governments need the capability of processing and storing these transaction reports of all trading organizations.

As can be seen, the changes that will be due under MiFID, place huge pressures on the current trading organizations, but will also create new opportunities for existing and new parties. The impact on IT is enormous. The deadline for MiFID is November 1st, 2007. It is therefore that larger organizations appointed MiFID top priority and are heavily investing in MiFID compliance.

The period after the deadline is called post-MiFID and within this period, large investments are expected to make full use of the new opportunities raised by MiFID.

SEPA Impact

According to expert magazines within the finance sector, the impact of SEPA on transaction and payments processing is enormous for banks, even though SEPA is on itself not regulation. Also, (multinational) corporations and consumers will see the influences of the SEPA implementation. The underlying legislation for SEPA is the Payments Services Directive, mentioned earlier. When elaborately studying this legislation, the issues that require changes in processes and products are well visible and can not be left unnoticed. The impact of SEPA will most likely be in the changes of processes and instructions for transaction processing. Changes in the relation with clearing houses, national and international banks and interbank organizations are likely. These relationship, as well as the changes therein, will be discussed in this Chapter.

The relationship with clearing houses

Due to the regulation, cross border clearing houses were until recent only an American issue. In America, regulation provided a the abilities to exchange transactions information across states. Each European country set it its own standards and the banking institutions were adapted to these local set of standards, which made only domestic clearing and settlement possible within Europe. Clearing and settlement was executed by national interbank organizations.

Since the request for more internationally focused clearing and settlement, six major clearing houses have started to focus on cross border clearing[22]:

- Dias (Greece),
- Equens (The Netherlands, Germany),
- IberPay (Spain),
- Seceti (Italy),
- SIBS (Portugal),
- STET (France)

[22] http://www.swift.com/index.cfm?item_id=62110

These clearing houses are already joining the test programs by SWIFT for international clearing and settlement compliance. Interesting to see is that by the opening of the borders for monetary traffic, which will result in more cross-border transactions and in larger volumes, consolidation of ACH's is already taking place.

The larger banks within Western-Europe are already adapted to the infrastructure for these clearing houses, which means that only low investments are needed to provide access to the other clearing houses as well directly, or indirectly through the domestic clearing house. Smaller banks however, do not always have this infrastructure ready and will also not always be able to invest in these relationships by the smaller budgets they have.

The interrelationship of banking organizations

For smaller banks, in order to keep the ability of providing cross border transactions to customers, these banks should invest heavily in new infrastructure that meets SEPA standards, or they should search for relationships with larger banks where they can use the existing infrastructure for transaction processing. Larger banks can provide the infrastructure for smaller banks, or execute complete transactions. These relationships are not uncommon, as can be seen in the past within the Telecom sector, where 'roaming' was very common for a large telecom operator that had the technological infrastructure to operate his own physical network.

Having smaller banks as customers is profitable for these larger banks, since they already have a network which can now be used more efficiently by an increased use, due to the cost structure for these networks. The initial investments for the physical network and access points are very high. However, when the network has been implemented, the costs of using this network for transactions is very low. The marginal costs for one transaction is therefore very low as well and that makes the contribution of every extra transaction relatively high.

New product offerings for customers & businesses

By nature of a combination of different markets (or whatever entities), both parties get to learn each others products. This also holds for the financial market, where banking institutions from different payment regions (countries) are integrated to form one single payments area.

Each country has set its different requirements for payment services offerings for the controlled institutions. The different requirements can have a complementary products as a result. One example are the differences between the direct debit systems in the Netherlands and in Belgium. New regulation on SEPA, the PSD, creates one singular direct debit payments system, which is based on one or more current systems[23]. However, it also creates a framework for the banks to combine the best of different systems into a new, more extensive system that is compliant with the new set rules. Fortis, very well represented in both countries, makes use of the combination of these two systems[24]. The synergy of combinations of other countries will be visible as well.

One example of changing product / service offerings from a banker's perspective by combining two or more different available (payment) systems in order to create new added value for consumers are debit cards. Although the systems are interoperable and usable for the customer in countries with different systems, improvements can be easily made. One aspect that certainly needs attention is the safety of these systems. Until now, PIN is not always necessary during a payment within a regular store. Also, in foreign countries, the ATM's are different which prevents spyware to be easily observed.

For consumers, there will be less new product offerings but instead, a lot of product offerings will be changing, becoming cheaper, more integrated with other European countries or easier accessible from places within Europe. Examples of new / changing products and services can be found almost always at corporations that are internationally oriented. To be complete, a few of these examples will be briefly mentioned:

- Support of multiple accounting systems within an individual corporation;
- Integration to a bank's architecture with interfaces for transaction authorization;
- Real time balance authorization, verification of allowances, limits etc.;
- Provision of status and exception reporting through online tools and system logs.

[23] For more details, visit: http://www.gtnews.com/feature/153.cfm
[24] According to an interview with one of Fortis Managers.

Overview of impact

In this overview, each of the regulations will be assigned an amount of impact on product, process and software applications, dependent on how large this impact is. The size of the impact can be assigned:

- Large: The impact is enormous, requires large scale operations and more than 20% of yearly budgets for regulatory requirements. Targets are still moving;
- Medium: The impact is very well visible, but targets are clear and organizations know how to deal with the required changes. The larger part of the targets have been set, but changes are still possible on some issues.
- Small: Only small changes are required. There has been a lot of attention given to this regulation compared with its impact. Targets can be met easily, and requirements are not so much an issue.

	SOX	AML	Basel II	MiFID	SEPA
Products	Small	Small	Medium	Large	Large
Processes	Large	Medium	Large	Large	Large
Software App.	Medium	Medium	Medium	Medium	Medium

Table 7: Impact of Regulation on Products Processes & Software applications.

Regulation

In this table, it becomes visible that MiFID and SEPA bring the largest impact on the banking industry. SOX and Basel II, although this does not exactly coincide with the indications within the table, closely follow MiFID and SEPA. However, by the fact that SOX is not obligatory within Europe for organizations that are not listed on one of the American stock exchanges, the SOX impact is limited. The same holds for Basel II regulation, which is, as is previously mentioned, not obligatory, but compliance is a condition for advantageous borrowing and lending arrangements.

The impact of AML is the smallest, but this is only due to the evolutionary character of the regulations on AML. Already the 3rd AML Directive has been developed, whereby nine out of ten of the organizations are already adapted to the 2nd directive and are prepared for this new directive. The small impact does absolutely not mean that AML is not important for the financial industry.

Impacts on Products, Processes & Software applications

What can be seen more from this table is that the largest impacts are on the process side of the financial organizations. This can be explained by the background intentions of the regulations (or regulation in general): a paradigm shift. This paradigm shift should ensure the changes in behavior of the organizations, which can be observed by changes in the business processes. For the regulators, it is important to adapt processes to their requirements, not only because regulators are supposed to have a better knowledge of the macro-economic effects in this economic area, but also because, by compliance on regulation, the responsibilities are passed from the individual organizations towards the authorities. The authorities are a reflection of the community, which in turn is concerned with the individual and common behavior of financial organizations that affect the community.

The impact on software applications is not as large as the impact on processes, since software applications are following the business processes, and changes are only necessary when changes in business processes require so. Although the required changes are large, the software systems are often (and constantly increasingly) bought from external suppliers, instead of being developed and implemented in-house. Although software is a secondary priority behind the business processes, it remains an important issue in every financial organization, as it is a facilitator of the changes in processes and a necessary issue for compliancy. IT, both software and hardware, are not only a necessary expense for support of (changes in) business processes, but can be seen better as a useful tool for repetitive activity with clear and unambiguous analysis.

Within the opinion of the banks, the impact on the products can be considered the smallest. It seems that, from a regular point of view, it does not matter what a financial organization sells to their clients, as long as sales are taking place according to the regulatory restrictions, where these regulatory restrictions again can be observed in the business processes and IT. Summarized, each new, innovative, complex or hybrid product is allowed to be sold only when clients get proper education on the products, the price of the products reflect the true value of the product results, the client is a trustworthy trade partner without a criminal history and the proper information is stored about the deal.

Current and Future developments

Consolidation

BPO / Outsourcing

Consultancy firms

Changing roles

Developments in the banking industry

The following developments are a wholly or partly a result from the pressure of the intensive regulation on the banking industry under the EU regime and are more indirect effects of regulation in general. Not always can effects be explained by directly linking an effect to an individual regulation. Often, effects are indirectly visible and thereby, the regulations have a smaller role in the development of the discussed trends.

Product	Process	Software Applications
Innovation of Financial Products	Consolidation	(Business Process) Outsourcing
	Drift away from the traditional role as trusted third party	Modularity, Utility & Architecture
	Rise of Consultancy Firms	Application Service Providers
		Flexible Business Processes

Table 8: Divide developments into Products, Processes & Software Applications

The above mentioned developments are independently indicated expectations of several senior managers within financial institutions or experts on related sectors. For the informed readers, some trends might be familiar, or will be recognized. Each development will be discussed extensively for a clear understanding of the implications. These trends are considered very important for the direction of the daily banking activities in the near future.

Financial Product Innovations

Regulation and innovations of financial products have a reciprocal relationship. While bankers and derivatives firms are trying to supply the financial market with custom made products, which are often of a complex nature, the authorities are trying to protect customers that are demanding these products against financial risk that has not been foreseen by these customers.

Securities dealers, whether these are brokers, derivatives firms or banks, are obliged through legislation to provide customers with as much information as possible concerning the risks and returns of the complex derivatives. Securities dealers however, have no interest revealing the exact information due to the fact informing the client about the risk profile can negatively affect the sales of these derivatives.

Strong regulation on derivatives and equity requirements or taxation purposes have been a major drive for the derivatives firms involved in creating new financial products to develop (hybrid) products that can circumvent current legislation on derivatives and equity requirements. Figure 15 shows a hybrid structure[25], where a corporation avoids tax payments and provides investors with dividends through a Special Purpose Trust. This structure is currently only possible through an SPT on a regulatory refuge, of which the Cayman Islands are a good example.

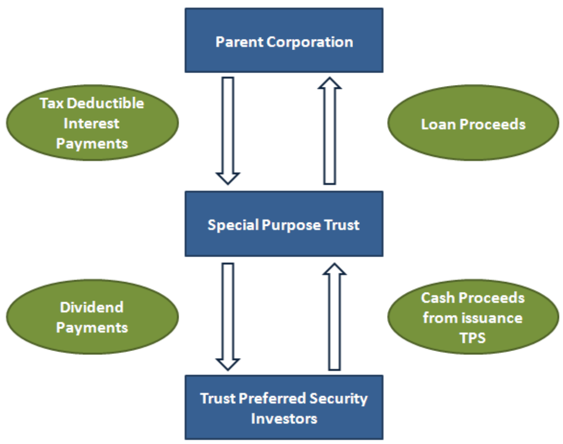

Figure 15: Example of Hybrid Solution for Tax Avoidance

For European organizations this is less interesting, but in America, this has been a true hype for the conversion of interest payments into dividend payments without the accompanying tax burden that is normally involved. Regulators trying to catch up with these new products build regulatory frameworks for using the derivatives in a proper way, which would prevent the derivatives from doing any harm to the equity market.

The behavior of regulators and derivatives firms can be seen as a mouse chasing game, where regulators and derivatives firms both try to be ahead of each other. It creates tension on the equity market where the derivatives are created or on the money market, where the derivatives are traded.

Consolidation

This trend, which is only partly due to the intensified regulation, but an intended effect according to the EC, is the consolidation within the banking industry. Banks are tending to get bigger for several reasons. One of the arguments to consolidate is to create economies of scale which would lead to cost reductions for banks, which would be advantageous for customers and profitability.

[25] By D. Dupont, Former Professor at the Twente University, Enschede, The Netherlands.

Another reason for consolidation is the competition within the banking industry. Others in the banking industry are becoming larger and this puts pressure on banks to become larger as well. If this is not possible naturally, banks need to grow through mergers and acquisitions. This will be a continuous process, since banks are constantly trying to outpace the competition.

This consolidation has already been evolving in the banking industry so far that smaller players will soon not have a reason for existence anymore, unless they are acting as nice players. In the Netherlands, the Friesland Bank is such a player.

A last effect that leads to consolidation, which will be discussed later during this chapter, is outsourcing. This makes more turnover possible, for relatively low costs, which will lead to higher profitability.

Drift away from the traditional role of trusted third party

What happens in other markets, is also happening in the financial sector. Joint ventures are created by banks together with other organizations operating in other markets. Two examples of these cross-market ventures are Sony-Ericsson and Fujitsu-Siemens, and there are many others existent. In November 2006, Rabobank in the Netherlands presented Rabo Mobiel[26], which is a joint venture between Rabobank and telecom provider Orange. In the opinion of the writer, this will not be the only venture of a bank with a telecom provider, since telecom providers are much more flexible.

Why is this happening? Banks have always been the trusted third party within the financial playground. It was the only party that has enough money to guarantee your payments and regulation and governance was there to ensure a secure processing of the transactions. In the last decade, this position of banks, as ivory towers, unreachable and unbreakable, has been diluted[27]. Other parties are offering simple but easily usable financial services as well. The gigantic American Wal-Mart is just one example. It would be no surprise, when in time, Ahold provides, besides the ordinary merchandise, the telecom services, book store and already little clothing they have, also financial services in the form of credits, debits , saving deposits and payments cards.

[26] www.rabomobiel.nl and several press releases

[27] Look for one survey at: http://www.unisys.com/about__unisys/news_a_events/06218790.htm

A more serious threat has already been mentioned. The telecom operators worldwide have obtained a strategically very advantageous position within the community. Globally, there are around four times as much cell phones as there are bank accounts[28]. Also, in a lot of unbanked countries, there are still a lot of cell phones in use. The technology that makes mobile payments possible, in combination with the more customer oriented offerings of the telecom providers make banks unnecessary in these countries. The emerging countries (E7) are also countries with a low density of banks. This will inevitably lead to a high rate of growth for the telecom providers, while the banks stay far behind.
However, it is important for the two possible scenario's set out above to actually happen, that legislation and regulation provides a framework to actually do so.

Up to now, banking regulation almost always inhibited other parties to enter the financial services market by setting up high entry barriers. The regulation were a burden on the existing banks, but on the other hand, a protection for newcomers. Expected is however, that future regulation is breaking down these walls, which should make it easier for other parties to actively engage in the financial services market as well. The largest impacts are expected to be in the emerging markets, since there can be gained a lot when a good competitive position can be established. Since banking institutions are operating worldwide, the repositioning will also have its impacts on banks established in Western countries but operating in emerging countries as well. A good example is Banco Santander, the Spanish leading bank, which is also expanding its operations to Brazil, one of the major emerging markets in the world, and other Latin countries, most of them rapidly growing[29].

For the banks to hold their reasons for existence, it is important to start thinking about their new roles within the community and the extra added value that they can deliver to their customers. The banking industry has long been an industry where revenues are created without very large efforts, but this is expected to change in the nearby future.

[28] Look for the survey at: http://www.thebanker.com/news/fullstory.php/aid/4957/Mobile_momentum.html
[29] See for the sales of Banco Santander Appendix - 4

Rise of consultancy firms

The consultancy firms in the Western-European industry are growing at a fast rate. Some of these consultancy organizations see more than half of their growth come from service to the financial sector. Examples are Cap Gemini, IBM and Accenture, which are present in those countries that have a cultural preference for external employees[30]. These countries are the Netherlands, the UK, France, Luxembourg, Denmark, and Belgium in a lesser degree. The preference for external expertise has its roots in the regulation for employment contracts. Since employees are very well protected and employment costs are very high for fixed employees, companies are searching for external expertise that can be hired on a temporary basis.

Another reason for the use of external expertise is accountability and responsibility. Although the financial sector is characterized by revenues out of risk-taking, banks are tending to outsource their risks. This holds not only for their products, but for their processes as well. The possibility in contractually eliminating risks for non-daily activities is a good opportunity for banks to get a higher reliability in the outcome of these activities. Such projects can be implementing a new system, reorganizing business processes, compliancy, market surveys etc. There are many activities that are not core activities for banks, which make it more difficult to excel in these activities, while external parties can be experienced with similar activities performed at a different organization.

Outsourcing and Business Process Outsourcing

Outsourcing is contracting other parties, whether suppliers or competitors, to perform parts of the, or whole business processes that are currently executed in-house, but can better be executed externally. There can be several reasons for outsourcing, among others reliability, costs, speed, knowledge and safety. Since a lot of the back-office processes are very homogeneous, a very important reason for outsourcing (part of the) business processes within the banking industry are costs. Outsourcing is also most profitable for standardized, homogeneous, low value, mass production and transparent processes. An obvious example is payments.

[30] For details on culture dimensions, please see Hofstede, 'Culture's Consequences, Comparing Values, Behaviors, Institutions, and Organizations Across Nations Thousand Oaks', 2001.

There are two ways of outsourcing. The first way for banks for outsourcing (parts of) business processes is to let other banks do these processes. This is or will become very attractive to smaller players, since it is very expensive for them to dedicate separate departments to back-office processes and to buy their own software packages for support of these departments while only moderately using these departments and systems. Especially the IT systems are very expensive, by the complicated and extensive functionality that is required for modern banking activities. The larger banks, which are heavily using the back-office departments and systems, can spread the high costs of these capital investments by the larger amount of customers, transactions and cash flows.

The benefits of outsourcing become visible when combining these two phenomena. The smaller than average banks, typically provided with lower budgets for these processes can engage with the larger than average banks, already provided with specially devoted back-office departments and systems. The small banks outsource the payments, settlements or other activities to the large banks and in exchange, pay a small sum for each activity on executed on the system of the contracted bank. This contracted bank can create additional revenues through these payments, while the small bank is not obliged anymore to acquire an expensive system.

Another form of outsourcing is Business Process Outsourcing (BPO). This form of outsourcing is transferring the business processes to non-banking players, which can be consulting firms (externally employed staff) or specially devoted organizations. Again, outsourcing is or will become very attractive to the smaller players within the banking industry, because they have a need to process the business activities within an externally placed department in order to reduce the costs that are induced with these business activities. The advantage of these specially devoted organizations is the professionalism they have. Since these organizations already perform these activities for (several) other companies, they have deep knowledge on these activities. Furthermore, since they make these (sometimes non-core) activities for banks their core activities, the error probability decreases and the speed is likely to increase. Market leaders within the Netherlands and / or in Europe are Ordina BPO, IBM, Accenture and CapGemini.

Still, the question remains why regulation is driving outsourcing to occur. It has already been said that back-office departments and IT systems can be seen as huge expenses for both large and small players within the banking industry.

Besides that, regulatory evolutions places a huge burden on these systems, already requiring 70% of the IT budgets to be spent on regulatory compliance[31]. Only 30% of the IT budgets for banks is spent on market demands. The regulatory pressure will only increase in the coming years, as has been said earlier[32]. The obligations that regulations bring, make it very difficult for the smaller banks to stay competitive on price levels and margins, which is probably the main aspect in the financial sector.

It will therefore not be surprising when BPO is going to grow at a very fast pace and brings several advantages to the local or national banks that will lead to cost reductions and an improved competitive advantage towards customer prices.

Modularity, Utility and Architecture

The continuing integration of systems and improved compatibility are major developments within the banking software applications sector. Although this development is primarily driven by technological advancement, there are indirect influences of regulation that drive software developments as well.

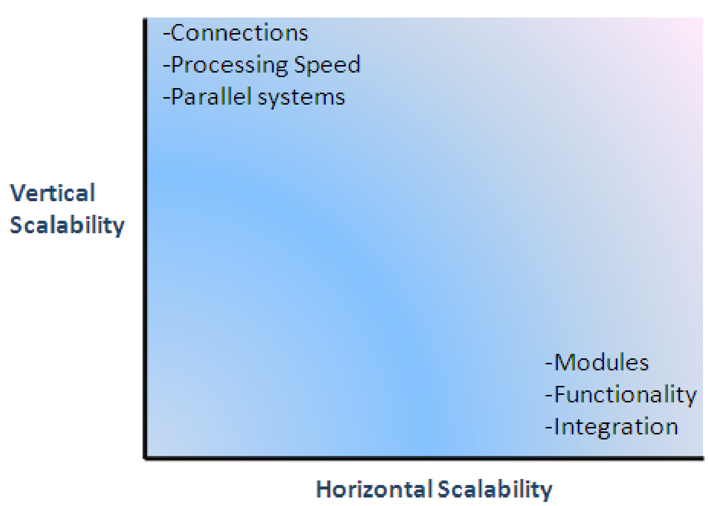

Figure 16: Scalability is a driver for modularity

[31] See: Banking & Finance, Volume 2007, Issue 2

[32] Chapter **Literature**: *Regulatory pendulum*

The first impact of regulation is through the earlier discussed effects on consolidation. When companies start to grow big by nature and by the acquisition of other companies, there are often multiple systems in place. The synergy of acquisition or the economies of scale are to be reached through efficient processing. This requires the software systems to operate flexibly and communicate effectively, without the need for translation applications, system layers or other interfaces.

Thereby, SOX and MiFID regulation require more transparent data processing. The interfaces are not allowed to edit the processed data without logging or the creation of track records. This makes compatibility of systems, databases and servers desirable or, with the increased reliability requirements even necessary for SOX / MiFID compliant processing.

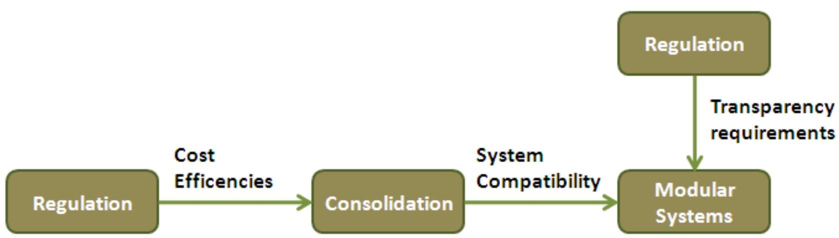

Figure 17: Indirect regulatory influences on system integration

Modular Systems

Recently, different solutions from software vendors have been developed to live up to the requests for increasingly complex, specialized and cost-effective solutions to day to day banking problems. In chronological order, the first development to be discussed is the introduction of modular systems. Modular systems are software packages that are set up according to building blocks. The different blocks can work independently and produce standard output which makes it more easy to connect them to other blocks. The scalability of these blocks are both in size as in functionality. Also for servers and mainframes, the hardware components, modular building blocks have entered the market and are quickly on its way to become the new standard.

Utility Banking

After the modular systems have started to be used, there was still a need for cheaper, more cost effective systems that can be used for the same functionality at different companies or for different, alike operations at the same company in order to stay competitive and to share resources with alliances in the dynamic financial environment. The solution to this requires is Utility Banking, which creates a process oriented design on operating systems that is able to be changes according to the exact process in a range of processes that is to be performed on the system. The distinction, with the modular systems is functionality. Where the modular building blocks provide different activities per component, Utility Banking is a solution where building blocks (or systems) are arranged to independently function but produce a range of outputs according to the settings. This creates a more output focused performance of the software applications.

Service Oriented Architecture

The latest development that will be discussed, although this was already started to be developed and implemented when utility banking also started to become reality, is the Service Oriented Architecture (SOA). SOA is an evolution more than a revolution in the IT sector. When modularity and process oriented streams of applications became popular, the question raised how the interchangeability of components and the communication of these different components was best conducted to create even higher rates of cost-effectiveness.
SOA provides a framework to expose business functionality as loosely coupled, reusable services, thereby trying to improve the ability of the banking organizations to respond to environmental changes and reinforces competitive powers. This requires open standards (mentioned earlier) and interoperability between platforms.

Flexible Business Processes

It will not be surprising when software vendors start to build their software around a flexible business process environment. The assumption of constantly changing processes for compliance to frequently renewed regulation creates an efficiency that would be very hard to realize with the conventional software, which needs updates, additional modules or even complete replacement when the old configuration becomes obsolete by new rules. The awareness of the constant changes in business activities and processes can be observed already in progressive consultancy firms, which shows that the market is developing into the direction of flexible business processes.

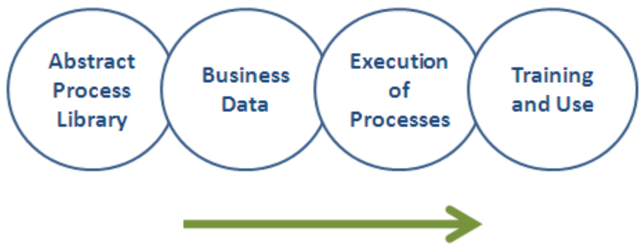

Figure 18: Implementation diagram of Flexible Business Processes

Application Service Providers

The last development that will be discussed is the introduction and intensified use of the Application Service Providers (ASP). The ASP can be a software vendor which also offers its products on a rental / use base, or a intermediary organization that purchases different software products to offer to its customers a complete software solution on a rental / use base. The customer does not need to invest heavily in software products, but can submit to an ASP and pay for the use of the software packages that are externally available through a regular internet connection or VPN. ASP is still in an early stage since the connectivity can not be guaranteed for 100%. Through Service Level Agreements (SLA's), the customer and ASP can make arrangements on the availability of the server and connection.

Similar to outsourcing, ASP puts part of the processing into other hands, although with ASP the use of the software systems, the processes itself, is still in-house. Through the cost on a use base, it is not necessary to invest heavily for the purchase of new systems that are needed for compliancy rules. Through extensive regulation, the incremental costs of data processing have gone up for in-house data systems. Although the software applications are able to process more data per unit of time, the costs of this processing have become higher which is very undesirable for products that are standardized, transparent and with a already low contribution margin per transaction.

Overview

Below is an overview of the discussed developments in this chapter and the role of the regulations. The effects of the individual regulations will on the previously discussed developments will be classified into:

- Large, the trend is mainly an effect of this regulation;
- Medium, the trend is only partly an effect of this regulation, other factors play a role as well;
- Small, this regulation has virtually no effect on the development of the trend.

	Product Innovation	Consolidation	Consultancy firms	Changing role	Outsourcing / BPO	Modular Systems	ASP's
SOX	Medium	Small	Large	Small	Medium	Small	Medium
AML	Medium	Small	Small	Medium	Small	Medium	Small
Basel II	Large	Medium	Small	Small	Small	Medium	Small
MiFID	Large	Large	Large	Medium	Medium	Large	Large
SEPA	Large	Large	Medium	Small	Large	Large	Large

Table 9: Regulation - Trends matrix

It has been already mentioned that the trends are no direct results from the discussed regulations. This makes the above table only indicative. The other causes of the mentioned developments / trends are from a wide variety of related areas, ranging from technological to social changes in the financial sector environment.

For a more detailed discussion of the impacts of regulations on certain market trends, the reader will be referred to Appendix – 5. The opinion on the impact size of regulations on the trends can differ along with certain arguments. This makes the table suitable for discussion which in turn provides the framework for scenario writing and further impact analysis.

Conclusions & Recommendations

Conclusions

The humongous amount of efforts related to regulation puts a great burden on the daily business activities of organizations within, as well as those who have close ties to, the financial sector. Not only banks, but also other financial institutions as stock exchanges, clearing houses, custodians etc. and the financial authorities are occupied developing, implementing and complying to regulation.

Products

Because regulation has its focus on behavior of financial institutions, regulation does not affect the products themselves as much as is generally thought. It seems that a bank can develop and sell any type of product they like, as long as the customers are satisfactory informed and are given enough protection against any disadvantage of the information asymmetry. The sales processes, back-office support and other interaction with customers is heavily regulated to overcome difficulties in the business functions of financial organizations. In my personal believes, it is highly essential for the financial sector, that has been a heavily discussed sector in terms of ethics concerning products and behavior, takes the lead towards becoming a sector where organizations can create a competitive advantage over others by earning the trust of consumers, suppliers and even the competition when they follow a fair trade policy and show respect to others leading to more business opportunities. The shift in attitude is expected to put the financial organizations in a better daylight and become an example of honesty and the self-consciousness.

Processes

The sectors supplying to, or related with, the banking industry are flourishing through the continuous feed of new regulations and the necessary changes brought along. Consultancy firms, accountancy firms, monitoring associations, outsourcing partners, IT-vendors and others all benefit from the implementation of new regulations. Although newly developed regulation is supposed to increase the efficiency of financial organizations in order to reduce consumer prices, the initial investments made by banks through contracting suppliers and service organizations cause a structural increased markup on the consumer price. While it is not cost-efficient to hire external employees on a frequent basis, it is, by the nature of the market and the encompassing regulation, hardly impossible to get, have and keep the necessary expertise in-house. This makes high expenses on external parties necessary.

Regulatory issues already cover a large part of the budget for IT and Operations. Regulation needs daily attention and there is no avoidance to it. Regulation is perceived by government and related associations to have extremely high priority. I firmly suggest that financial organizations must make serious efforts to live up to the expectations of these governments. To prevent the financial sector from even more and stricter regulation, all financial organizations should immediately start to cooperate on the true intentions of the regulators, not only on that what is written in law.

Where currently separate departments or experts are devoted to monitor and control developments within the regulatory environment, the knowledge of and attention to regulation should become one of the basics for every financial organizations' employees. This shift can already be observed when looking at the development of the educational backgrounds of for example board members, not only in banking institutions, but also in other (financial) organizations or other industries.

Software Applications

Even though regulation exists in several forms and is treated different at every organization, there are commonalities among the content and treatment of them. The analysis of these similarities and the creation of standards implementation procedures creates efficiency and reduces implementation costs.

An example of a standard implementation procedure is a predetermined step by step plan. This plan consists of:

- Chart the actual business processes and organization structure of the organization;
- List the requirements of the government to create the desired situation;
- Evaluate the differences between the actual and the desired business operations;
- Analyze the deviations on their complexity and essence;
- Make a business case for the deviating operations to address necessary changes for compliance to the regulator's intentions;

- Involve the IT department (Do this as early as possible not to waste money on systems that grow complex by the added features necessary for each process);
- Keep the IT subordinated to the business processes at any time.

In essence, the content of a particular regulation is irrelevant when it comes to creating a framework for regulation implementation, argue some of the top consultancy and IT-vendor organizations devoted to the banking industry in Europe. A MiFID expert can easily become a SEPA expert and when a step by step action plan is created for implementation of SOX, it will not be difficult to prepare this action plan for use of MiFID implementation. The execution of regulation implementation will be different in terms of covered subjects, but the concept remains the same.

General regulatory influences

With the regulatory burden reaching higher levels than ever before, it is questionable whether this strict regulation of the financial market serves the best interests of the community as a whole. Compliancy to any regulation in itself requires investments that to me, do not directly show added value for the individual investing organizations. Compliancy makes business activity more expensive and the extra costs will usually be included in the consumer price.

Figure 19: Indication of regulatory (re)activity

Ever since regulation has been in place, in whatever sector, in whatever form, there are affected individuals and organizations that try to avoid regulation, resulting in advantages available for those who successfully circumvent the regulatory burden. Originally, regulation exists to let individuals or organizations behave in the way that is desired by the governing authorities, which should lead to a reward for those who comply with rules, and not, as has been mentioned, by those who know how to avoid regulation without being noticed and adequately punished for their misbehavior.

A striking example of governance intervention with good intention but not serving the best interests of the community is the financial support of the ECB for the banks with liquidity problems after the introduction of calamities in the subprime mortgages market. Debt certificates are used as a trade for interbank lending activity. When mixing the subprime certificates with the regular, credibility rates can not be indicated reliably and mutual trust is decreasing. When banks started to be less willing to accept certificates as exchange for interbank lending, the efforts of the Central Banks to reestablish trust on the financial market resulted in money supply and advantageous conditions for those banks who owned a high share of doubtful certificates. Finally, punishment was omitted not to harm the image of the financial sector as a whole. However, these bad debts created a negative outlook on the market.

The government intervention leading to wrong advantages is not the only remarkable issue in the previous example. Also, the omission of punishment for the sake of the community is highly doubtful. If organizations are not punished, there will be no disadvantage for the bad behaving organizations. Punishment is essential for regulations to have steering and directional power to the community. Making no exceptions and strictly following the rules lead to justice where regulations are originally intended for.

Despite much has been said about moral hazard and norms, values, beliefs in literature about regulation, the issue of good behavior is to be mentioned again. Regulation, without a cultural shift to natural compliance and honesty, will never be able to let all members of a community behave in the way that is desired by the regulator. This holds in every industry, the financial industry not being an exception, and due to the central role of money even the best example of a sector where there are always individuals looking personal advantages discomforting others.

The role of banks as a trusted third party in the economy, providing savings, loans and transaction processing in a strictly governed environment, is about to change. Regulation has until now provided a protection shield for the financial sector. The authorities, pressurized by the desire of industrial sectors for more efficient payment traffic and the strong drive for global competitive leadership of the EU, are developing a regulatory environment where industrialization of the financial sector can take place.

I believe that due to the desire of the community for a more industrialized banking sector, Western-European banks, even when they claim to be in control of their environment, must have another look on their efficiency, pricing and marketing. Compared to other, more dynamic sectors, organizations within the financial sector are behind when it comes to creating a positive and service oriented image. These banks are not performing as efficient as advanced technology companies are doing. Accumulated, the banks lack the flexibility necessary to survive in a dynamic environment that will open when European regulators start to provide banking licenses to non-financial institutions.

To compete on a new level playing field, created by regulation, it is essential for financial organizations to create a progressive and adaptive attitude, and organizations adapt to the environment, even when this lead to frequent changes. The new level playing field is a standard set by government and creates an equal playground for every organization in the sector. When this playground is leveled, it does not mean that market players can lean back. Because as soon as the playing field is leveled, there will always be organizations that try to make this playing field bumpy again. To create a competitive advantage, it is recommended to be open to the new regulatory environment.

Recommendations

In the Conclusions Chapter, recommendations have been given on the issues pointed out in the discussion of the impact of regulation on the banking industry. General remarks were made to help the reader turning his regulatory problems into business opportunities. To finish, few suggestions for research to follow up on this Thesis will be given in this Chapter.

This Thesis includes a complete overview of the regulations, associations and authorities, as well as an overview of the current market developments. The complete overview in a single report is a proper addition to the knowledge of market players, who are affected by these regulatory parties. But, most of the described influences are influences on the financial market as a whole and not on individual organizations. Because regulation has widespread impacts and these impacts have a broad reach, even without influences on individual organizations the effects can only be described briefly if all effects that play any substantial role are to be mentioned.

Business Experts

This Thesis does not prescribe a business process reengineering 'roadmap' for individual organizations to accurately adapt to the regulatory (r)evolution. This roadmap, which is created through research on the regulatory effects on individual organizations, will be different for every organization, and is not easy to apply generally. Research on direct effects on individual organizations and the necessary reorganizations for an organization to become compliant to all the regulations within its environment is possible and recommended for each bank that is affected by EC regulation. Actually, this holds for all banks, since regulatory issues are in present in every country.

A roadmap only provides the prescribed events and the sequence of events to make the transition from current situation to desired situation better executable. For senior managers involved in the longer term strategy of a company, this roadmap is less valuable. Scenario sketching and research on the indirect, longer term effects of regulation creates a forecast of impacts and the required activities to overcome future obstacles. The current developments mentioned in this document can be taken as a starting point for the impact on individual organizations.

Back Office Experts

The recommendation for further research that should be taken most seriously is on the back office department of financial organizations. More regulation is expected to arise from the EC in the near future and that makes it is necessary to start thinking how to handle the increased burden and the implementation of future expected regulation in terms of process and software requirements. Although it is very difficult, even more than was expected before this Thesis, to say with certainty or reliability which subjects are to be addressed next by regulations and how these subjects are covered, participation in the development of solutions on regulatory issues is crucial to survive, let alone to thrive. The development of software solutions like the introduction of Modular Systems and Flexible Business Processes, or the focus on improving product innovation activity are illustrative examples. Research within the area of software solutions can create advantages that will only grow in the future. The efficient and effective processing in the back office department, addressing the processes as well as the software applications, is already a high priority, but must stay, even increase in priority within financial organizations for the coming years.

Specialized Regulation Experts

Although regulators are assumed to know that the banking industry is typically operating worldwide, they do not yet provide a sufficient framework for international operations. Governance and regulation are expected to develop towards a harmonized and integral set of regulations in the near future, say, ten years from now. While it is the task of governing parties to research the opportunities and risks of this harmonization for the financial market as a whole, individual banks that operate in more than one country should also look for opportunities and threats of the competitive environment in combination with regulatory differences in the countries they operate in. The required action should be included in the strategy of the organization.

Special Attention

Many people have supported this Thesis. I want to give special attention towards those financial experts who, although they were occupied with their own daily (often regulatory) issues, supported me with interviews, information and connections to other financial experts who again could help me further on my journey within the regulatory surroundings.

- S.C. Peij, Professor Boards & Governance, INHOLLAND University;
- J. de Meijer, Head of Operations & IT, ING;
- M. Huijben, Country Manager The Netherlands, Misys Banking Systems;
- R. Polderman, Manager Rekencentrum, Ordina BPO;
- A. Spruit, Managing Consultant, Banking CapGemini;
- M. van der Wal, Sales Director BeNeLux, i-flex solutions;
- R. Roest, Vice President, Banking CapGemini;
- T. Hagens, Senior Manager, Fortis Netherlands;
- L. van Cleef, Member of Managing Board, Nederlandse Waterschapsbank.

Without the deep knowledge of the financial market from the above mentioned people, the interesting discussions of where the financial sector and its regulatory environment is heading would not have been possible. The discussions provided me with inspiration for research and stimulated me to challenge the status quo. I was provided with an enormous treasure of information and invited to join a forum which allowed me to have a closer look on the financial market and its daily concerns then a student would normally have.

Literature

Books:

Johnson & Scholes, “Exploring Corporate Strategy”, 1998

R. Baldwin, C. Scott & C. Hood, “A reader on Regulation”, 1998

Karl Kaltenhaler, “Policymaking in the European Central Bank”, 2006

Brigham & Brown, “Policy Implementation”, 1980

Howells & Bain, “The Economics of money, banking and finance”, 1998

Milgate, Newman, Eatwell, “The new Palgrave dictionary of Money & Finance”, 1992

Articles:

- “Fighting Cash Not SEPA: How European Banks Can Win With Debit Cards”, De Ploey, Denecker and Van Oostende, 19 Mar 2007
- “SEPA: The Accelerating Shift to Outsourcing”, Jeremy Light, 30 Apr 2007
- “Euroland, Our Single Payment Area!”, Bielefeld, Poncelet and Van Berkel, 26 Mar 2002
- “Anti-money laundering, Toward a better understanding of the use of IT systems for best-practice compliance”, Rowan Bosworth-Davies, 2004
- “From Anti-money Laundering to Fraud Prevention and Management”, NetEconomy, Feb 2007
- “When Fraud Gets Seriously Organised”, David Porter, 19 Mar 2007
- “Market vs. Regulatory Responses to corporate fraud: A critique of the SOX Act of 2002, L.E. Ribstein, Sept 2002
- “Management Alert: The Sarbanes-Oxley Act Will Affect Your Enterprise”, Logan and Buytendijk, 02 April 2003
- “Applying Germany's Market Manipulation Rules to Disruptive Trades on the Eurex and MTS Platforms”, David C. Donald, Mar 2005
- “At the brink of regulatory convergence”, Don Vangel, April 2005
- “An academic response to Basel II”, Daníelsson, Embrechts, Goodhart, Keating, Muennich, Renault and Song Shin, May 2001
- “Credit Risk Management - Beyond Basel II”, Rob Hadden, Jan 2006
- “A tough act to follow”, Subrata Majumdar, unknown date
- “Central Banking Legislation: Volume II Europe”, Hans Aufricht, Mar 1969
- “American Banking Legislation, Recent”, S. I. Greenbaum & A. W. Boot, 1992
- “Banking Acquisitions”, B. E. Eckbo, 1992

Magazines:

Audit Magazine, Volume 3, September 2005

Banking & Finance, several Volumes during 2006-2007

The Banker, several Volumes during 2006-2007

Reports:

The Who What Where Guide to Back Office Software Suppliers 2007, IBS Publishing

World Payments Report 2007, Capgemini

World Retail Banking Report 2006, Capgemini

Global AML Survey 2007, KPMG

World Economic Outlook, Public Debts in Emerging Markets, IMF, 2003

The European Challenge 1992: the benefits of a single market, Cecchini

Repeatedly visited websites:

www.gtnews.com	Provides Whitepapers from financial experts and academics on many different issues within the financial industry.
www.ibspublishing.com	IBS is a large and respected publisher of news and background information on the interaction of banks and back office software.
www.iflexsolutions.com	No. 1 software vendor in the world on sales volumes 2006[33].
www.mysis.com	No. 1 software vendor in the world on customer base 2006[34].
www.capgemini.com	Current largest consultancy firm within Europe on operational issues, also included a very large part within the financial sector.
www.bis.org	Official website of the Bank of International Settlements, which provides excellent and official information on Basel II.
www.ecb.int	Official website of the European Central Bank.
www.dnb.nl	Official website of the Dutch Central Bank.

[33] According to the IBS "Sales League Table" 2006 and the IBS "BOSS" 2007
[34] According to the IBS "Sales League Table" 2006 and the IBS "BOSS" 2007

www.thebanker.com	The Banker is a very large publisher of articles concerning many different financial issues.
www.finextra.com	Provides an enormous treasure of financial news items and scientific background information.
www.euromoney.com	A very extensive website on financial information and news.
ec.europa.eu	The official website of the European Commission. This site provides the official legislation and policy of the EC.
www.lexadin.nl	Provides a starting point for all the different legislation present in almost every country in the world.

Glossary

AFM: Authority of Financial Markets, NL

AML: Anti Money Laundering

ASP: Application Service Provider

BI: Business Intelligence

BIS: Bank for International Settlements (committee for Basel I & II)

BOSS: Back Office Software Supplier

BPO: Business Process Outsourcing

CPM: Corporate Performance Management

CRD: Capital Requirements Directive, legislation within Basel II

DD: Due Diligence, study towards the integrity of performance indicators

EC: European Commission (not to be confused with European Community)

ECB: European Central Bank

EDD: European Direct Debit, payments system within SEPA

EPC: European Payments Council, concerned with SEPA

EMI: European Monetary Institute

ESCB: European System of Central Banks

EU: European Union

FATF: Financial Action Task Force, concerned with AML worldwide

FSA: Financial Services Authority, UK

FSAP: Financials Services Action Plan, covers MiFID and other legislation

GAO: General Accountability Office

IBA: Indian Banking Association

IBS: “International Banking Systems”

IMF: International Monetary Fund

ISD: International Services Directive (predecessor of MiFID)

JWG: Joint Working Group, on MiFID

KYC: Know Your Customer, used with AML & MiFID

MLRO: Money Laundering Reporting Officer

MTF: Multilateral Trading Facility, within MiFID

NCB: National Central Bank

PEDD: Pan-European Direct Debit, payments system within SEPA

PCAOB: Public Company Accounting Oversight Board

PSD: Payment Services Directive, legislation of SEPA

SEC: Securities Exchange Commission

SEPA: Single European Payment Agency

SI: Systemic Internaliser, bank who is trading in a systemic and organized manner

SPE: Special Purpose Entity

SPT: Special Purpose Trust

STP: Straight-Through Processing

SWIFT: Society for Worldwide Interbank Financial Telecommunication.

Target-2: Payments system within SEPA

TRS: Transaction Reporting System

Appendix – 1

The Top 7 Emergent markets[35] (called E7)

1. China
2. India
3. Brazil
4. Russia
5. Indonesia
6. Mexico
7. Turkey

8. Vietnam
9. The East-African Region
10. The Asian-pacific area (which includes countries like Afghanistan, Pakistan etc.)

Member countries of the EU:

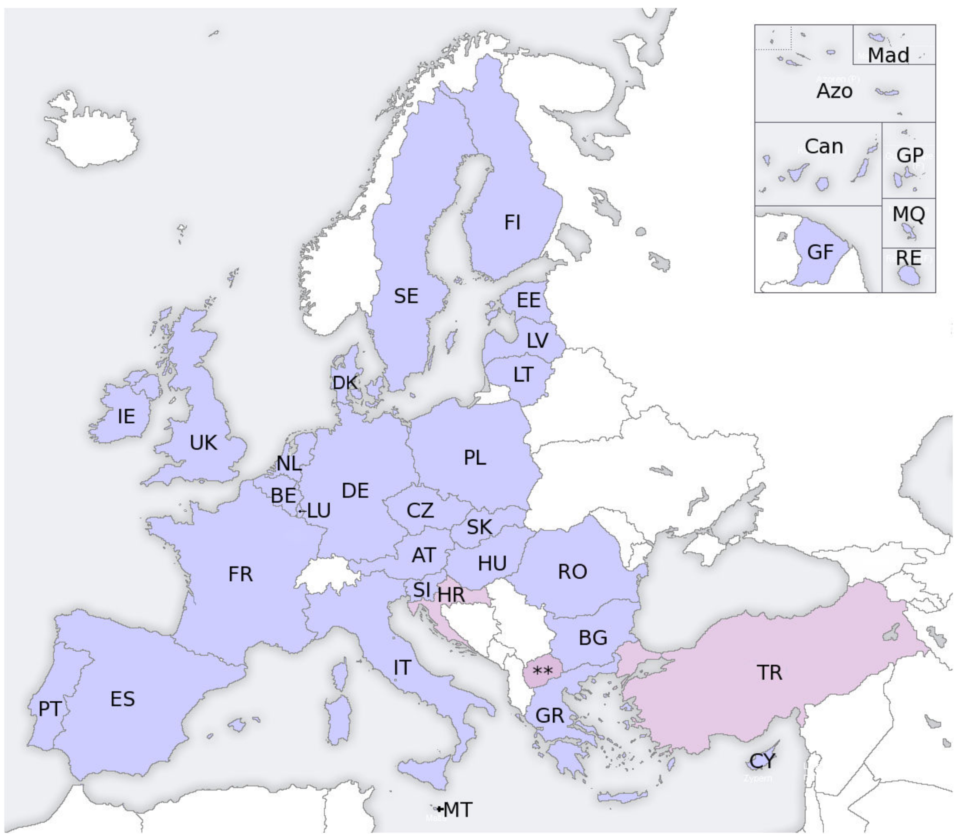

Figure 20: (Potential) Member states of the EU

---

[35]The E7 is an official name for the biggest emergent markets and can be found among others at http://uk.reuters.com. The top 10 however, was derived from a combination of information on primarily http://seekingalpha.com and www.grantthornton.ca.

Appendix – 2[36]

The Netherlands

(1) Bankwet / Banking Act

(2) Wet Financiële Dienstverlening / Financial Services Act

(4) Faillisementswet / Dutch Bankruptcy Act

(5) Wet Melding Ongebruikelijke Transacties / Suspicious Activity Notification Act

Belgium

(1) Law on the legal status and supervision of credit institutions

(2) Law on the supervision of financial markets and financial services

(3) Wet op de Nationale Bank / National Bank Organic Law

(4) Belgium Bankruptcy Act

(6) Wet op hypotecair krediet / Law on mortgages

- Wet betreffende de transactie uitgevoerd met middelen voor de electronische overmaking van geldmiddelen / Law on electronic payments

France

(1) Code monétaire et financier / Monetary and Finance Act

(2) Code des jurisdictions financieres / Finance Regulations Act

(3) Loi organique relative aux lois de finances / Organic law on financial legislation

Germany

(1) Kreditwesengesetz / Banking Act

(2) Kreditwesengesetz / Banking Act

(3) Bundesbank Gesetz / National Bank Act

(4) Insolvenzordnung / Insolvency Act

- Wertpapier-Verkaufsprospektgesetz
- Bundes-ImmissionsschutzG idF

[36] The completeness of this list of domestic regulation can not be guaranteed and is only indicative.

- Law on the Supervision of Insurance Undertakings
- Securities Trading Act

Spain:

(1) Reglamento Interno del Banco de España / National Regulation on Spanish Banks

(2) De Disciplina e Intervención de las Entidades de Crédito / Supervision and Intervention of Credit Institutions

(3) Autonomía del Banco de España / Autonomy of the Spanish Bank

- Credit Co-operatives
- Law on exchanges and cheques
- The formation of Banks, cross-border activity and other issues relating to the legal regime for Credit Institutions
- Legal framework for Financial Credit Entities

Switzerland

(1) Bankengesetz / Banking Act

(2) Börsengesetz / Trading Act

(3) Bundesgesetz über die Schweizerische Nationalbank / National Law on the Swiss National Bank

(5) Bundesgesetz zur Bekämpfung der Geldwäscherei im Finanzsektor / National Law on the fight against Money Laundering in the Financial Sector

(6) Pfandbriefgesetz / Mortgages Act

In Switzerland, all legislations are available in three languages: German, French and Italian.

- National Bank Ordinance
- Ordinance on Banks and Savings Banks
- Ordinance on Stock Exchanges and Securities Trading)
- Ordinance on foreign banks in Switzerland (FBO)
- Takeover Ordinance-TB

Italy

(1) Disposizioni in materia di apertura e regolazione dei mercati / Basics of deposits and regulation on financial markets

(2) Testo unico delle leggi in materia bancaria e creditizia / Unified Body of Laws on banking and credit matters

(4) Riforma del diritto fallimentare / Reformed Bankruptcy Act

- Law on the financial sector 2006

United Kingdom:

(1) + (2) Finance Act

(3) Bank of England Act

(4) Insolvency Act

Denmark

(1) The Auditor General's Act

(2) Financial Business Act

(3) National bank of Denmark Act

(4) Guarantee Fund for Depositors and Investors Act

(5) Act on Measures to Prevent Money Laundering and Financing of Terrorism

Act on Certain Payment Instruments

(6) Mortgage Credit Act

Mortgage-Credit Loans and Mortgage-Credit Bonds etc. Act

- Act on Foreign Exchange
- Cross Border Currency Transfer Act
- Executive Order on Public Lending Right Remuneration
- Investment Associations and Special-Purpose Associations Consolidated Act
- Investment Companies Consolidated Act
- Savings Institutions and Issuers of Prepaid Cards Act
- Securities Trading, etc. Act

Appendix – 3

Figure 21: Communication & Development relationships

Appendix – 4

Progress towards the 3rd EU AML Directive[37]

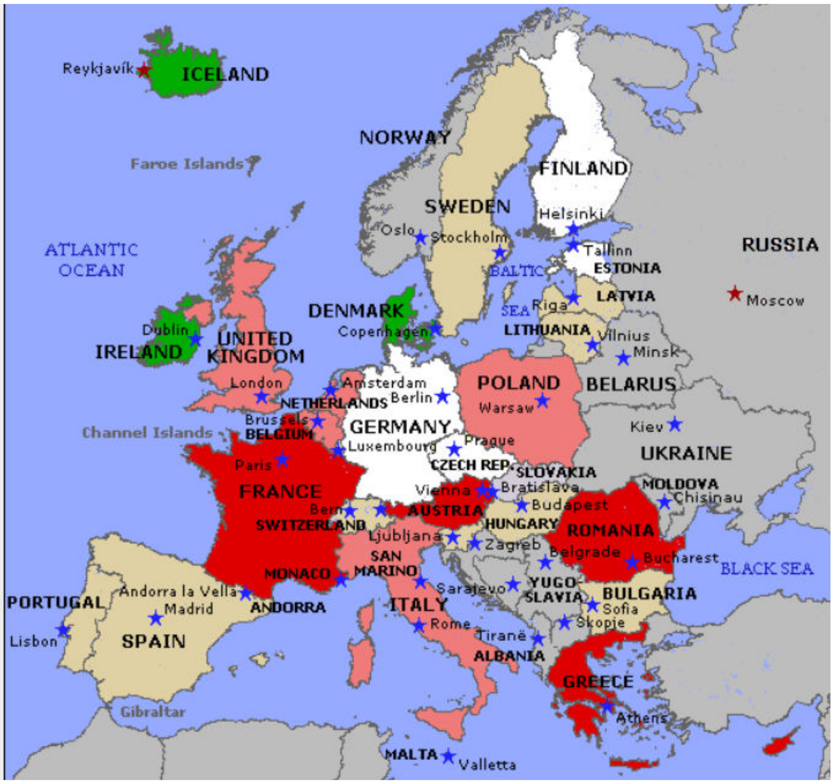

Figure 22: Progress of 3rd AML EU Directive in Europe

Green:	Fully or almost fully implemented the 3rd AML Directive.
Pink:	Currently reviewing AML legislation to comply with 3rd AML Directive, drafts available.
Brown:	Currently reviewing AML legislation to comply with 3rd AML Directive, no drafts yet.
Red:	Not started implementing the 3rd AML Directive.
White:	No information available.
Grey:	Not affected by European Union AML Directives.

[37] For detailed information, please see: http://www.anti-moneylaundering.org/euchart.asp

Appendix – 5

Santander Retail Banking, in Spain and in Latin America

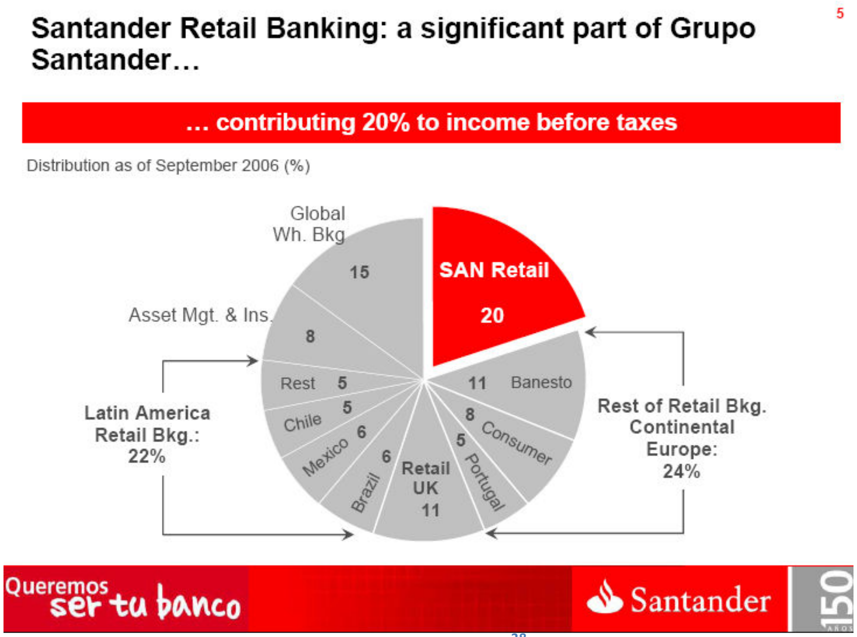

Figure 23: The contribution of Latin America to income[38]

[38] Look for the complete presentation at www.santander.com, Press Room, 17-01-2007, 2nd attachment

Appendix – 6

Indirect influences of regulation and legislation on current developments

Recall the current developments mentioned earlier. The content of the table below is worth being discussed. However, discussing each of the individual cells will be redundant and not necessary as the influences have been recognized and analyzed earlier.

	Product Innovation	Consolidation	Consultancy firms	Changing role	Outsourcing / BPO	Modular Systems	ASP's
SOX	Medium	Small	Large	Small	Medium	Medium	Medium
AML	Medium	Small	Small	Medium	Small	Medium	Small
Basel II	Large	Medium	Small	Small	Small	Medium	Small
MiFID	Large	Large	Large	Medium	Medium	Large	Large
SEPA	Large	Large	Medium	Small	Large	Large	Large

Table 10: Regulations – Trends Matrix

Interesting to see is the large influence of MiFID and SEPA on all developments currently taking place in the financial sector and being discussed. SEPA has a small impact only on the role of banks as a trusted third party by supporting one of the core processes of banks, the payments processing.

MiFID and SEPA are the first two regulations that have been developed only recently by the EC and are to a large extent a first incentive to shift paradigms radically in the financial sector in Europe in order to reach the targets set in the EC policy for global competitiveness and the efficiency of the internal financial market[39]. More of these regulations are being developed while we speak.

Also worth noticing are the small current and future expected impacts of Basel II on the financial market. Although Basel II regulation is heavily discussed, risk management is something that already exists for a long time and the risk model requirements are not that renewing that the current risk models need to be totally revised. The capital requirements do have their effects on the customer relationships and the products. These effects reveal themselves in new product innovation.

[39] See for detailed policy description Chapter: European Union & European Commission

Last notice is on SOX and AML, both globally introduced and impacting the financial sector moderately. Nothing looks apparent, but the impact of SOX focuses on monitoring of performing business processes and that makes the role of consultancy firms very valued. With the high amounts of organizations currently reviewing their business processes, consultancy firms are highly occupied and this creates a lot of opportunities for growth for these consultancy firms. SOX requirements might be stimulating the flexible business processes mentioned during this Thesis by its measures among others on transparency, consistency and function separation.