



# Regulating the off-balance sheet exposure of banks

A comparison pre- and post crisis

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**02.06.2011**

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## Overall Summary and Policy Implications

This paper deals with the off-balance sheet exposures of banks, which as the recent crisis has shown have grown remarkably over the course of the last 30 years. It first explains the linkages of the banking system to the shadow banking system. Then, due to the complexity of the issues at hand and in order to reach analytical depth, it focuses on the accounting and prudential treatment of a very important part of the shadow banking sector, the market for short term asset backed commercial paper. It traces the impact national regulators in can have on the kind of engagements their banks have in these markets by analysing the different national regulations in Germany, France, Spain and the Netherlands and the respective engagement of banks from these countries in that market. The overall analysis demonstrates the large scope of action national regulators have in regulating the off-balance sheet engagements of their banks. National Regulators are much more than agents enforcing international treaties, rather they are interpreters of international accords in the frame of national law, which leaves much space for interpretation. This implies that national parliamentarians, which are interested in increasing the financial stability of their respective banking system, could and should engage in a close supervision of the actions of their national banking regulators in this field in order to avoid regulatory capture. For this purpose they can use international comparisons by international organizations such as the OECD, international auditing firms and the rating agencies. The paper closes by showing the most recent changes in the treatment of off-balance sheet engagements of banks on the international level in order to sensitize the readers to potential issues of interpretation involved in their interpretation.

# Content

Introduction.....	4
The shadow banking sector and its links with the banking sector .....	6
European Accounting Standards before the crisis and their impact on ABCP-conduits .....	18
Basel 2: liquidity lines and treatment of securitization .....	27
Accounting rule changes since 2009- The changes in US GAAP .....	30
The amendments to the capital requirements directive in the EU framework .....	32
The Basel 3 Accord .....	33
The unresolved problem of reputation risk .....	38
Conclusions.....	39

## Introduction

This paper will outline the problematic of regulating the off-balance sheet exposure of banks, which has been a major, if not the major catalyst in the recent financial crisis. The support of off-balance sheet entities (parts of the shadow banking system) by the banks led to widespread uncertainty about the actual solvability of banks given that their balance sheets prior to the crisis did evidently not properly reflect their real risk exposure. The process started on June 22nd 2007 with a \$3.2 billion loan of Bear Stearns to one of its hedge funds, High-Grade Structured Credit Fund and continued with the repatriation of assets from almost the entire group of Structured Investment Vehicles worth \$400 billion by banks such as Citibank until February 2008. The uncertainty over the real exposure of banks to the subprime residential mortgage and commercial mortgage market and related derivatives, such as CDOs constructed from these assets led to unwillingness on the side of financial market investors to lend to these institutions. The banking system experienced a bank-run of a new and different kind. Rather than depositors withdrawing money, it were financial investors in the wholesale money market (such as banks in the inter-banking market) which refused to lend to banks or demanded ever-higher interest rate spreads for doing so. Even the emblematic bank run on Northern Rock on the 17<sup>th</sup> of September 2007 was a consequence of the drying up of refinancing possibilities in the wholesale money market (s. Shin 2010: chapter 9). The run of 2007-2009 in the wholesale money market can be likened to bank runs in the 19<sup>th</sup> century (s. Poszar et al 2010). The banking system then as the shadow banking system before the crisis did not have a guarantee by public institutions, such as the federal deposit insurance, leading to the immediate threat of the total loss on money lent to the shadow banking system. The private banking system had provided such guarantees to investors, an aspect which is of crucial importance to understand the crisis, but once the solvability of these institutions itself was cast into doubt, a severe run on the system ensued.

In these moments of sudden liquidity problems, governmental institutions intervened forcefully, with the US Federal Reserve, the ECB and the BoE leading the charge. But besides the large scale provision of liquidity by the central banks, large amounts of public money were used to recapitalize the banks and stem the possibility of a catastrophic failure of the global banking system. As banks provide the public goods of money and credit via credit

creation, the public institutions had no other choice but doing so. These costs and the costs related to the ensuing recession were so extensively high that a repetition of such a large scale crisis in the near future will most likely bring public finances in many different countries to the abyss. For that reason, the political and particularly regulatory response to the crisis has to try to ensure that events of this magnitude do not repeat themselves. Identifying the off-balance sheet exposure of banks as the crucial trigger and catalyst of the recent financial crisis this paper will summarize the regulatory response to date on the problem of off-balance sheet exposure, its strengths and limitation. It will especially point to the national divergences in this respect, which clarify the large national leeway regulators had and have in this respect. This analysis then implies the place national parliamentarians can intervene, in supervising the supervisors, evaluating their measures in a comparative national perspective and requesting an end to certain undesired off-balance sheet activities of banks.

Based on an analysis of the shortcomings of the regulation, I will discuss further possible measures to decrease the off-balance sheet exposure of banks and its potential implications. In order to delineate these possible routes, I will first outline the relationships between the shadow banking and the banking sector, then to show the different instances in which the former weighed on the latter. In a next step I will introduce the important role of accounting rules for capturing these exposures as well as the prudential treatment of these exposures in different countries (US, UK, Germany and France). This debate will seek to show the leeway national regulators had in imposing specific rules to make banks account for the risks they take, which should be an important message of vigilance to policy makers in observing the national treatment of these off-balance sheet exposures. The important relationship in the end is the translation of the perimeter of consolidation for financial conglomerates in terms of financial accounting into the perimeter of consolidation for financial conglomerates in prudential accounting terms. This translation is crucial to ensure that banks actually generate core capital buffers against their off-balance sheet exposure.

After having shown the variation before the crisis in terms of the national regulation of off-balance sheet exposure of banks follows a discussion of the Basel 2 treatment as well as its further developments in Basel 3 as well as important accounting changes in US GAAP after the crisis. While the Basel Accords leave some ambiguity as to how to treat securitization, which again requires further national interpretation, some recent developments in Basel 3

might limit the off-balance sheet exposure of banks (here especially the simple leverage rule). The new US GAAP rules also are an improvement in tightening the standards for off-balance sheet accounting, however, only more experience can show in how far both measures are capable of limiting regulatory arbitrage activity of banks via creative legal engineering.

In a last step the interaction between accounting and prudential regulation in the new framework will be discussed in order to provide an example of further potential national measures. The last point that will be discussed is the treatment of reputation risk for banks going forward.

### **The shadow banking sector and its links with the banking sector**

The shadow banking sector is a term that seeks to describe a sector which is engaged in credit intermediation without holding a banking licence and therefore not falling under the banking regulation.<sup>1</sup> In an excellent report of the Federal Reserve Bank of New York (Pozsar et al. 2010) the shadow banking system is separated into 3 different parts which had different relationships to banks. The government sponsored enterprises FNMA and Freddie Mac, which had implicit and explicit support from the US government, the internal shadow banking system and the external shadow banking system. This separation points on the one hand to the large involvement of the US government in creating this shadow banking sector in order to provide cheaper credit historically and in size. At the same time it points to a differentiation of the shadow banking sector into one which is directly linked to the banking system with deposit insurance (the internal shadow banking system) and one that is external to the banking system and most fundamentally interacts with the investment banks that act as broker dealers. The importance of this sector to the American economy is indicated by the fact that in march 2008 the total liabilities of the shadow banking sector made up 20 trillion dollars, and was thus higher than those of the commercial banking sector which was almost twice the size of traditional commercial banking facilities (ibid: p.4f).<sup>2</sup> In other developed

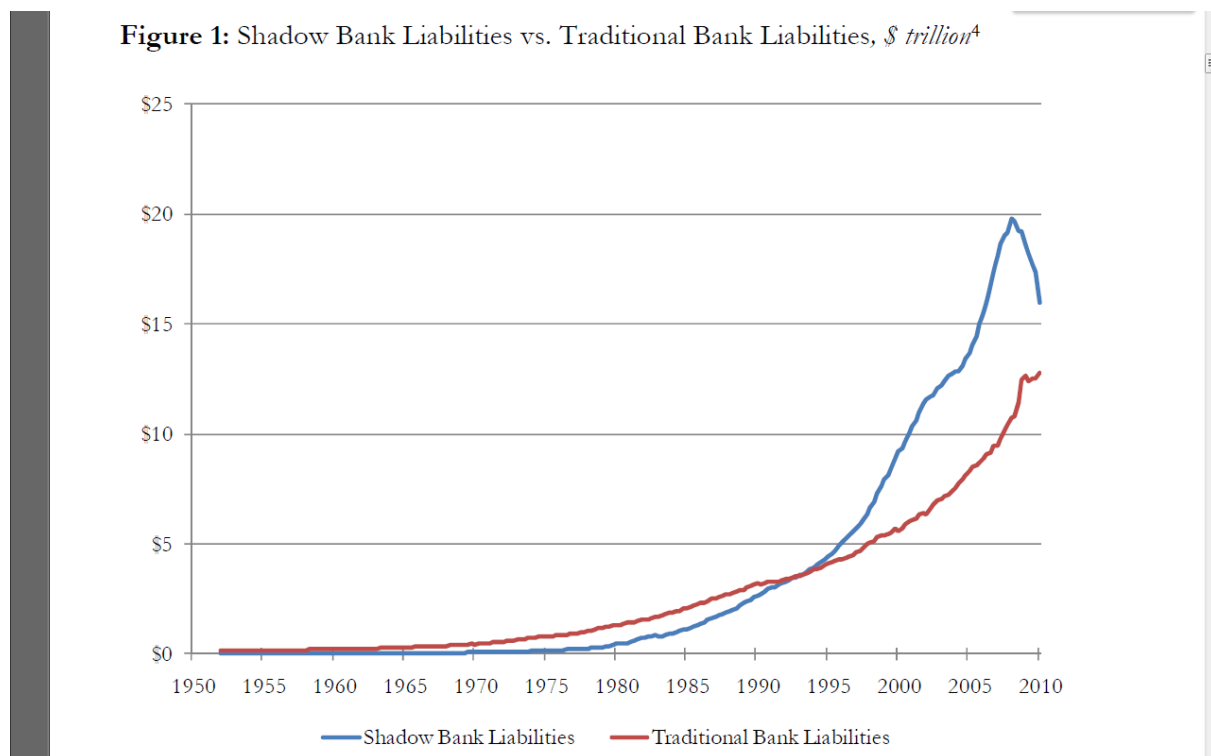
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<sup>1</sup> The most prominent examples were the government sponsored enterprises FNMA and Freddie Mac, which were heavily engaged in the secondary mortgage market, i.e. the securitization of residential mortgages into mortgage backed securities. These entities had a much lower core capital ratio than their commercial counterparts, as they did not fall under the Basel regulation. For an intellectual argument for the need for encompassing regulation, s. Griffith et al 2010b.

<sup>2</sup> The reader should however treat this data with caution, as financial data is notoriously difficult to aggregate. As an example: the authors use the flow of funds account data, but there the Fed does not indicate if they only

countries, the shadow banking sector by far never reached such proportions, but while starting from a much smaller plateau, securitization was on the rise also there.

However, the large scale contraction of the liabilities of the American shadow banking of almost 5 trillion dollars in the course of 2 years is unique and the contagion of the problems of this sector to the European banks occurred due to their relationship to that sector, not due to domestic shrinkages.



Source Poszar et al 2010: 5, calculated from the Fed's Flow of Funds Accounts

The shadow banking sector is irrevocably interwoven with the technique of securitization which seeks to create assets which derive their value from revenue streams of other assets, generating large tradable “chunks” of assets via the agglomeration of different default risks, which due to their inherent risk diversification are more desirable than buying single mortgages from the banks. Economic theory (s. Batthacharya et al 1998) further predicted that

use the data of the official balance sheets of FNMA and Freddie Mac or also their off-balance sheet guarantees which they have given to the securities which they have sold into the market. Using the first version, the two entities would add about 1.65 trillion to the shadow banking sector, using the latter they would add 4.934 trillion dollars to the total (s. [http://www.econbrowser.com/archives/2008/07/fannie\\_mae\\_and.html](http://www.econbrowser.com/archives/2008/07/fannie_mae_and.html)). However, this maximum amount still leaves 15 billion for the internal and external shadow banking sector. Here however, the balance sheets of the 5 broker dealers also are included, which grew by a factor of 800 from 1980 to 2007 (s. Shin 2010: chapter 10).

this should increase liquidity in the system, allow for better portfolio management<sup>3</sup> by the banks and permit more credit growth to the economy by lowering interest rates.

It is particular to the shadow banking sector that the three dimensions of credit intermediation: credit transformation, maturity transformation and liquidity transformation are not undertaken in one entity but are rather distributed among different entities in a chain of transactions (s. Pozsar et al 2010: 8f), so that some entities in the chain are engaged in a credit transformation, transforming low quality credit into high quality credit (technique of securitization), while others are engaged in high scale maturity transformation, financing long term assets with very short term liabilities. The last function, which is the most important function in terms of the legitimacy of securitization is liquidity transformation, involves the creation of liquid assets from what has been before an illiquid asset on the balance sheet of a bank.

However, during the crisis it became clear that the most complex securities, CDO's, were traded in a market that was never really very liquid and dried up completely in the crisis (s. Barnett-Hart 2009). Furthermore, in the moment that liquidity dried up, many of the banks were caught holding assets such as RMBS as "raw material" or CDOs that were supposed to be sold into the market in special purpose vehicles off-balance sheet.

The second idea that legitimized securitization and therefore the shadow banking sector was the idea of credit risk transfer out of the banking system and towards financial investors who were willing to assume the risk of catastrophic events and defaults, the systemic risk. Banks were often holding on to the first loss tranche of their securities, which meant that they were exposed to the first 5% of the losses, but all further losses would be carried by the financial investors. In theory this should make the banking system more, not less stable by making external investors bear the brunt of unexpectedly high defaults (s. Batthcharya et al 1998).

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<sup>3</sup> The reader should note that this prediction is based on the assumption that actors are independently maximizing their choices. If, as Keynes has stated, the decisions of financial actors are made according to the logic of the "beauty contest", with the goal of predicting what everybody else will choose for one's own decision making, this prediction of good diversification might well fail (s. Keynes 1936, as illustrated in Meaule 2011: 4).



It is this empirical prediction which utterly failed during the financial crisis. Instead, the financial system was confronted with the massive reappearance of assets on the balance sheets of banks, which prior to the crisis had been sold into the shadow banks either from banks balance sheets or have been channelled there from non-financial companies with the help of the banks. This sudden, unexpected recourse to the banks' balance sheets of assets which were supposedly sold to a bankruptcy remote special purpose entity represents one of the theoretically most surprising development of the financial crisis (s. Acharya and Schnabl 2009) and also the one that needs to be dealt with most urgently from a regulatory perspective.

To understand this sudden recourse to the banks' balance sheets, we need to study the organizational infrastructure which forms the basis for this securitization technique. We therefore need to look at the contractual links between the shadow banking sector, the banking sector and the investors into the assets of the shadow banking sector, in particular the internal shadow banking system.

This sub-system includes all entities which are off-balance sheet for the banks but are crucial for allowing the bank to participate in the production and distribution of securities into the financial markets, earning fees in the process while permitting their clients to access the money market. This shift in activity of the banks was part of the transformation of banking over the last 30 years

*“of the largest banks since the early-1980s from low return on-equity (RoE) utilities that originate loans and hold and fund them until maturity with deposits, to high RoE entities that originate loans in order to warehouse and later securitize and distribute them, or retain securitized loans through off-balance sheet asset management vehicles.”(Pozsar et al 2010: 22)*

Banks have come to direct a process that represents the vertical slicing “of traditional banks' credit intermediation process and include **loan origination, loan warehousing, abs issuance, abs warehousing, abs cdo issuance, abs intermediation and wholesale funding**. This is done in a strict sequential order and with a specific type of shadow bank engaged with a specific funding technique” (ibid P.11, emphasis mine).

This shift of splitting the different functions of credit intermediation between different entities was used to increase the maturity mismatch in the entire system. Whereas before, banks would refinance long assets with medium term loans and deposits, the new techniques allowed to increase this maturity transformation even more by lengthening the maturity transformation chain and using the money market to refinance.<sup>4</sup> Increasing the maturity transformation in the system allowed for a widening of the interest rate margin realized in the entire system, which explains part of the profit growth of the financial system prior to the financial crisis (s. Shin 2010, chapter 11). It also partially explains the growing number of people employed in the financial sector undertaking this maturity transformation.

It is important to note that banks, while not undertaking the business themselves, were always related to these entities, be it as a guarantor for credit and liquidity which increased the credit rating of these entities or as providers of loans thereby entering into counterparty risks. The authors distinguish between those entities and activities in the shadow banking sector which stem from regulatory and tax arbitrage motives and whose business models are built on these facts vs. those that are profitable due to returns to specializations and returns to scale. From their description of the internal shadow banking subsystem below, it becomes evident that the internal shadow banking subsystem, which includes all the entities related to the banks, belongs into the former category<sup>5</sup>.

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<sup>4</sup> In order to clarify this, let us assume a financial system in which banks finance an asset of 30 years length (credit to non-financial intermediaries) of 5% by deposits, for which they pay 2.5%. Now let us assume a system in which the first bank is financing an asset of 30 years for 5% by 1 year credits from a financial intermediary for 2.4%. The latter could have secured that money either by one year cd's of its customers or it could finance it by two 6 months credits for the same sum, each for 2% interest and a fee for the other financial intermediary which promises to provide the liquidity in case problems turn up when the credit is turned over. Now let us assume that this bank, which is providing these two 6 months credits is financing itself in the 3 months inter-banking-market, where it pays for each credit an interest p.a. of 1.5%, plus the transaction costs to enter into these four contracts. The next banks in the intermediation chain might finance their 3 months loans via 12 1 week loans with an interest rate p.a. of 1%. The banks which are granting the 1 week loans might finance their loans by seven 1 day repurchase agreements at an interest rate of 0.75% p.a. plus the transaction costs for entering into 7 repurchase agreement contracts. So instead of the classical system where we have a simple maturity transformation from deposits into (30 year) loans, instead part of the system will be characterized by very lengthy maturity transformation chains in which 30 year loans in the end will be financed by 1 day contracts, increasing the overall interest difference between the credit granted to the end user (our hypothetical 5%) to the final credit involved in the chain of 0.75% to make an overall difference of 4.25% instead of 2.5% (almost doubling the money which is made within the banking system).

<sup>5</sup> The tax arbitrage activity of the banks can be clearly traced to the placement of these entities into tax havens, such as the Cayman Islands, where the returns on investment activity experienced a lower taxation. However, for purposes of banking regulation, this aspect is not of primordial importance.

This vertical slicing of traditional banking was driven by the desire to reduce core capital requirements for banks,

*“whereby each of these functions and activities were conducted from those on- or off-balance sheet corners of an FHC (Financial Holding Company, M.T.) and in a manner that required the least amount of capital to be held against them” (Pozsar et al 2010., p.25).*

Of fundamental importance to the systemic stability of the system was the activity of regulatory arbitrage which led as a consequence to a build-up of (especially liquidity) risk for which the banks did not, and could not build up sufficient provisioning. Crucial here is the concept of the financial holding company. Over the course of the last 30 years, banks were expanding their activities by building a network of organizations which are all controlled by the financial holding company, which is the equivalent of an industrial conglomerate.<sup>6</sup> These included asset management arms as well as securities services entities and other activities.

The clearest example of regulatory arbitrage in this chain of entities that form the internal shadow banking system were the bankruptcy remote special purpose entities, such as asset-backed commercial paper conduits and structured investment vehicles, which the banks sponsored (for SIV's, see e.g. Ehrlich et al. 2009). The banks were either placing their assets or placing assets from their clients into these. At the same time, some of them were using these conduits and structured investment vehicles as instrument for securities arbitrage by assembling a portfolio for these entities that would earn a spread over the refinancing costs in the money market for these entities. This latter activity, associated with Structured Investment Vehicles and securities arbitrage conduits, was a form of proprietary trading for the banks. They were searching for arbitrage opportunities, assets which carried a higher interest rate than their actual risk, and sought to refinance it in the money market. The interest rate spread thus generated between the long term assets in the portfolio of these conduits and the short term papers emitted was divided between the sponsoring banks and other banks which provided liquidity and credit guarantees to the entity.

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<sup>6</sup> Financial Holding Companies such as Deutsche Bank have 1000s of organizations under their control.

To understand the link between these entities and the banks, it is important to understand that these conduits were and are subject to two kinds of different requirements. On the one hand, there was a clear desire to put these entities and the assets which were transferred to them into nobody else's balance sheet but the balance sheet of the entity, to "orphan" these entities and their assets as a single standing entity. The reason for this from the point of view of the firms who were selling was the immediate realization of their credits in the moment of sale of these credits to the special purpose entities. For the banks it was a way to engage in the age-old business of maturity transformation without taking these assets into their balance sheets and thereby without having to hold core capital against them. This is so, because prudential regulation for most of its aspects relies on financial accounting as the basis for the calculation of core capital requirements. To reach off-balance sheet status required for the links between the special purpose entity and the sponsoring bank to be so limited in the day to day life, that the criteria of actual or even potential control of that entity by the bank in its business activities could be denied. Otherwise, the rules for consolidation in the balance sheet of a conglomerate might require the banks to put them into their balance sheet.

At the same time in order to gain the maximum amount of fees from them, there was a need to reach a perfect tier 1 credit rating for these entities and the papers they issue. But given that these entities had little to no equity of their own, the only way that they could gain such a rating was by external support, most often by their sponsoring bank which received a fee for providing such support. Conduits with a sliver of equity for the billions of dollars they were handling posed evidently a large risk for the investor community and could not on their own gain a very good short term rating. Especially when one considers that these entities engage in major maturity transformation, financing long term assets with short term commercial papers with a maturity of usually between 30 and 90 days. In case the conduit could not roll over its debt, it would automatically fall into bankruptcy. In order to alleviate these fears of investors, banks had to provide a support, but that support had to be structured in such a way that banks were not seen as guaranteeing the assets themselves. If they had done so, it would have been very difficult to see in the special purpose entity but a trustee who guards the assets on behalf of the banks, which does not carry any risk themselves. Also, the credit guarantees were costly in terms of core capital as banks had to generate provisions in case these credit guarantees were drawn.

These entities then were legally structured in such a way that they were usually not consolidated in the balance sheet of banks, while getting a top rating. This made certain specific legal arrangements/innovations necessary to be in compliance with the rules for balance sheet consolidation, while at the same time reaching a top credit rating for the banks.

Two measures were taken; on the one hand there was the autopilot mechanism in conjunction with a permanent lack of a capital link to the entity<sup>7</sup>, on the other hand the liquidity line. The first was the means to keep factual control over the business activity of the bank without controlling it from the purview of most accounting standards, while the latter was the solution for a top credit rating of the special purpose entity without violating prima facie the idea of the credit risk transfer of the entire securitization framework. In the following I will elaborate on these two mechanisms in order to expose the legal game banks played which relied strongly on an interpretation of the law according to the letter of the law, rather than its spirit.

According to general accounting norms in western economies before 1998, in order to de-recognize assets from one's balance sheet one needed to engage in a true sale of the assets, where none of the risks or benefits related to it remain with the vendor. Accordingly, banks sold their assets to the special purpose entities in a bankruptcy remote framework. However, they did not want to lose benefits associated with these assets, which is why they sold services to the special purpose entities, such as deciding which assets should be bought or sold and providing liquidity guarantees in case the special purpose entity experiences difficulties selling its short-term debt, thereby swapping the exposure to the assets to an exposure to the special purpose entity. The assets, however, had disappeared from the balance sheet through the sale of them to a bankruptcy remote entity, guaranteeing to the investors that in case of bankruptcy of the bank, the creditors of the banks could not have recourse to these assets. The next step was to make sure that the special purpose entity did not need to be consolidated as a subsidiary of the bank.

The rules for consolidation in accounting terms before 1998 in the US and Europe maintained that a company needs to consolidate a subsidiary company in which it holds the majority of shares and/or which it controls in its business policy. Accounting norms stated that

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<sup>7</sup> Usually a bank holds no or only very few shares of an SPE, nor does it provide the majority of debt financing.

the control of the business had to be visible in the daily operation of the firm. In order to control the SPE's while avoiding consolidation of them in their balance sheets, the banks were designing "autopilot mechanisms", which specified exactly what the special purpose entity had to do and not to do, thereby leaving about nothing left in actual daily business decisions of any importance. Furthermore, banks did hold little to no shares in the Special Purpose Entities, which did not need much of a financial cushion. Such legal engineering did lead to a very specific organizational structure of special purpose entities, aptly described in the following quote by Gorton and Souleles:

*"In short, SPV<sup>8</sup>'s are essentially robot firms that have no employees, make no substantive economic decisions, have no physical location, and cannot go bankrupt."* (Gorton and Souleles 2006: 550).

This apt description makes evident what these conduits are, they are legal inventions of lawyers, organizations without an inner core, whose foreign-steered activity generates a margin which is appropriated by the different entities that stand in a legal relation with it (be it the rating agencies, which rate its emissions and the entity itself, be it the banks which provide liquidity and credit guarantees, be it other service providers). Banks thus constructed Special Purpose Entities in order to de-recognize assets from their balance sheets and to avoid the consolidation of special purpose entities themselves, while banks could continue to benefit from these assets.

But in order to maximize the margin these shell firms could produce, these entities did need to achieve a top credit rating in order for the refinancing to be the cheapest possible. Indeed, currently the market for emissions of conduits with a rating lower than a prime rating is so small and illiquid that there are serious difficulties emitting into this market (background interview 11.05.2011). Only the prime market is liquid enough for large scale emissions. The rating of these entities however, has become so intricately linked to the rating of their sponsoring bank, that the rating agencies downgraded these conduits or put them on review every time the sponsoring banks were downgraded. This close linkage is due to the credit and liquidity guarantees sponsoring banks made and which were one of the two main

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<sup>8</sup> SPV= Special Purpose Vehicles, another generic term for special purpose entities, not to be confused with SIVs, which were a specific form of SPE's.

transmission schemes for the recourse of the shadow banking sector to the balance sheets of large banks. This close linkage also demonstrates the contradictory perception of the relationship between the special purpose entity and the one on the one hand from a legal perception of securitization (which requires the impossibility for the bank to have recourse to the assets in the SPE) and on the other the credit rating of these SPEs by the rating agencies.

Evidently, the fate of the special purpose entity was supposed to be legally independent of the sponsoring bank to the degree that the bankruptcy of the bank shall have no impact on the assets in the SPE. At the same time, from the point of view of the business model of these entities, the downgrading of the sponsoring bank does have severe implications for the viability of the business model of the SPE itself. In this vein, Standard and Poors writes about the recent downgrade of the conduit Romulus in 2010:

*“the downgrade of Romulus in April 2010 was due to the downgrade of its sponsor, Intesa Sanpaolo SpA (s. “Related Criteria and Research”). We expect that supporting party rating actions will continue to be the major driver of conduit changes.” (S&P 2010: 5).*

The liquidity and credit guarantees are the missing link to understand this contradiction. Asset Backed Commercial Paper conduits are engaged in a maturity transformation of an extreme kind. They are refinancing assets which they have accepted for between 1 and 5 years and an approximate average of three years (background interview 11.05.2011) in their portfolio with short term commercial paper with a length of 20 to 40 days (s. Shin 2010). This means that these entities need to roll over their liabilities between 12 and 60 times in order to refinance their assets. If however, for whatever reasons the conduit were not capable of rolling over its liabilities in the ABCP market, it would be immediately insolvent. The few millions it holds in equity make it impossible to fill any short term gap of refinancing, given that these conduits usually have at least a size of a billion dollar<sup>9</sup> If a conduit were to experience a moment of threatening insolvency, most of them had a trigger which would lead to the automatic liquidation of the conduit and the sale of all assets into the financial markets. The

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<sup>9</sup> The current reverberations of the financial crisis have led to a shrinkage of several portfolios, but before the crisis these conduits had this size. This was due to their dependence on large money market mutual funds to buy parts of their emissions, which had to be big enough in order to be worth the effort for the MMF, while representing a small enough percentage of the entire conduit not to represent a too big credit risk (background interview 12.05.2011)

amount of cash thus generated would be distributed to the investors. As such a programmed “fire sale” meant almost certainly that the securities could not be realized at their face value, the investors were supposed to take the losses which emerged from the difference between the amount of money they had invested and the amount of money they could be paid back. These threats of insolvency could emerge either from a liquidity problem of the conduit or from a solvency problem, in case the value of the assets was significantly downgraded or experienced a default.

The way that the risk of a liquidity impasse to investors was mitigated and thus a prime credit rating was achieved was via the liquidity lines granted by the sponsoring bank and other banks, which thereby earned a small margin. These agreements stated that if the entity faces severe problems in rolling over its debt in a specific moment in time, the bank would provide a certain amount of liquidity to the conduit, buying up the papers it could not sell. These market disruptions were thus not supposed to lead to the liquidation of the conduit. However, the banks could only provide limited guarantees for the credit risks of the assets of the conduit, given that this would have violated the idea of the credit risk transfer that was underlying securitization. Also, as said above, these credit guarantees had to be accounted for in terms of core capital which the banks needed to have. They were thus costly to the banks and reduced the margins of the conduits business. What was not stipulated in the contracts of liquidity support were specific reasons for the market disruptions for which they provided support, thus covering all possible events of market disruption. This lack of specificity combined with the lack of insurance for wholesale financial market investors combined during the crisis for one major venue for the reappearance of the assets of the conduits on the balance sheets of banks.

Wholesale financial market investors, in contrast to depositors do not have any insurance for their loan to the banks or the shadow banking sector, in case one of the latter goes bankrupt. All that remains to them is a claim to the remainders of the bankrupt entity or in the case of the conduit a part of the money realized from the fire-sale of the assets. When the subprime crisis ensued and it became evident that the prior assumed default probabilities for these assets were overly optimistic, the probability of a credit downgrade for the assets of these conduits became increasingly likely. As investors were aware of the trigger clauses in the contracts of the conduits which stipulated a liquidation of the entity in the case of downgrades of the assets, they refused to buy the notes of the conduits in order to avoid the



risk stemming from fire-sales. This fear was aggravated by the rescinding liquidity in markets such as the CDO market, which would make a fire-sale even more painful. This refusal of the market to refinance translated into the drawing of the liquidity guarantees of the banks, whenever they had provided such guarantees. The most famous victim of this sequence of events has become IKB, which was faced in July 2007 with a request for liquidity of more than \$8 billion, an amount it could not possibly provide in a matter of days. For that reason the German state-owned KfW and the German banks provided a bridging loan to IKB, KfW becoming the major shareholder. What we can see from this sequence is that a liquidity line was drawn due to anticipated credit problems, thus implying that the sellers of liquidity guarantees had de facto become exposed to the credit quality of the assets of the conduit, *inter alia*.

This is important, as it demonstrates the difference between the core capital regime as proposed by the Basel 1 accord and the eventual reality of contractual obligations. Whereas credit guarantees carried a charge in terms of capital requirements, those liquidity lines running for less than one year did not have any core capital costs associated with them.<sup>10</sup> But as the financial crisis showed, these liquidity problems were likely to appear if credit problems were anticipated by investors. Here one also needs to take into account the speed of downgrading of assets versus the speed at which refinancing becomes necessary. As these ABCP conduits were refinancing all 20 to 40 days their entire portfolio, the downgrades of assets are rarely as fast. Besides this difference of speed of investor and ratings agency reaction, the liquidity lines signed between banks and conduits carried an additional mark of regulatory arbitrage, which was tolerated by most regulators. This regulatory arbitrage relates to the length of the liquidity guarantee. Those with a length of 1 year or more carried a capital charge of 20%. As a reaction, the conduits reached an agreement with the banks for 364 days which was immediately followed on the 365<sup>th</sup> day with another 364 day agreement, so that there was not a lack of a liquidity agreement for a single second. How different regulators interacted with these acts in accordance with the letters of the regulation, but not with the spirit of the regulation had an important effect on the number and size of conduits as well as their content. Indeed, **the securities arbitrage conduits** were among the least profitable of the different conduits, as there was no external company paying fees to the bank for

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<sup>10</sup> This in conjunction with the unsophisticated treatment of securities in the balance sheets of banks (with a 4% core capital charge, whatever the rating of the security), were indeed major driver of the outsourcing of assets of banks into these off-balance sheet conduits.

the placement of assets such as into the conduit. If capital charges have to be paid by the banks for entertaining them, this proprietary trading business becomes even less profitable. It is thus a decision of the regulator how to interact with the interpretation of regulation by the regulated. It can issue additional statements which specify the Basel treatment, indicating for example that renewed liquidity lines will no longer be seen as lasting less than one year, even if the notional length of the single contract is 364 days. Besides this national latitude of the regulators a second important realm for dealing with off-balance sheet financing is the realm of accounting standards and their modernization in order to keep track of a changing economy in which actors attempt to find loopholes in regulation in order to avoid to register assets in their balance sheet while continuing to benefit from them.<sup>11</sup>

### European Accounting Standards before the crisis and their impact on ABCP-conduits

In a summary of three different accounting norms regarding special purpose entities in 2002 (US GAAP, UK GAAP and IAS), Jeffrey (2002) comes to the conclusion that changes in the regulation in the US and in the UK after Enron were less derived from accounting theory, but rather by the search for a compromise to allow further securitization by allowing off-balance sheet financing, either by generating the category qualifying special purpose entities which exempted these entities from consolidation as in US law (Fin 140), or by generating a new linked accounting strategy; in which most of the assets would disappear (the UK) . Jeffrey characterizes only the IAS as forbidding such transactions to be counted as off-balance sheet and to force banks to consolidate their special purpose entities onto their balance sheets (ibid. p. 349). The interpretation SIC 12 from 1998, generated by the IASB under pressure from the IOSCO (Larsson 2008) put forward an interpretation of the consolidation standard IAS 27, explicitly aiming at special purpose entities. In it, autopilot mechanisms were explicitly qualified as a means to exert control and the interpretation emphasized the principle of **economic substance over legal form in the relationship between the special purpose entities and the banks**. Notwithstanding the lack of shares in the special purpose entity; if a bank maintained the majority of risks and rewards stemming from that entity and/or exercised direct control over it, it had to be consolidated. This interpretation, without providing

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<sup>11</sup> The most prominent example for these attempts is the leasing industry, most prominent maybe in Germany, where Leasing- Object Societies are single standing entities with the sole purpose of keeping the assets outside of the leasing taker or the actual leasing-giver.

any numerical criteria made it more difficult for banks to structure their SPE's in such a way as to maintain the benefits of assets while displacing them from the balance sheet. In this vein, Fitch Ratings reports in 2007 that the accounting picture is mixed, with many conduits being on-balance sheet for accounting purposes under IFRS (the standards that incorporated IAS after 2001, s. Fitch 2007: 12). Lobbyists such as the European Securitization Forum complained that almost no off-balance sheet financing is possible under IAS (s. Jeffrey 2002) and wrote comment letters to the IASB asking it to repeal SIC 12 (s. ESF 2002). One can therefore say that the European Union had committed itself since 2002 to introduce the most restrictive accounting norms with respect to off-balance sheet financing. Still, European banks were heavily exposed to ABCP conduits, especially in Germany, the UK and the Netherlands. This exposure was built up while all European banks were applying the International Financial Reporting Standards (IFRS), the strictest global standard on the question of off-balance sheet treatment of conduits.

Does that mean that financial accounting, which decides about the on- or off-balance sheet treatment of these special purpose entities for the purposes of financial reporting does not play any role?<sup>12</sup>

A deeper look at the issue reveals that the most important dimension for banks is the dimension of capital charges demanded for their links to these conduits, where the banking supervision can follow two paths. For one, the application of capital charges to the consolidated financial accounts of the banks, the banking supervision depends on the numbers generated by the financial accounting norms. But these financial accounting norms are not necessarily the International Financial Reporting Standards. In some countries, like Germany the German GAAP build up until this day the foundation of the prudential balance sheets which are analysed. The German GAAP however, was only modernized in 2009, which means that before financial special purpose entities never appeared in the balance sheets of banks prior to the crisis. Such a close linkage between financial and prudential accounting calls for a strong integration of the banking supervisor in the process of modernizing national GAAPs and in the "correct reading" of international norms, if possible with an emphasis on prudential aspects such as the danger of large off-balance sheet liabilities of banks.

But, while the application of a modern approach to the accounting for conduits is a necessary condition for their inclusion into prudential oversight, it is by no means a sufficient con-

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<sup>12</sup> There are even indications that the interpretation of IFRS and the strictness of its enforcement on a national level were different (s. Thiemann forthcoming).

dition. Prudential filters will adjust these balance sheets for prudential purposes, in the course of which these special purpose entities might be deleted.<sup>13</sup> The second path is independent of financial accounting, but again concerns capital charges. It is the question how much core capital banks should withhold for their liquidity lines. The differential exposure of European Banks to Securities Arbitrage Conduits and SIVs can be largely traced to these different core capital charges. In the following I will trace these differences in the realm of financial and prudential accounting and the treatment of liquidity lines for the case of Spain, Germany and France. Then I will present the changes introduced by Basel 2 and Basel 3 as well as the most recent changes in US Accounting.

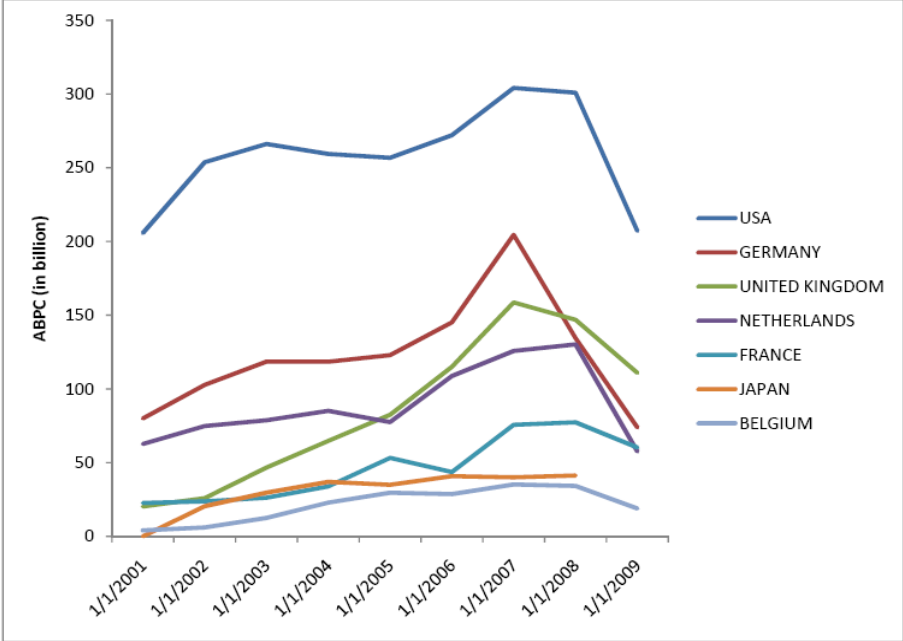
European banks have been quite involved in the global ABCP market, dominated by the American market. Looking at the graph below, what one can see is that the engagement is very different according to different countries. It is the contention of this paper that this relates as much to regulatory differences as to “purely economic” considerations (s. also Acharya and Schnabl 2010, p. 22f).

**Figure 2: Growth in bank-sponsored ABCP by country**

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<sup>13</sup> In a country like Germany up to this day financial special purpose entities do seem not to be included in the perimeter of prudential regulation, as financial SPEs are not deemed financial services enterprises (Finanzdienstleistungsunternehmen) (s. Thelen-Pischke 2010: esp. 195).

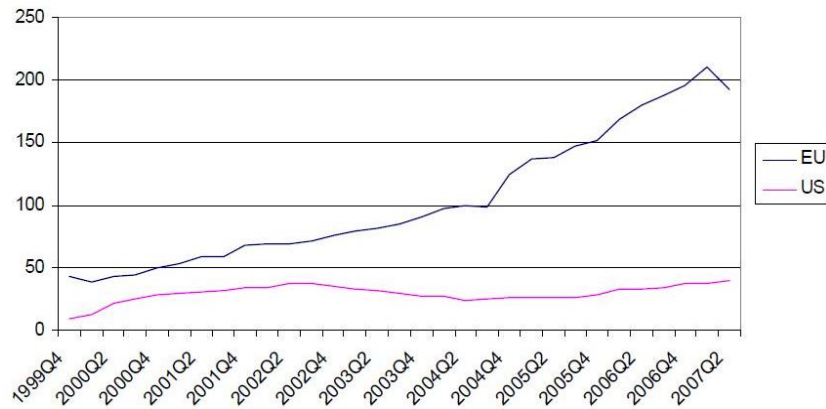
This figure shows the growth in ABCP by country based reports provided by Moody’s Investor Service <sup>14</sup>



While European banks were very engaged in emitting this asset class, they were doing so predominantly in the American money market, which meant that the disruption of the US money market would have an immediate impact on them. Even worse, European banks as a whole were predominantly engaged in the securities arbitrage and structured investment vehicle domain of the ABCP market, those being conduits designed for quasi-proprietary trading of the banks. In 2007, more than two thirds of all asset-backed commercial paper issued by securities arbitrage conduits came from special purpose entities sponsored by European banks.

**Figure 3: Amount of Securities Arbitrage ABCPs outstanding: EU and US compared**

<sup>14</sup> The data is restricted to the seven largest countries. The data is restricted to ABCP sponsored by commercial banks and mortgage lenders. (taken from Acharya and Schnabel 2010:46, data from Moody’s).



(Areta et al 2007)

This was terrible for the fate of European banks, as commercial papers from these conduits experienced the biggest shrinkage during the crisis. Standard and Poors in a report from 2010 reports:

*“CP outstandings in securities arbitrage conduits have declined the most...Fully supported arbitrage conduits: minus 74,8%; Partially supported arbitrage conduits: minus 67,2%”* (s. Standard and Poors 2010, p.5).

On the other hand, multi-seller conduits, with which banks are placing the credits of their customers in financial markets in a bundled way declined much less. Fully supported multi-seller conduits only declined by minus 37,9%. (ibid).

Thus those banks which used these ABCP conduits to service their clients experienced much less problems than those using ABCP in attempts to buy securities with relatively high interest rates, refinance them cheaply and earn the difference. This difference of impact was stemming from the sudden revaluation of these securities in the market place, which of course was not what was happening to simple trade credits of clients which had sold it on to multi-seller conduits to be refinanced in the market. Securities Arbitrage conduits were a side business for banks in which they tried to earn extra money without having to spend their core capital on it. Because the margins in this arbitrage business are so small, two implications follow. One, banks employ large sums, as the small return per Euro is only profitable with great amounts (billions) of Euros. Second, given that the margin is so small in the business of securities arbitrage conduits, banking regulators can “regulate their banks out of this market”.

How can we interpret and understand this finding that specific European banks were so heavily engaged in this market-segment of proprietary trading?

First and foremost, the differences in the exposure of different European countries reveal the magnitude national legislation had in steering its banks inside or outside of that business. German, Dutch and British banks were very engaged, whereas French and Spanish banks were only engaged to a negligible level in these activities. This was partially due to the fact that in several European countries, even after the compulsory introduction of IFRS for those firms quoted on the stock exchange, domestic GAAPs were applied in order to calculate the capital charges for the banks. If these accounting norms did not lead to the inclusion of these special purpose entities into the perimeter of consolidation for the FHC, they were not captured for the calculation of capital charges.

Secondly, the engagement of European banks is due to an attempt to enter into a market segment, where American banks had been predominant. To do this in a fast way, securities arbitrage conduits were the best means. Third, the increase from the year 2004 onwards in figure 3 is largely driven by increasing investment of the German Landesbanken and smaller medium sized banks such as IKB. But this increase itself was largely helped by the inadequacy of German GAAP.

The German GAAP remained wedded to the legalistic approach of the necessity of a capital link in order to consider a company as a subsidiary until the modernization of the German GAAP in 2009. The German financial regulators did not intervene in the modernization of accounting rules and instead expressed concerns over the potential for limiting the core capital relief German banks gained via ABCP conduits (s. Schmitz-Lippert 2002). In general, what regards the reformation and modernization of the German GAAP, the BaFin and the Ministry of Finance seem to have played a limited role, as the responsible ministry was the ministry of justice.

In other countries such as France, an early convergence between IAS and French GAAP on the question of special purpose entities for banks (in 1999) and for all companies in 2004 led to a much more restrictive regime for banks in terms of core capital requirements. The

Commission Bancaire and the Commission des Operations des Bourses (the Autorité des Marchés Financiers since 2003) played a leading role in achieving this convergence between IAS and French GAAP on this point. Indeed for the 99-07, which was applied only to banks, the Commission Bancaire was responsible.

This is not to say that not most of French ABCP conduits were off-balance sheet for accounting purposes, but rather that the hurdles which banks had to take in order to achieve this status were much higher. Banks in Germany had only to avoid a capital link with the SPE, and did not have to worry about the distribution of the risks and rewards of that entity to the bank and other related organization. In contrast, banks in France had to prove that under different scenarios they did not carry the majority of risks and or rewards related to this conduit. They needed to install third party equity, third party decision making and they needed to show that other institutions or the investors gained from the exposure to the entity to such an extent that the bank neither carried the majority of the risks nor the majority of the rewards.

The most extreme example is probably Spain, in which the banking regulator, the Banco de Espana, had the right to write accounting rules for the banks and de facto interpreted IFRS in such a way that off-balance sheet accounting was made very difficult. Reading the circular 4 from 2004 of the Banco de Espana is illuminating for several reasons. First, the circular went beyond what was already then decided to become the new Basel 2 framework in its treatment of securitization. Rather than simply applying the securitization framework of “significant and substantial risk transfer” which has to be achieved for the derecognition of the assets, the BdE took into account the balance sheet of the FHC in its entirety, including possible special purpose entities (for this difference in treatment, s. the explanations below on Basel 2).

*“In consolidated financial statements, the criteria set out in the above paragraphs for derecognizing financial assets shall be applied **after fully consolidating all the subsidiaries**. In particular, the circumstances referred to in paragraph 1.b) may arise in transfers to special purpose entities defined in paragraph 5 of Rule forty-six fully consolidated in the group, such as securitisation special purpose vehicles when they place interests in underlying financial assets held by them and manage investors that are unrelated to the group” (Banco de Espana 2004: 55, underlining M.T.)*



In addition, they have added a third category in the decision tree for the auditor which applies when *“the risks and rewards associated with ownership of the asset are neither transferred nor retained substantially”*, in which case the accountant is asked to focus on the cash flows as well as the capacity of the SPE to sell the assets without the consent of the sponsor, a request which is most likely to lead to additional consolidation. This notion of reconsidering the case, if no clear insight can be gained, is repeated at every stage of the decision making process, thereby preventing the legal engineering stretching the letters of the law to the largest degree possible. Finally, if there remain doubts on the side of the auditor, he is requested to err on the side of safety, i.e. on the side of consolidation.

“When it is difficult to conclude whether the risks and rewards of the financial assets have been transferred substantially or significantly, or when the various elements of analysis considered individually indicate that the risks have been transferred, but considered together do not permit that conclusion so readily, the transfer shall be classified as one in which the risks and rewards have been retained substantially.” (ibid., p. 52)

“If the analysis of the factors determining the existence of control does not produce a definitive conclusion regarding the control of these entities, they shall be included in the entity’s consolidated statements.” (ibid., p.119 )

These statements solve the problem of edge-stitching of legal documents. Rather than assuming in case of doubt for the deconsolidation, it aims at consolidation of all risks the banks are taking. Such wording seems appropriate if one intends to make the system more stable by reducing the risks banks take or at least make them account for them by holding core capital against these risks. On the other hand, it might de facto decrease the credit supply as banks might have less capacity to generate credit due to higher core capital charges.

It is interesting to observe that the closeness of the banking regulator to the questions of accounting has a positive impact on the rigorousness of the accounting standards regarding off-balance sheet treatment. It was almost impossible for Spanish banks to engage in this business of sponsoring ABCPs which remain off-balance sheet. This, in conjunction with the high capital charges for liquidity lines (s. below) led to the fact that the engagement of Spanish banks in this business before 2007 was very limited (s. Cardone-Riportella et al 2009: p.

24, s. also Ybanez and Garcia-Fuertes 2005)<sup>15</sup>. In the aftermath of the crisis, one can only say to the great advantage of the Spanish economy, as other regulation might have added an additional shock to the Spanish banking system. It is also important to note that the explicit request towards auditors to err on the side of prudence provided auditors with strong arguments against their clients and their lawyers, which desired off-balance sheet treatment.

The second differentiating factor by national regulators was the treatment of the liquidity lines and the underlying question of what it means if these liquidity lines are drawn. In a sense it regarded the question of what does it mean when a special purpose entity is experiencing a liquidity event and which might be the consequences for the bank if it has to provide such liquidity. In this respect Basel 1 was not binding and while the Basel committee had indeed published liquidity risk management guidelines in 2000, these however have not been translated into EU law. Rather such regulations had to be applied on a national level (s. Syring and Thelen-Pischke 2008: p. 909), which again left another margin of manoeuvre for national regulators to deal with the specific problem of off-balance sheet financing of their banks. Basel 2 which officially came into force on first of January 2007, but for which several banks received an additional year in order to adapt their internal ratings based approaches (fatefully here Germany) had a more stringent core capital regime, imposing a 20% risk weighting on the liquidity line shorter than one year, which multiplied by the capital charge of the worst asset in the portfolio (with a capital charge of maximally 8%) required banks to hold a certain percentage of the equivalent of the liquidity line in core capital.<sup>16</sup> In contrast to the German case, in the French case the regulator moved the application of Basel 2 in terms of its liquidity regime one year ahead of time applying it from the first of January 2006 (s. Amis and Rospars 2005: p. 58). Thus, when German regulators exclaim that if only Basel 2 had come one year earlier, the crisis would have been milder, one needs to remember that

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<sup>15</sup> « Thus, since the *Circular 4/2004* of the Bank of Spain came into force in 2005, a regulation which tightened the criteria for permitting securitised assets to be eliminated from the balance sheets of the financial entities, and which stipulated that, for this to be done, there should be a substantial transfer of all the risks and profits associated with the securitised assets, the volume of operations in which the assets have been taken off-balance sheet has been relatively small.” (ibid)

<sup>16</sup> For the liquidity line which was supported by IKB for Rhineland Capital Funding (8,1 billion Euro), a simple 100 percent risk weighting of the assets would have meant a core capital charge of 128 million Euro, 10% of the overall core capital held by the bank. Given the small margin in the ABCP business, and the costs that core capital imposes on the banks, one may assume that IKB would have reduced its liquidity line. However, the introduction of advanced internal ratings based models in connection with the new, more finetuned securitization framework in Basel 2 might lead to a very small capital charge of 0.32%. (s. footnote 15).

they could have applied parts of it without violating any law even before 2007.<sup>17</sup> In addition the new securitization framework leads to still very low capital charge under the standardized approach, probably even less if banks were allowed to use their internal ratings based approach (s. Deacon 2004: p. 225).

These insights into the national space for manoeuvre are an important reminder of the capacity of national regulatory systems to make a difference in the application of international standards and to intervene in their specific national interpretation. This to me seems to be the most pertinent lesson for policy makers: it is the domestic realm of the application and interpretation of international treaties by national regulators which has a big impact on the stability of the financial system. Here parliamentarians should seek to have an influence, an issue I will return to, once I have elaborated the most recent changes which have come into force since the onset of the financial crisis.

### **Basel 2: liquidity lines and treatment of securitization**

Basel 2, finally decided in 2004 and transcribed in the Capital Requirements Directive in 2006 into EU law by 2007, contains a more fine grained treatment of securitization than its predecessor. Triple A rated securities now have a lower risk weighting than do triple B securities on the balance sheets of banks, thereby removing one regulatory reason for securities arbitrage conduits, which tried to evade core capital requirements which were seen as too high.

In addition, Basel 2 specifies that if a bank has substantially and significantly transferred all the credit risks from an asset towards some other agent via a true sale of the asset, he or she is allowed to derecognize the asset. What is not evidently clear at this point is, while the bank may derecognize the assets from its own balance sheet, they might reappear in the balance sheet of the conglomerate, if the accountant decides that the bank holds the majority of risks and rewards in relation to that SPE. And at this point again we encounter the possibility of national leeway. Regulators can either decide that the bank has achieved a significant and substantial risk transfer and thereby has the right to derecognize the assets in gen-

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<sup>17</sup> Deacon calculates a substantially smaller charge for liquidity lines under the new approach, which might only require a 20% capital charge on 20% of the 8% of the assets underlying the liquidity line (in case of a AA security). This means that a bank needs to hold  $0.2 * 0.2 * 0.08$  \* (assets underlying the liquidity line). This means that the bank needs to hold 0,32% der liquidity line in core capital.

eral, or the regulator decides that the consolidated accounts matter and that thus the assets in the SPE shall be taken into account when calculating the core capital requirements. Thus PwC in a report on the question of off-balance sheet treatment and in particular the question if financial accounting matters, states:

*“For many sponsoring banks the accounting will only matter if it affects regulatory capital. This will depend on individual country regulators. To date the French regulator seems to have decided to adopt an accounting approach and require full capital backing against the consolidated assets. On the other hand the Dutch regulator appears to be adopting a Basel II approach, ignoring the accounting and requiring capital backing against the PWE and liquidity facility.”(PwC, 2006, p.3)<sup>18</sup>*

Both decisions have their merits. The first one can claim that, given the systemic importance of the banking system and the threat of failure of banks, it might be good to be overly prudent. In addition such a regulation is not prohibiting off-balance sheet treatment, it just forces the banks to make sure that in their relationship to the off-balance sheet entity, they do not hold the majority of risks and rewards. The other side can claim that at least a partial risk transfer has happened and that requesting core capital is not capturing the economics of the situation.

On the other hand, the focus on the substantial and significant risk transfer from the bank to the SPE seems to ignore the level of the financial holding company and the fact that the majority of risks and rewards seems to remain with that conglomerate. Given that the auditors have come to the conclusion, that the risk is carried by the FHC, it seems dubious to still accept a risk transfer by the bank. This interpretation, which is still today part of some regulatory regime (for Germany, s. Thelen-Pischke 2010: p. 195), seems also to contradict the statement in the Basel 2 Accord that states that capital requirements shall be applied to FHC's on a fully consolidated basis (. S. BCBS 2006: p. 7). Reading the treaty carefully, however, one can immediately spot the potential points of deviation between different countries. On the same page of the accord it says,

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<sup>18</sup> PWE stands for Program Wide Enhancement. Interviews in France indicate however, that the Commission Bancaire has moved away from this approach.

*“Thus, majority-owned or –controlled banking entities, securities entities (where subject to broadly similar regulation or where securities activities are deemed banking activities) and other financial entities should generally be fully consolidated.”*

*Thus, if securities activities are not deemed banking activities, these securities entities will not be consolidated. If in the banking law the activities of securities entities is not at least identified as a financial services enterprise (in German Finanzdienstleistungsunternehmen), the prudential filter applied to the perimeter of financial accounting to reach the prudential perimeter of consolidation will filter out securities entities. For their activity banks then do not need to hold any capital charges. (Ibid)*

In how far consolidated accounts for financial accounting purposes are taken into account for prudential regulation is thus a national domain, and not regulated neither in Basel 2 nor in Basel 3. From the perspective of this paper, it seems advisable to use financial accounting for these purposes. This because, if an auditor has come to the conclusion that the majority of risk of a conduit rests with a bank, this bank has a significant risk exposure to this conduit, which might not be covered appropriately only through the core capital charges for the liquidity line.

This correction seems even more important as the new standardized approach to calculating liquidity lines under Basel 2 would allow for a minuscule amount of core capital, if the underlying assets are of a high quality (AA), the core capital only representing 0.32% of the amount of the liquidity line (s. Deacon 2004: 225). Only Spain and Portugal insisted on a general one hundred per cent risk weighting of the assets in liquidity lines, thereby requiring 1.6% of the liquidity line as core capital. (s. Acharya and Schnabel 2010: 26).

This broad array of different practices in the Netherlands, France, Germany and Spain indicates another fact about international agreements such as the Basel accords and their respective Capital Requirements Directive (CRD) on the EU level. One should think of the Basel agreements as an appellation for the regulators to translate and thus to interpret these international rules into national law (even for the CRD’s on the EU level, there are officials in the national regulators concerned with their national interpretation). And there will always be room for interpretation. It is well known that no perfect contract can be written, as not

all possible cases can be foreseen. Even more so in an area like banking which is so hugely complex. Thus, these incomplete regulations have to be interpreted on a national level.

### **Accounting rule changes since 2009- the changes in US GAAP**

#### From fin 140 and Fin 46R to Fin 166 and Fin 167

The large scale of off-balance sheet financing which became evident during the crisis, when large parts of it returned to the balance sheets of banks, led to calls for better regulation on the highest policy levels, with the FSF driving the policy changes early on (s. FSF 2008). Its apex was reached in the G20 address of London of April 2009, in which one can find a call for action on accounting for off-balance sheet matters.

“We have agreed that accounting standard setters should take action by the end of 2009 to:

- reduce the complexity of accounting standards for financial instruments;
- strengthen accounting recognition of loan-loss provisions by incorporating a broader range of credit information;
- *improve accounting standards for provisioning, off-balance sheet exposures and valuation uncertainty;* “ (G20 April 2009, italics mine)

In response to this request, the FASB has issued FSAS 166 and 167 in June 2009, and the IASB has issued its IFRS 10 on consolidation on 12<sup>th</sup> of May 2011. While the latter standard will only come into effect from the first of January 2013 and is still so fresh that a conclusive analysis is not possible, the standard in the US is in force from the beginning of January 2010 and has already brought about significant changes.

Before the crisis, Fin 46R (Qualifying Special Purpose Entities) and Fin 140 (Variable Interest Entities) contained large loopholes for American banks in order to avoid consolidation. On the one hand, the numerical, rules based approach to consolidation allowed banks to land just in front of the “brightline”. Second, those special purpose entities engaged in securitization were even classified special purpose entities, for which the regulation was even less stringent. As a first reaction to the crisis, the FASB abolished the notion of a qualifying special purpose entity for securitization with FSAS 166. QSPE’s before were labelled as a device for permitting off-balance sheet accounting even by experts highly in favour of securitization, such as Jeffries (2002). Thus, according to FSAS 166, all securitization special purpose entities will be classified a variable interest entity (s. Deloitte 2010a: p. 7). The question for

consolidation according to the new standard is who the primary beneficiary of a certain SPE is. This question is answered by two questions. Who at the same time has the power to control its activity and is exposed to its variable (!) profits and losses is the primary beneficiary and has to consolidate the entity at 100%. This notion of variable income of course leaves room for manipulation by the services who set their fees fixed ahead of time and thus are not exposed to the variability in the income of the entity. The difficult judgement question here is if the service fee is commensurate with what the market demands. If all servicer pay themselves higher fees, the market comparison might generate distorted results. In general, benchmarking should not be seen as a neutral device and the question is who determines how the benchmark group (s. e.g. DiPrete et al 2010 on manager compensation).

Besides this focus on the variable interest, the new rule continues a worldwide shared focus on control and on the majority of risks and rewards, which we also find in the new IFRS 10. It also introduces a new model of qualitative analysis of the entities' relations in their entirety amid an economic substance over legal form approach (FSAS 167). According to Deloitte (2010b: p. 2) this caused problems for American companies used with standards that provide clear numerical decision guides ("brightlines"). In the realm of financial companies sampled by Deloitte with respect to the consolidation of financial SPE's (such as ABCP conduits), Deloitte notices an increase in assets consolidated from VIEs in relation to the overall balance sheet of 12% ( Deloitte 2010b: p. 1).

While this seems a large number if the sample holds for the aggregate (it would mean that more than 1 trillion dollar was repatriated, it matched only half of what was expected, the explanation being that many banks had terminated their conduits rather than consolidating them (interview Banque de France February 2011). This again seems to indicate how much the entire business of securitization depends on the off-balance sheet status. Due to the short-lived application of FSAS 166 and 167 it seems difficult to assess their rigour, especially in comparison to the IAS 27 and SIC 12 still in force until 2012 in much of the rest of the world. While the IASB tentatively agreed to follow the focus on variable income (IASB 2002), the practice in Europe can still take into account the entire income and fees derived from the conduit, rather than being primarily constrained to the variable income.<sup>19</sup> In summary, the US standards were tightened with substantive effects in the US after the crisis. However,

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<sup>19</sup> A comparison of practice by anonymously comparing the decisions on the same circumstances reached under US GAAP and IFRS would be illuminating here.

the application of these standards is too short to see in how far attempts of circumvention of these standards are successful. The same holds for the IFRS 10, which deals with the question of consolidation in the context of the International Financial Reporting Standards.

### **The amendments to the capital requirements directive in the EU framework**

For Europe the more relevant changes regarding off-balance sheet exposure have come from the amendments to the Capital Requirements Directive (EU 2006/48) via CRD2 and CRD3. These were worked out by the European Parliament, a work which has been finished in July 2010. All of these amendments were inspired by recommendations of the Basel Committee. The changes that were pushed through change the risk-weighting of liquidity facilities and of re-securitization, such as CDOs which are held in the portfolio of ABCP-conduits. Liquidity facility, irrespective of their length will now have a risk weighting of 50%, which means that banks have to hold 4% of core capital against them. The second change, concerning re-securitization, regards the question of how much core capital banks need to withhold if they hold CDOs of RMBS, or ABCPs of CDOs. These will now be risk-weighted with 1250%, which essentially bans these re-securitized portfolios from the balance sheets of banks and might thereby substantially reduce the demand for these papers. However, 2 caveats apply. First, these requirements do not apply to hedge funds and other unregulated actors, which might replace the demand by banks. And if so, banks might still produce these re-securitizations in conduits, as long as they don't have to consolidate these. Second, national regulators have the leeway to establish certain exceptions, such as CPs from ABCPs who benefit from the rating of their sponsor.<sup>20</sup> Therefore parliamentarians do have to develop the capacities to evaluate these exceptions.

The other large scale intervention in terms of global regulation after the crisis was the Basel 3 accord, agreed upon in December 2010, which will also have a direct impact on the members of the European Union. In the following I will aim at summarizing the main aspects of these amendments and of the accord with respect to off-balance sheet financing (for more information on the accord itself, s. Griffith et al 2010a, Meulle 2011).

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<sup>20</sup>Morck, Thomas. 2010. Comprehensive Quantitative Impact Study 2010. Securitisation in the banking book (worksheet Securitization) , Bundesbank  
[http://www.bundesbank.de/download/bankenaufsicht/pdf/qis/securitisation\\_morck.pdf](http://www.bundesbank.de/download/bankenaufsicht/pdf/qis/securitisation_morck.pdf)



## The Basel 3 Accord

Basel 3 will substantially raise the quality and quantity of core capital requirements banks have available, but over a longer time horizon starting from 1<sup>st</sup> of January 2013<sup>21</sup>. In how far this will just increase incentives for regulatory arbitrage and worsen the performance of the financial system in times of crisis is debated (s. for a thorough critique Hellwig 2010) cannot be developed in this paper. Putting the issue of the impacts of core capital requirements aside for the moment, as we have learned from the last crisis, these capital buffers cannot fulfill their supposed functions if the base to which they are applied, the assets in the balance sheets of the banks, does not represent their full risk exposure. In the last crisis, this was due to mispricing of securitized assets on balance sheets on the one hand and due to off-balance sheet activities which were not sufficiently accounted for in core capital calculations. However, instead of demanding very high core capital ratios which could stifle credit growth, it seems better to reduce the sources of potential substantial sudden write downs in the system. Thus in how far does Basel 3 address the issue of shadow banking, off-balance sheet financing?

The most important aspect of the new Basel 3 accord in this respect regards the liquidity requirements, i.e. the Liquidity Coverage Ratio and the Net Stable Funding Ratio. These two new measures represent from my point of view an innovative aspect of Basel 3, as it attempts to establish liquidity risk as an independent pillar of regulatory action and supervision rather than trying to solve it through measures to counter credit risk, such as the application of core capital to liquidity lines as in Basel 2. It applies to internationally active banks on a consolidated basis, but there are again some possibilities for opting out. Furthermore, as Meaulle has illustrated (s. Meaulle 2011: 26f), a good liquidity ratio is compatible with a remaining very high maturity mismatch due to the way the ratios are structured.

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<sup>21</sup> National Implementation will begin by 1st of January 2013, by which date these requirements will have to be implemented into national law. That day minimum core equity requirements will be raised to 3.5%, tier 1 from 4 to 4.5%. On 1st of January 2015, the banks will have to meet the 4.5% common equity and the 6% tier 1. Regulatory adjustments, which will further increase the capacity of core equity to absorb losses (by e.g. limiting investments in other financial companies to 15%) will be phased in until 2018. From the first of January 2014, banks will have to do 20% of the required deductions, growing every year by another 20% until in January 2018 100 % of deductions have been taken. The raising of the tier 1 capital from 4 to 6% will be phased in starting January 1st 2013 and will be reaching 6% by January 1st 2015. The capital conservation buffer will be phased in from 2016 and reach 2.5% on January 1st 2019.

The liquidity coverage ratio will come into force on January 1<sup>st</sup> 2015. The Net stable funding ratio will be introduced by January 2018. However, these standards might still be changed, in case if unintended consequences occur over the observation period. Initially, implementation was planned for 1<sup>st</sup> of January 2013, but banks complained that the impact of these measures might be dramatic and therefore require more intensive QIS (s. e.g. Zentraler Kreditausschuss 2010) justifying the delay. These two measures, if implemented, will have a very intense impact on the business model, directed at the derivatives business of banks and their exposures to the wholesale funding market. For example, these two measures will have a very negative impact on the exposure of banks to Asset-Backed Commercial Paper markets. As such, they will most likely lead to strong opposition among bankers.

The liquidity coverage ratio is defined as the sum of all liquid and high value assets a bank holds (weighted according to the quality and liquidity of assets) and the 30 day liquidity needs it might face, assuming a disaster scenario. This ratio has to be equal or bigger than 1. The rating of the quality and liquidity of assets is debated and forms part of the quantitative impact studies. Conservative approaches favor substantial discounts on corporate and covered bonds, letting only cash and state bonds have a 0% risk weighting. On the denominator side, credit and liquidity lines for small and medium sized enterprises and for banks and special purpose entities will be weighted with 100%. For Special Purpose Entities, this proposal will curb much of off-balance sheet activity, as it will not be profitable anymore for banks to engage in the credit arbitrage business and providing them with liquidity lines and other credit guarantees. It will limit the ABCP business to large banks, which do have enough assets in order to counterweigh liquidity lines. On the other hand, this might just further increase the concentration of that business among the largest banks, which in case of a freeze in wholesale funding markets could again lead to a ballooning of banks' balance sheets. With respect to the risk weightings, many do regard these 100% risk weighting for credit lines for banks and SME's as overly restrictive, which might lead to their recalibration after further Quantitative Impact Studies. This is highly likely given the importance of liquidity lines to business. In this phase it will be the question if liquidity lines for SPE's will maintain their 100 percent weighting or not, which should be an issue high on the political agenda. However, if politicians will still be alert to this issue when it will be negotiated in 2014 or later is questionable.

The net stable funding ratio is defined as a ratio of all available stable refinancing options over all the needed stable refinancing options over the course of one year. This ratio has to be equal to or bigger than one. Also here potential necessities have to have a risk weighted equivalent of stable funding, which means that in the event of stress there will be funding. This further seeks to minimize the liquidity mismatch in the banking sector, which proved so disastrous in the crisis. However, this might impact lending too much, so that recalibration will be needed. Liquidity lines are risk weighted, such that 10% of their value has to be available for the entire year. Other contractual commitments by the banks will have to be risk weighted by national regulators, which I do think is unnecessary/ risky as it reintroduces national regulatory competition. In general these two measures seem to me to be the strongest components of Basel 3, whose final shape, however, will only be decided after years of test runs and more QIS.<sup>22</sup>

How effective the two ratios will be in order to prevent crises will depend on the models used by regulators in order to determine liquidity behavior in the moments of crises. This puts heavy duty on financial regulators. Furthermore, the ZKA criticizes the fact that the approach of “One size fits all” again forces upon all banks the same criteria, thereby leading to more herding and concentration risks. This is so because these restrictions make certain business models unprofitable and thereby will lead to more intense competition in other segments. Now, in case these segments are impacted by a crisis, due to lower diversification, the whole banking sector will be affected.<sup>23</sup>

In general, Basel III has earned a lot of criticism, the most severe one on its application of core capital requirements. As Felix Salmon points out in his blog on “The biggest weakness of Basel III”, imposing risk weighted measures on assets is not only backward looking, but it

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<sup>22</sup> Besides these two measures, Basel 3 also provides 4 instruments to supervisors in order to measure the liquidity risks of banks. These are

1. The contractual maturity mismatch: how much outflow and inflow is there
  2. The concentration of funding: equivalent to large credit restrictions, it aims at uncovering and potentially limiting exposure to lenders, if it becomes too concentrated
  3. The available unencumbered assets: how much can the bank refinance without trouble
  4. market related monitoring tools: what does the market say about potential liquidity risks developing
- With the help of these instruments, regulators will be able to have a better understanding of the liquidity consequences if a bank is failing.

<sup>23</sup> As an example, the ZKA cites the restrictions to cash and non-risky state bonds for zero risk weighting in both the NSFR and the LCR. As banks will increase their holdings in state bonds in order to fulfill these requirements, they will automatically be more exposed to sovereign debt crises, which accordingly will affect the entire banking sector. These criticisms have some merit, as they will bind the banking sector even closer to the fate of state finances.

induces a game in which banks increasingly take up risks which are not accounted for by the regulatory framework, “Since taking any additional measurable risk is now stigmatized, the game becomes how to increase returns without increasing measurable risk...”

This means that Basel 3, which is reacting to rampant regulatory arbitrage under Basel 2, which was a reaction to rampant regulatory arbitrage under Basel 1 might again induce regulatory arbitrage (s. Blundell- Wignall and Atkinson 2010: p. 3). Banks will transform assets with high risk weighting into assets with low risk weighting, which, as in the case of AAA MBS can prove disastrous.

*“This issue is about promises in the financial system. If regulations treat promises differently in different sectors, then with complete markets in credit, the promises will be transformed into those with the lowest capital charges. ... There is a massive incentive in financial markets to use “complete market” techniques to reconfigure credits as capital market instruments to avoid capital charges and reduce tax burdens for clients, thereby maximising returns for themselves and their customers. This will continue despite the proposed reforms.” (ibid: p. 5, 8)*

This problem could be counteracted, if the measures of liquidity and capital ratios are actually supporting each other in order to stem excesses, i.e. if loading up on assets due to zero risk weighting is actually limited by the liquidity requirements of banks (s. e.g. Acharya and Schnabel 2009 for the idea of several indicators being more difficult to game than one single one). How the two factors will interact together thus has to be a focus for future research, in order to determine how the two can be adapted to each other to prevent excessive risk exposure due to regulatory arbitrage.

The most important linkage in this respect might be the simple leverage ratio of 1 to 30 (1 Euro in equity for 30 euros in assets). The Basel Accord 3, valid from 2013 will include off-balance sheet items with a credit conversion factor of 100%.

*“163. The Committee recognises that Off-Balance sheet items are a source of potentially significant leverage. Therefore, banks should calculate the above OBS items for the purposes of the leverage ratio by applying a uniform 100% credit conversion factor (CCF)”.* (BCBS 2010: p. 62)

But another potential loophole is already there. In point 164, Basel III opens up the possibility of a lower conversion factor for immediately cancellable liquidity lines, which makes economic sense:

*“164. For any commitments that are unconditionally cancellable at any time by the bank without prior notice, banks should apply a CCF of 10%. The Committee will conduct further review to ensure that the 10% CCF is appropriately conservative based on historical experience.”(ibid)*

A problem in the future might be that banks extend these cancellable lines, but then do not to cancel them in order to prevent their wholesale customers from losses (s. the discussion of reputation risk below).

In summary one can say that with respect to off-balance sheet financing, Basel 3 aims in the right direction. The liquidity coverage ratio and the net stability funding ratio, if enacted as such will limit the emission of ABCP-papers for credit arbitrage reasons and will thereby limit one of the most lethal business models for banks before the crisis. This in conjunction with the raising of capital standards hopefully will make the new capital standards be sufficient for the next crisis. Especially the simple leverage ratio and the credit conversion factor of 100 for off-balance sheet exposure will be crucial. Given this status it is likely that much lobbying will center on the conditionalities which need to be fulfilled in order to gain the status of a liquidity line under point 164. Industry bodies, such as the ZKA for Germany, however raise an important issue. These new regulations will increase the incentives for regulatory arbitrage, as they are imposing severe limitations on banks, while leaving other financial sectors untouched (e.g. money market funds). In how far actors like money market funds will try to increase their range in maturity transformation after these changes are enacted thus needs to be an important part of regulatory observation. In addition the regulation again seems to lack a dynamic dimension.<sup>24</sup>

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<sup>24</sup> Mr. Duttweiler from the University of St. Gallen points out that the LCR and NSFR-approach well defines the period of one month (shock) and the period for one year (crisis). However, it is lacking a perspective of how a bank can consistently renew its liquidity assets in case it is in a persistent liquidity crisis after the first 30 days. For this event, the new rules do not specify a provision. For a general critique of a lack of a dynamic framework in the Basel Accords, s. Hellwig 2010.

## The unresolved problem of reputation risk

One aspect, which is still largely unresolved in the regulatory debate, is the dimension of reputation risk. Banks such as Citibank took assets from their sponsored structured investment vehicles because they wanted to avert the losses from their investors into these papers. They were not legally forced to do so, but chose to do so to protect their own reputation. The argument goes that if they burned their money market clients, these clients would not return to Citibank or request a substantial risk premium. Citibank relies on these funds not only for their ABCP conduits, but also for a substantial part of their own funding, thus burning these investors is not in their interest. This structural interwovenness of the interests of banks and the interests of money market funds results from the reliance of banks on the wholesale financial market. This reliance is largely spurred by the possibility to refinance quickly and very short term, to be able to expand or to shrink the portfolio rapidly which underlies the newest portfolio techniques. Besides these opportunities for arbitrage which rely on the possibility for quick action, the reliance on the wholesale funding market also permits bigger gains on the yield curve, if investments are possible. This structural feature makes the possibility for resolving the problem of reputation risk very difficult. On the one hand, one could impose severe fines on banks if they repatriate assets voluntarily. But constraining voluntary behaviour of banks is legally difficult, as the question arises where to draw the line. One way might be to explicitly forbid the repatriation of assets from SIV's on the balance sheet of their sponsors. Banks have been engaged in designing assets for MMF, which are virtually risk-free and this strategy should be attacked, as it means that the risk is concentrating in the banking sector.

One might also try to constrain the exposure of banks to money market funds via reducing the amount of ABCP outstanding. But that might impose credit constraints on actual industries, which might not be desired. Reducing the amount of securities arbitrage conduits entertained by banks, however, would not violate these principles. The only impact it would have is to reduce the liquidity of secondary markets of securities. But if liquidity in these markets can only be created due to speculative investment, maybe these markets should not exist in the first place.

## Conclusions

In general, Basel 1 to 3 are ex-post regulations which cannot foresee future regulatory arbitrage. It is thus the question how to deal with regulatory arbitrage activity directly which is undertaken by the banks in the spirit of reducing core capital requirements. Here the following dilemma is posed: on the one hand, these are legal activities, which although testing new ground cannot be deemed illegal. On the other hand, it is these activities, which reduce the core capital in the entire system. For this reason, stronger and especially faster mechanism in order to stem activities of regulatory arbitrage need to be found (and are not part of Basel 3). In addition, these regulatory arbitrage activities often involved the shadow banking sector. Some of the measures such as the LCR and the NSFR address these problems, but only in a limited way. A radical form of increasing regulatory coverage should be considered by including all financial intermediaries in the same core capital requirements regime in order to avoid such asset-shifting (s. also Blundell-Wignall and Atkinson 2010: p. 16f). In how far the simple leverage regulation can achieve this will depend on the credit conversion factor of the off-balance sheet liabilities of banks.

What the story of the differential ABCP regulation shows, is that the immediate reaction to regulatory arbitrage needs to come from national regulators and can and needs to come before the Basel committee or other international regulators react. The supervisory pillar of Basel 2 has further emphasized the role of the active, managing supervisor, a role which has been requested also by reports on the financial crisis (s. e.g. Hüther et al 2009). In this respect, national parliamentarians should request a more active oversight of their banking supervisors in order to avoid intellectual and other forms of regulatory capture (s. Griffith-Jones et al. 2010b).

In conclusion it is important to see from these examples the potential for national regulators to shape and adjust international requirements as they see fit. Indeed, in the game of interpretation of what the new international rules mean and which international rules should be applied as well as how, national regulators can take a very active, guiding stance. In this respect, it seems to be the task of the parliamentarians to supervise and test how national regulators apply certain international standards. In this respect, the national diversity in the European Union does not even have to be such a great disadvantage, as dialogue between

countries can make differences visible and allow parliamentarians to question specific interpretations of their domestic regulator of an international treaty which is different from other European peers. This task however, is made more difficult by the important and positive role Asset Backed Securitization might play in the future financing of the European economy, especially in countries with a powerful sector of small and medium sized enterprises with bad credit ratings. The difficult task for lawmakers as well as regulators is to allow the beneficial transfer of credit risk transfer of assets from the balance sheet of these medium sized corporations and banks into the financial markets, while limiting the remaining exposure of the banks to the special purpose entities which handle these assets. Parliamentarians should use the expertise of rating agencies in this process as well as the expertise of those international organizations such as the OECD which engage in national comparisons<sup>25</sup> and the ECB, which in conjunction with the IMF and the Basel Committee works on how to capture these financial special purpose entities in statistics.

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<sup>25</sup> See the recent work of the OECD Financial Statistics Working Group, which reconstructs via questionnaires the national differences in securitization practice.



## Literature:

Acharya, V. & P. Schnabl (2010), "Do Global Banks Spread Global Imbalances? Asset-Backed Commercial Paper during the Financial Crisis of 2007-09", *IMF Economic Review*, 58, 37-73.

Acharya, V. & P. Schnabl (2009), "How Banks Played the Leverage 'Game'," in *Restoring Financial Stability: How to Repair a Failed System*, ed. by Viral V. Acharya and Matthew Richardson (New York, John Wiley & Sons).

Amis, P. & E. Rospars (2005), "Prudential supervision and the evolution of accounting standards: the stakes for financial stability", Banque de France, *Financial Stability Review*, No. 7, November 2005. Pp. 47-58

Arteta, C., M. Carey & R. Correa (2007), "Why are almost all ABCP vehicles sponsored by non-U.S. banks?", Federal Reserve Board, presentation at New York Fed Research conference, available at [http://www.newyorkfed.org/research/conference/2007/liquidity/Carey\\_Presentation.pdf](http://www.newyorkfed.org/research/conference/2007/liquidity/Carey_Presentation.pdf)

Banco de Espana (2004), Circular 2004. Credit Institutions, Public and Confidential Financial Reporting Rules and Formats (English Version)

Basel Committee on Banking Supervision (BCBS 2006), "International Convergence of Capital Measurement and Capital Standards A Revised Framework Comprehensive Version", June 2006

Basel Committee on Banking Supervision (BCBS 2010), "Basel III: A global regulatory framework for more resilient banks and banking systems", December 2010

Bhattacharya, S., A. W. Boot & A. Thakor (1998), "The Economics of Bank Regulation," *Journal of Money, Credit and Banking*, Blackwell Publishing, vol. 30(4), pages 745-70, November.

Blundell-Wignall, A. & P. Atkinson (2010), "Thinking Beyond Basel 3: Necessary Solutions for Capital and Liquidity", OECD Working Paper

Cardone-Riportella, C, R. Samaniego-Medina & A. Trujillo-Ponce (2009), "What do we know about Banks Securitisation? The Spanish Experience", Working Paper 39, Departamento de Economía de la Empresa, Business Economic Series 04, Universidad Carlos III de Madrid

T. DiPrete, G. Eirich & M. Pittinsky. "Compensation Benchmarking, Leapfrogs, and the Surge in Executive Pay", *American Journal of Sociology*, 115(6):1671-1712

Deacon, J. (2004), *Global securitisation and CDOs*, John Wileys&Sons. Sussex, England

Deloitte (2010a), "Securitization Accounting: The Ins and Outs (and some Do's and Don'ts) of FAS 166, 167, and Counting ...", available at: [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/AERS/us\\_deloitte\\_securitization\\_accounting\\_Jan2010.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/AERS/us_deloitte_securitization_accounting_Jan2010.pdf)

Deloitte (2010b), "Back on Balance-Sheet: Observation from the adoption of FSAS 167", available at [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Content/Articles/AERS/us\\_aers\\_fars\\_%20FAS167\\_May%202010\\_final.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Content/Articles/AERS/us_aers_fars_%20FAS167_May%202010_final.pdf)

Deutsche Bundesbank (2010), "Neue Liquiditätsstandards. Präsentation", available at [http://www.bundesbank.de/download/bankenaufsicht/pdf/qis/liquidity\\_schaefer.pdf](http://www.bundesbank.de/download/bankenaufsicht/pdf/qis/liquidity_schaefer.pdf)

Duttweiler, R. (2010), "To the Basel Committee on Banking Supervision Comments on Consultative Document: International Framework for Liquidity risk measurement, standards and monitoring".

Ehrlich, M., Asokan A. & B. Chou (2009), "Structured Investment Vehicles: The Unintended Consequence of Financial Innovation", *Bank, Accounting and Finance*, October 2009

European Securitization Forum (2002). Second letter to IASB on SIC 12. [http://www.europeansecuritisation.com/Advocacy/Comment Letters/second letter to ias b sic 12.pdf](http://www.europeansecuritisation.com/Advocacy/Comment%20Letters/second%20letter%20to%20ias%20sic%2012.pdf).

Financial Stability Forum (2008), "Report on Enhancing Market and Institutional Resilience", available at <http://www.iasplus.com/crunch/0804fsf.pdf>

G20 (2009), "Declaration on strengthening the financial system – London Summit", 2 April 2009. <http://www.iasplus.com/resource/0904g20communiqué2.pdf>, last accessed 02.06.2011

Griffith-Jones, S., D. Silvers & M. Thiemann (2010a), "Turning the financial sector from a bad master to a good servant; the role of regulation and taxation", FEPS.

Griffith-Jones, S., Thiemann, M. & L. Seabrooke (2010b), "Taming Finance by Empowering Regulators- A Survey of Policies, Politics and Possibilities", Discussion Paper UNDP-Poverty Reduction Programme, pp. 1-36

Hellwig, M. (2010), "Capital Regulation after the Crisis: Business as Usual?," Working Paper Series of the Max Planck Institute for Research on Collective Goods, Max Planck Institute for Research on Collective Good

Hüther, M., Jäger, M., Hellwig, M. & T. Hartmann-Wendels (2009), "Die Arbeitsweise der Bankenaufsicht vor dem Hintergrund der Finanzmarktkrise", Institut der Deutschen Wirtschaft.

Meaule, M. (2011), "The Basel III Agreement: A Critical Survey", FEPS Working Paper

Pozsar, Z., T. Adrian, A. Ashcraft & H. Boesky (2010), "Shadow Banking", Federal Reserve Bank of New York Staff Reports Staff Report no. 458, July 2010

PricewaterhouseCoopers (2006), "The Great Accounting Debate: Conduits – 'on or off' balance sheet under IFRS", available at [http://www.pwc.com/en\\_GX/gx/structured-finance/pdf/17916\\_conduit\\_final.pdf](http://www.pwc.com/en_GX/gx/structured-finance/pdf/17916_conduit_final.pdf)

Seifert, M. (2010), "Liquiditätsrisiko: Regulatorische Vorgaben in fundamentalem Umbruch", Deloitte, available at [http://www.deloitte.com/assets/Dcom-Austria/Local%20Assets/Documents/FSI%20Advisory/Business%20Breakfast%20Feb10\\_BIS%20Liquidity%20Framework\\_final.pdf](http://www.deloitte.com/assets/Dcom-Austria/Local%20Assets/Documents/FSI%20Advisory/Business%20Breakfast%20Feb10_BIS%20Liquidity%20Framework_final.pdf)

Standard and Poors (2010), "European ABCP is showing resilience despite the downturn".

Syring, J. & H. Thelen Pischke (2008), „Regulatorische Aufarbeitung der Subprime Krise. Zeitschrift fuer das gesamte Kreditwesen“, Heft 18, S. 906-911

Thelen-Pischke, H. (2010), "Die aufsichtsrechtliche Konsolidierung von Zweckgesellschaften unter Beruecksichtigung der Auswirkungen des BilMog", IRZ Heft 4, April 2010, *Zeitschrift fuer Internationale Rechnungslegung*, p. 188-196

Thiemann, M. (Forthcoming), " Accounting for Risk- the accounting and prudential treatment of ABCP-conduits in Germany, France and the Netherlands", PhD dissertation, Columbia University

Ybáñez, J. & G. García-Fuertes (2005), "Securitisation & Structured Finance – Spain Domestic Regulation and International Accounting Standards", available at <http://www.internationallawoffice.com/newsletters/detail.aspx?g=5d76400d-f270-4b7b-af76-fa3afd279362&redir=1>, accessed September 10<sup>th</sup> 2010

Zentraler Kreditausschuss (2010), "Stellungnahme des Zentralen Kreditausschusses zum Konsultationspapier des Baseler Ausschusses", International Framework for liquidity risk measurement, standards and monitoring."