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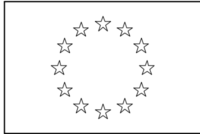

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 13.7.2009
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COMMISSION STAFF WORKING DOCUMENT

Accompanying document to the

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

amending Capital Requirements Directive on trading book, securitization issues and remuneration policies

IMPACT ASSESSMENT

[COM(2009) 362 final]
[SEC(2009) 975 final]

This document commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission

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1. INTRODUCTION

The extent of the financial crisis has exposed unacceptable risks pertaining to the current regulation of financial institutions and markets which have proved real and systemic in times of serious turbulence. According to the latest IMF[1] estimates, crisis-related writedowns on assets originated globally will reach $4.1 trillion by 2010, with global banking industry expected to bear about two thirds of the losses[2], half of which (or $1.4 trillion, equivalent to 9% of EU's GDP) is now attributable to European banks.

In order to restore confidence and stability in the banking sector and ensure that credit continues to flow to the real economy, both the EU and its national governments undertook a broad range of unprecedented measures and initiatives with the bill thereof being shouldered by the taxpayer. These measures should be matched with a robust and internationally coordinated reform of regulatory weaknesses that transpired during the crisis. In recognition of these weaknesses, already in 2008 the European Commission (Commission) proposed certain amendments[3] to the bank regulation revising capital requirements for securitization positions and provisions on home-host supervisory issues and crisis arrangements.

However, to prevent recent and present problems from occurring in the future and ensure that risks linked to the broader issues of financial instability and procyclicality are more effectively contained, additional changes to the EU capital regulation of banks are needed. Such changes would provide for restoring businesses' and citizens' trust in financial institutions as reliable intermediaries for translating their deposits into investment that is key for the long-term health of the EU economy.

2. PROCEDURAL ISSUES AND STAKEHOLDER CONSULTATION

2.1. Background

The financial crisis has prompted a broad EU and international effort to identify the reasons behind the problems and develop effective policies to tackle them head-on. Such reflection focused in on revising key elements of the Basel II bank capital framework in order to address concerns over capital adequacy, including the issue of procyclicality. In the buoyant years preceding the turmoil, credit institutions aggressively took risks that turned out to be not adequately captured by capital requirements, including the risks contained in the trading book. In order to achieve higher capital ratios considered appropriate by market participants, banks have had to seek fresh capital in a difficult economic environment that, in turn, led to tightening of their lending standards, exacerbating negative cyclical trends in the real economy (for more background on procyclicality please see annex).

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[1] IMF, *Responding to the Financial Crisis and Measuring Systemic Risk* (Global Financial Stability Report), April 2009

[2] Of which only about one third has occurred so far

[3] Consisting of a proposal for a Directive of the European Parliament and of the Council amending Directives 2006/48/EC and 2006/49/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management, COM/2008/0602 final - COD 2008/0191, Commission Directive 2009/27/EC amending certain Annexes to Directive 2006/49/EC, and a draft Commission Directive amending Directive 2006/48/EC, submitted for the scrutiny of European Parliament on March 16, 2009

As part of its efforts to deal with the financial crisis, in November 2008, the Commission mandated a High Level Group chaired by Mr. Jacques de Larosière to propose recommendations for reforming the European financial supervision and regulation. The thirty one recommendations[4] of the HLG represented a comprehensive set of concrete possibilities for regulatory[5], supervisory and global repair action and were elaborated in the Commission's Communication[6] for the spring European Council of March 4, 2009.

The Communication outlined details of the ambitious reform of the European financial system that the Commission intends to propose over the course of 2009. The proposals that this impact assessment accompanies are listed in the detailed action plan included in the Communication. With respect to initiatives geared to addressing perverse incentives and excessive risk-taking in the financial services sector, the Communication included a commitment to table a recommendation on remuneration practices in the sector, which[7], together with a recommendation[8] on remuneration of directors of listed companies, was adopted by the Commission on April 29, 2009. The communication[9] accompanying the two recommendations set out additional steps necessary for their more effective implementation, referring to a need to modify the Capital Requirements Directive[10] (CRD) in order to bring banks' and investment firms' remuneration policies and their link with risk management clearly within prudential oversight laid out under the Directive[11].

At the international level, the G20 Declaration of April 2, 2009 on Strengthening of the Financial System[12] conveyed the commitment of the global leaders[13] to address the crisis with internationally consistent efforts that are aimed at strengthening transparency, accountability and regulation and include, among others, endorsing and implementing the principles of the FSF[14][15] on compensation and supporting sustainable compensation schemes as well as

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[4] http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf

[5] Recommendations called for the Basel Committee to urgently amend rules with a view to gradually increase capital requirements and reduce their pro-cyclical impacts and advocated for a better alignment of compensation incentives with the long-term firm profitability and stronger supervisory oversight of the adequacy of financial institutions' compensation policies.

[6] http://ec.europa.eu/commission_barroso/president/pdf/press_20090304_en.pdf

[7] Commission Recommendation on remuneration policies in the financial services sector (C(2009) 3159/2)

[8] Commission Recommendation complementing Recommendations 2004/913/EC and 2005/162/EC as regards the regime for the remuneration of directors of listed companies (C(2009) 3177/2)

[9] Communication from the Commission accompanying Commission Recommendation complementing Recommendations 2004/913/EC and 2005/162/EC as regards the regime for the remuneration of directors of listed companies and Commission Recommendation on remuneration policies in the financial services sector (COM(2009) 211/2)

[10] Consisting of Directive 2006/48/EC relating to the taking up and pursuit of the business of credit institutions and Directive 2006/49/EC on the capital adequacy of investment firms and credit institutions

[11] The impact assessment accompanying the Commission Recommendation on remuneration in the financial services sector has conducted an analysis of the impacts of introducing the principles on remuneration policy on which the CRD supervisory oversight would build. The present report therefore discusses only incremental impacts of including key elements of these principles under supervisory oversight for credit institutions and investment firms through relevant legislative changes.

[12] http://www.g20.org/Documents/Fin_Deps_Fin_Reg_Annex_020409_-_1615_final.pdf

[13] European leaders expressed their support for these measures at the European Council of March 19-20, 2009

[14] The Financial Stability Forum was convened in April 1999 to promote international financial stability through information exchange and international co-operation in financial supervision and surveillance. It brings together national authorities responsible for financial stability in significant international financial centres, international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts. The FSF seeks to co-ordinate the efforts of these various bodies in order to promote international financial stability, improve the functioning of markets, and reduce systemic risk.

improving the quantity of capital in the banking system once the economic recovery is assured.

The report of the FSF on Addressing Procyclicality in the Financial System[16] set out recommendations to mitigate mechanisms that amplify procyclicality by covering three areas: bank capital framework, bank loan loss provisions as well as leverage and valuation issues. Recommendations for bank capital framework were developed with the Basel Committee on Banking Supervision (Basel Committee)[17] with an intention to mitigate the risk that the regulatory capital framework amplifies the transmission of shocks between the financial and real sectors and include proposals to reduce the reliance on cyclical VAR-based capital estimates and enhance the risk coverage for re-securitization instruments and default and migration risk for non-securitized credit products. In support of the recommendations of the FSF and the G20, the Basel Committee is actively working on developing necessary more detailed changes to the current rules in line with a timetable set by the G20[18].

2.2. Stakeholder Consultation

The Commission discussed possible improvements to the current legislative text at the CRD working group (CRDWG) whose members are nominated by the European Banking Committee (EBC). The issues covered by this initiative were examined by the CRDWG members three times in spring of 2009.

An online public consultation on proposed draft revisions to trading book and securitization provisions ran from March 25 until April 29, 2009 on the website of Directorate-General for Internal Market and Services (DG MARKT). Eighteen responses were received from both industry associations and individual institutions from various Member States as well as worker trade unions. The comments were generally supportive of the objectives of the Commission's draft proposals. The responses were used to enhance the analysis of impacts of certain policy options; amendments to them were also considered to ensure that policies geared to strengthening of the prudential framework do not create undue aberrations in financial markets.

With regard to proposed treatment of trading book and securitization activities, throughout the project the Commission services have followed and participated in the work of international forums, the Basel Committee in particular.

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[15] These principles require compensation practices in the financial industry to align employees' incentives with the long-term profitability of the firm. The principles call for effective governance of compensation, and for compensation to be adjusted for all types of risk, to be symmetric with risk outcomes, and to be sensitive to the time horizon of risks. See http://www.fsforum.org/publications/r_0904b.pdf

[16] http://www.fsforum.org/publications/r_0904a.pdf

[17] The Basel Committee on Banking Supervision consists of central bank and supervisory authority representatives from twenty countries. Nine EU Member States are represented – Belgium, France, Germany, Italy, Luxembourg, the Netherlands, Spain, Sweden, and the UK. The other countries represented are Canada, Japan, Switzerland, the US and, from 2009, Australia, Brazil, China, India, Korea, Mexico and Russia. The European Commission, along with the European Central Bank, participates as an observer in the Committee and in its working groups.

[18] The Basel Committee has issued following consultative documents that cover the subject areas of this report:
- Revisions to the Basel II market risk framework; http://www.bis.org/publ/bcbs148.pdf?noframes=1
- Guidelines for computing capital for incremental risk in the trading book; http://www.bis.org/publ/bcbs149.pdf?noframes=1
- Proposed enhancements to the Basel II framework; http://www.bis.org/publ/bcbs150.pdf?noframes=1

A separate online public consultation on a proposed draft of remuneration policy provisions ran from April 29 until May 6, 2009 on DG MARKT website. Twenty three responses were received from a wide range of stakeholders including banking, insurance and asset management sectors, national supervisory and regulatory authorities as well as worker trade unions. The responses were used to elaborate the analysis of impacts of possible policy options.

Given the timeframe in which the proposal was developed, it was not possible to extend the period of the above consultations to the customary eight-week practice and to separately consult relevant sectoral social dialogue committees on this impact assessment. The Commission services will inform and consult them on the initiative and the impact assessment, to the extent that they have not responded to the aforementioned public consultations.

An Inter-Service Steering Group (ISSG) was set up to follow progress and feed in views from other services of the Commission, including Directorates-General for Enterprise and Industry, Economic and Financial Affairs, Employment, Competition, Health and Consumers, Legal Service, and Secretariat General. The steering group met three times in April and May 2009.

The draft impact assessment was discussed with the Impact Assessment Board[19] (IAB) of the Commission on May 28, 2009. This revised impact assessment report reflects the comments of the IAB as follows:

– Impacts of the proposed changes in the area of remuneration policies on banks' employees and their interplay with the guidelines issued by the Committee of European Banking Supervisors (CEBS) have been clarified in section 5.4;

– A table outlining the revisions to the CRD proposed by the Commission during 2008 – 2009 has been included;

– An annex on the main causes of procyclicality as well as the ongoing EU and international work to address them has been added;

– Glossary of technical terms has been expanded;

– Other comments by the IAB have been reflected throughout the report.

3. PROBLEM DEFINITION

3.1. Overview of the Capital Requirements Directive

Capital requirements rules stipulate the minimum amounts of own financial resources that banks must have in order to cover the risks to which they are exposed. The aim is to ensure the financial soundness of these institutions and, in particular, to ensure that they can weather

[19] The IAB is an independent internal body of the Commission set up to ensure more consistent and higher quality of impact assessments prepared by various Commission departments. The IAB works under the direct authority of the Commission President. Its members are appointed in their personal capacity and on the basis of their expert knowledge.

difficult periods and that their depositors are protected. This is aimed at ensuring financial stability and maintaining confidence in financial institutions.

In the EU, harmonised capital requirements are a key component in the single market in financial services: mutual recognition of requirements is the basis for banks' and investment firms' 'single market passport', meaning that they can operate throughout the EU on the basis of approval by the appropriate regulatory authority in their own Member State.

In the EU, the current bank capital framework is represented by the Capital Requirements Directive (CRD) comprising Directives 2006/48/EC and 2006/49/EC and reflecting the proposals of the Basel Committee for the Basel II Framework[20] (Basel II) and Trading Book Review[21]. It covers both credit institutions and investment firms.

With the adoption of the CRD, capital requirements became more comprehensive. In particular, they were expanded to cover 'operational' risk (e.g. the risk of systems breaking down). Also, the rules were made more risk-sensitive, with a possibility for institutions to adopt approaches to determining regulatory capital that are appropriate to their situation and to the sophistication of their risk management. For instance, the Internal Ratings Based (IRB) approach enabled institutions to determine capital requirements for credit risk of their corporate portfolios, by using their own 'risk inputs' such as probability of default and loss given default. The calculation of these risk inputs was made subject to a strict set of operational requirements to ensure that they are robust and reliable.

The CRD also enhanced the role of the 'consolidating supervisor' by assigning it responsibilities and powers in coordinating the supervision of cross-border groups and laid out a three-pillar structure (see Box 1) representing additional marked differences from a predecessor legislation.

Box 1: Three pillar structure of the CRD:

Pillar 1 covers the minimum capital required for credit risk, operational risk and market risk; the minimum capital requirements became much more risk-sensitive and comprehensive than in the past, facilitating improved coverage of the real risks run by the institution.

Pillar 2 covers the review and evaluation of the credit institution's fulfilment of the requirements of the CRD by the supervisor and any resulting action; new rules include requirements for an 'internal capital assessment' by financial institutions, whereby they would need to assess their capital needs considering all the risks they face. These rules also require supervisors to evaluate institutions' overall risk profile to ensure that they hold adequate capital.

Pillar 3 covers the disclosure by institutions and facilitates a better understanding of the soundness and stability of financial institutions.

According to the ECB[22], in 2007, total assets of approximately 8,300 credit institutions[23] in the EU27 were €41,072 billion with a significant share thereof owned by some 40 large cross-border groups[24].

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[20] http://www.bis.org/publ/bcbs107.htm

[21] http://www.bis.org/publ/bcbs116.htm

[22] ECB, *EU Banking Structures*, October 2008

[23] At a Member State level, this figure includes branches and subsidiaries of banks from other EU and third countries. Where a foreign bank has several branches in a given MS, they are counted as a single branch.

Certain amendments to the CRD have been proposed by the Commission in October 2008[25]. In its Communication for the spring European Council of March 4, 2009 the Commission outlined a number of revisions to the Directive that it intends to propose in 2009. The proposal that is accompanied by this impact assessment covers a sub-set of revisions envisioned in the Communication (see Table 1).

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[24] In 2005, 46 cross-border banking groups held about 68% of consolidated EU banking assets

[25] See footnote #3

Table 1: Three 'waves' of the CRD amendments 2008 - 2009

Timing of proposals	Major CRD provision areas changed	Justification / key objectives
October 2008	Revision of large exposures regime	Area 'left open' at the time of the CRD adoption in 2006
	Establishing a more harmonized treatment of hybrid capital instruments within original own funds	Area 'left open' at the time of the CRD adoption in 2006
	Revision of home-host supervisory and crisis arrangements	Change in response to the financial crisis, to provide for attainment of long-term policy objectives of bank capital regulation
	Derogations for bank networks from certain prudential requirements	Area 'left open' at the time of the CRD adoption in 2006
	Revision of treatment of life insurance as eligible collateral	Inconsistency identified in the CRD transposition process
	Revision of capital requirements for Collective Investment Undertakings under the IRB approach	Inconsistency identified in the CRD transposition process
	Revision of capital and risk management requirements for securitization positions	Change in response to the financial crisis, to provide for attainment of long-term policy objectives of bank capital regulation
July 2009**	Revision of capital requirements for the trading book	Changes in response to the financial crisis, to provide for attainment of long-term policy objectives of bank capital regulation, including enhancing stability and limiting procyclicality of the financial system (for more details, see Table 2)
	Revision of capital requirements for re-securitization positions in the banking book	
	Enhancing disclosure requirements of securitization risks	
	Enhancing supervisory review of remuneration policies	
Autumn 2009 (forthcoming)**	Introduction of supplementary measure to address leverage and/or liquidity risk	Change in response to the financial crisis, to provide for attainment of long-term policy objectives of bank capital regulation, including enhancing stability and limiting procyclicality of the financial system
	Introduction of counter-cyclical treatment of bank loan provisions	Change in response to the financial crisis, to provide for attainment of long-term policy objectives of bank capital regulation, including enhancing stability and limiting procyclicality of the financial system
	Making supervisory rules more consistent by reducing number of national options and discretions	Harmonize core set of standards applied across the Member States

** Changes included in the Commission Communication for the spring European Council of March 4, 2009

The following sub-sections present analysis of main problems and drivers underlying them for the CRD areas under review in this proposal. At the end of Section 3, problem drivers and the ensuing problems are summarized in a problem tree.

3.2. Capital Requirements for Trading Book

Credit institutions and investment firms ('institutions') may calculate their capital requirements for market risk using their internal 'value-at-risk' (VAR)[26] models under Annex V of Directive 2006/49/EC[27]. Market risk is the risk of losses due to price fluctuations of financial instruments in the trading book, the trading book comprising those instruments held for short-term resale or to hedge other financial instruments that are held for short-term resale. Under the current provisions, institutions' VAR models shall provide an assessment of the loss

[26] VAR models measure the risk of loss on a specific portfolio of financial assets. For a given portfolio, probability (confidence level) and time horizon, VAR is defined as a threshold value such that the probability that the mark-to-market loss on the portfolio over the given time horizon does not exceed this value (assuming normal markets and no trading in the portfolio) is the given probability level.

[27] In order to do so, their internal models have to fulfil a number of conditions and an explicit supervisory approval needs to be received.

that would not be exceeded with a 99% probability (the 'confidence level') if the institution held on to its portfolio over a 10-day horizon.

3.2.1. Shortcomings of VAR Models

Drivers: VAR models based on short periods of historical data which may not capture relevant market stress episodes

VAR models' assumption of independent returns does not hold at times of market stress when correlations between risk factors increase

Problems: Capital requirements as determined by using VAR models are not robust enough to absorb potential trading book losses and contribute to sub-optimal level of risk management. Swings in capital position, linked to trading losses and volatility of capital requirements for the trading book, risk exacerbating procyclicality of bank lending and investment with negative implications for the real economy.

Starting with the second half of 2007, several banks reported trading losses many times exceeding their VAR estimates. While the VAR estimates had soared due to historically high volatility, they still grossly underestimated market risks. As a result, banks experienced a large number of 'backtesting exceptions', i.e., instances when the actual loss exceeded estimated VAR for a given day. Statistically, this number should not be higher than three per year for VAR calculated assuming a 99% confidence level. An analysis by Standard and Poor's[28], however, shows that a number of backtesting exceptions recorded by several large European and US banks in 2007 reached multiples of this number[29]. The large number of VAR exceptions casts doubt on the robustness of VAR models in stress conditions. To recall, banks may calculate capital requirements on the basis of these VAR models. Even though capital requirements, when derived this way, also incorporate a safety margin, backtesting exceptions constitute events when actual losses in the trading book may have exceeded the actual capital required for the trading book[30].

Importantly, institutions' own estimates of economic capital for market risk indicate that current regulatory capital requirements for market risk are insufficient. For example, Deutsche Bank in its annual report[31] estimated economic capital required for its traded market risk at €5.5 billion[32] at the end of 2008. Meanwhile, its regulatory market risk charge was around €1.9 billion, i.e., 65% less than bank's own economic capital estimate.

VAR models are based on historical data on risk factors, regulatory requirements setting a look-back period of one year. They therefore provide limited insight into risks that do not show within the model's 'time window'. In particular, if the time window does not encompass periods of illiquidity that leads to increases in asset price volatility, VAR will fail to produce a relevant measure of risk on some positions. An example of such positions is positions taken

[28] Standard & Poor's, *Trading Losses at Financial Institutions Underscore Need for Greater Market Risk Capital*, April, 2008

[29] Bank of America N.A., UBS and Deutsche Bank all reported a number of backtesting exceptions - based on actual or hypothetical profit and loss - in excess of 10.

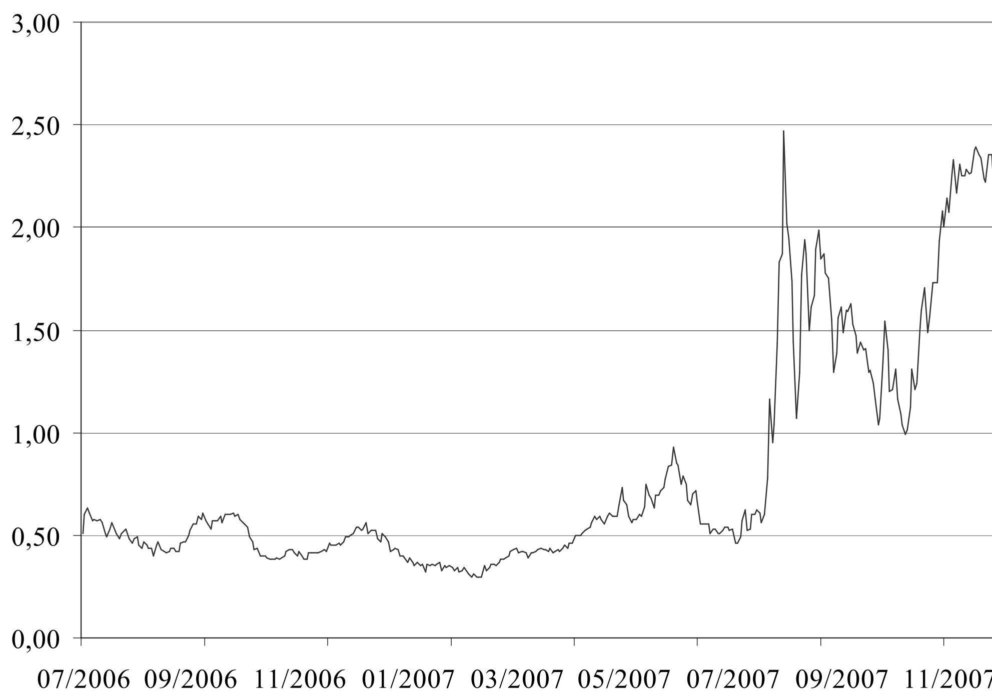
[30] Unfortunately, this important information is not disclosed separately by banks.

[31] http://annualreport.deutsche-bank.com/2008/ar/riskreport/overallriskposition.html

[32] Before diversification

against the TED spread[33]. Although the spread did not vary much before mid 2007, it widened considerably in the second half of the year because of the liquidity crunch (see Chart 1). During the first weeks of August 2007, a bank exposed to a widening of the spread would have incurred losses that VAR models could not have predicted.

Chart 1: TED spread in percentage points, July 2006 – December 2007



Sources: US Federal Reserve, European Commission calculation

However not only will the short look-back period render the VAR based regulatory capital less sound in the sense that actual losses may exceed the regulatory capital requirement. An additional problem caused by the short look-back period is that capital requirements become volatile[34]. For instance, VAR measure of Deutsche Bank[35] increased from €76.9 million at the end of 2006 to €131.4 million at the end of 2008, i.e., by more than 70% - an increase that is still likely to understate the actual volatility of the VAR measure assuming a constant portfolio composition, as one can safely assume that the bank have tried to reduce its exposures over the stressed period in question.

This volatility of capital requirements implies that banks can take a lot of risk during good times but are curtailed in their risk taking ability during more difficult times, as regulatory capital requirements rise at the time when the level of available capital is eaten up by losses from operations yet raising additional capital in the markets becomes more expensive, if not impossible. While such risk reassessment can be viewed as rational from the individual firms perspective, it considerably reduces liquidity in already stressed capital markets and in a

[33] The difference between the three-month London interbank offered rate (LIBOR) and the interest rate on the three-month US Treasury bill; TED is an acronym formed from T-Bill and ED, the ticker symbol for the Eurodollar futures contract

[34] VAR will fluctuate depending what the observed volatilities in the different short look-back periods are.

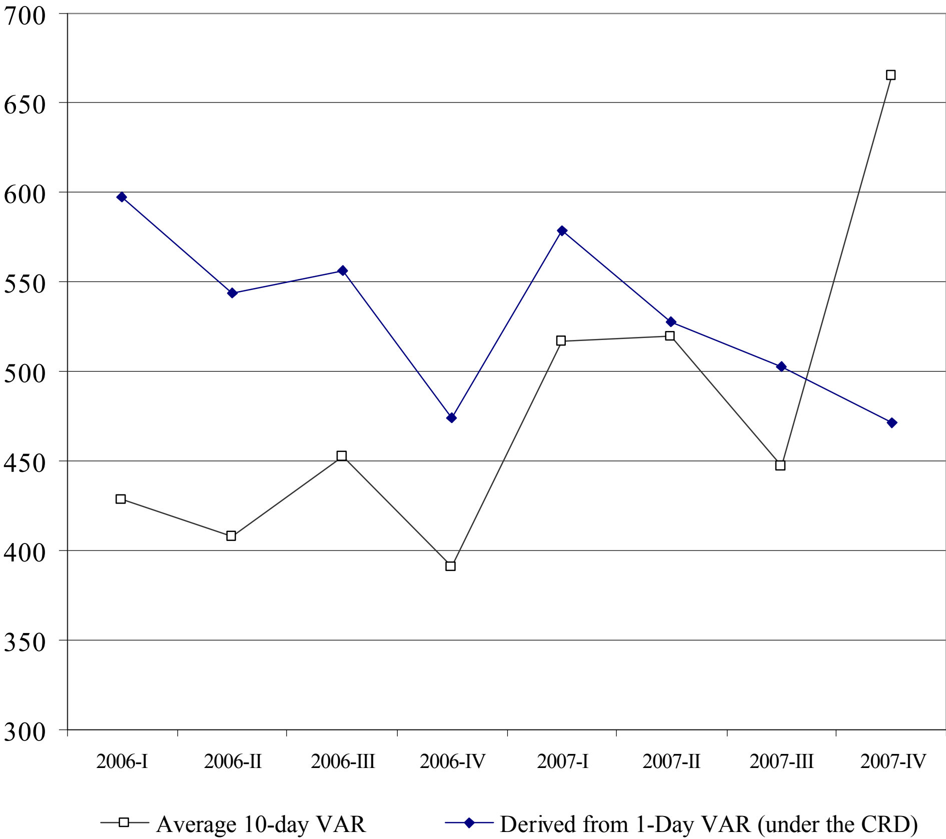
[35] http://annualreport.deutsche-bank.com/2008/ar/notes/additionalnotes/37riskdisclosures/marketrisk.html

wider sense also introduces volatility into banks' ability and willingness to lend to the real economy thus exacerbating the underlying cyclical trends.

Most VAR models use correlations among risk factors that are not stressed. Under stress conditions like the ones experienced during the 2007-2008 episode, however, correlations change and the benefits of risk diversification as assessed by VAR in the preceding more benign environment turn out to have been overestimated. To illustrate, a bank trading in both equity and bond risks will in good times benefit from risk diversification as shares and bonds will often not experience losses at the same time. When market conditions deteriorate, extreme movements can however occur in all risk categories simultaneously.

Moreover, in times of stress, bad days tend to cluster. The square root of time rule, which banks use to scale up one-day VAR estimate into regulatory 10-day VAR equivalent, assumes that daily returns are independent over time. Disclosures by UBS AG provide a useful illustration that, in times of stress, this assumption does not hold (Chart 2).

Chart 2: Average 10-day VAR in million of Swiss francs for UBS AG investment bank



Sources: UBS, European Commission calculation

The chart contains two VAR measures for the same confidence level: the first one derived from a one-day VAR, using the square root of time, and the second computed separately using 10-day shocks for all the relevant risk factors. It could be seen that in the fourth quarter of 2007, average 10-day VAR became 40% higher than what one-day VAR and the square

root of time would suggest[36]. While in the more benign preceding quarters of 2007 the measure based on the one-day VAR did not underestimate the 10-day VAR figures, under the stressed market conditions the observed 10-day VAR became significantly higher as 'bad' days had followed one another. Needless to say, the same problem would arise if the one-day VAR was scaled up to even longer holding periods.

Therefore, quantifying VAR under the above assumptions does not provide for a sound basis of regulatory capital as it does not reflect the stress conditions under which regulatory capital matters most, i.e., the conditions under which actual losses are likely to exceed a VAR-based capital requirement. The described characteristics might also contribute to the problem of cyclical volatility of capital requirements that might have pro-cyclical effects for the real economy.

3.2.2. Trading Book Charge for Default Risk

Default risk not covered by a VAR model calibrated to a 99% confidence level and a 10 day holding period is material[37]. Therefore, the Directive also requires institutions from 2010[38] (to be changed to 2011 by CRD amendments currently being negotiated[39]) onwards to hold capital for incremental default risk that goes beyond the default risk implicitly included in the market risk assessed by the VAR models. Therefore, the risk of unexpected losses related to the incremental default risk that institutions might have incurred during the crisis in their trading book has been already addressed by the legislation[40].

From today's perspective a capital charge that measures only the default risk in the trading book – as it was introduced in 2005 – does not seem well-placed to capture the highly relevant risk of market fluctuations short of actual default. Indeed, such credit risk-related losses in trading books proved to be a very important driver of the current crisis, as evidenced by losses on financial instruments held at fair value through profit and loss – a category not completely identical with the regulatory trading book but the closest possible approximation in public financial reports. These credit related losses stemmed to an important degree also from 'normal' credit exposures that were not securitisations.

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[36] Based on the same time window of five years of historical data, one-day VAR at the 99% confidence level was equal to Swiss francs (CHF) 149 million and 10-day 99% VAR was CHF 665 million. Assuming independent daily returns across time, one-day VAR would be equivalent to a 10-day VAR of CHF 471 million ($\sqrt{10}$ x 149 million).

[37] For positions with low default risk such as bonds of good credit quality, at relatively short time horizons, default risk at the 99% confidence level may well be zero, while default risk at the 99.9% confidence level and assuming a longer holding period will be positive and material because at such a high confidence level, also defaults of good issuers cannot be excluded and because defaults tend to occur in clusters. In addition, and not least relating to regulatory arbitrage, it is important to note that the CRD capital requirements for the banking book, which comprises items held to maturity, are calibrated to a 99.9% confidence level and a one year holding period.

[38] Currently, under a grandfathering position expiring by 31 December 2009, banks and investment firms may still apply Annex V as it stood prior to the introduction of the 'incremental default risk' requirement.

[39] Proposal for a Directive of the European Parliament and of the Council amending Directives 2006/48/EC and 2006/49/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements, and crisis management, COM/2008/0602 final - COD 2008/0191

[40] Proposal that this impact assessment accompanies, includes certain clarifications on how capital requirements for this type of risk shall be quantified

Deutsche Bank, for instance, for the year 2008 reported[41] mark-downs in the 'Sales & Trading (debt and other products)' business of €5.8 billion[42], of which commercial real estate loans accounted for €1.1 billion. In Credit Trading, the bank reported further losses of €1.7 billion related to credit proprietary trading, mainly driven by losses on long positions in corporate debt and basis risk of hedges between corporate names and derivatives to hedge them. Globally, potential writedowns by banks on their exposures to corporate debt instruments originated in the US, Europe and Japan are estimated to reach $252 billion by 2010[43][44].

Driver: Trading book charge for default risk does not capture credit rating migration risk Problems: Current capital requirements for trading books do not adequately reflect all material credit risks which together with regulatory arbitrage possibilities contribute to undercapitalization and facilitate excessive risk taking in the expansionary phase of the lending and economic cycle. When these risks materialize, capital position is affected negatively which risks exacerbating procyclicality of bank lending and investment with negative implications for the real economy.

However, it is important to understand that these losses resulted from marking debt to market, i.e., they were mainly driven by a changed market perception of the corporate names' default risk which can be loosely referred to as 'migration risk' rather than the actual default of these names. Therefore, incremental risk charge as introduced in 2005 does not capture all relevant material credit-related risk in the trading book, leading to undercapitalization of institutions that, in turn, exposes them and their stakeholders (creditors, shareholders) to the risk of steep losses when economic climate deteriorates and also risks inducing procyclical behaviour over the economic cycle.

It may also be noted that in the banking book, the capital charge looks at default risk over much longer time horizons and contains an adjustment for migration risk for long maturity debt. Therefore, in the current situation the trading book treatment of default risk could also lead to regulatory arbitrage opportunities, i.e., an incentive to move debt items to the trading book where not all their material risks are captured by capital requirements. This further enhances the abovementioned causalities.

3.2.3. Capital Requirements for Securitization Positions in Trading Book

Driver: A robust institutions' internal modelling methodology for default and migration risk for securitisation positions in the trading book is missing Problems: Current reliance on own models for securitization default risk allows for regulatory capital arbitrage and undermines the soundness of institutions. The resulting undercapitalization facilitates excessive risk taking in the expansionary phase of the lending

[41] http://annualreport.deutsche-bank.com/2008/ar/servicepages/downloads/files/dbfy2008_financial_report.pdf#page=16

[42] Additional negative fair value adjustments of €2.3 billion would have been required had reclassifications, in accordance with the amendments to IAS 39, not been made

[43] IMF, *Responding to the Financial Crisis and Measuring Systemic Risk* (Global Financial Stability Report), April 2009

[44] 50% of all global crisis-related writedowns in the banking sector is estimated to be incurred by European banks. Applying the same share to losses on corporate debt instruments, writedowns attributable to European banks can be approximated to fall in the region of $125 billion.

and economic cycle. When these risks materialize, capital position is affected negatively posing risk to bank creditors and shareholders and risks exacerbating procyclicality of bank lending and investment with negative implications for the real economy.

The default risk charge introduced in 2005 essentially allowed banks to make use of their own models, even for securitisation positions held in the trading book. In the banking book, however, banks are required to calculate capital requirements based on a supervisory methodology; the reason being that scepticism about banks ability to model securitisation risks at the same level of soundness as 'normal' credit risk prevailed. Confronted with the need to build own models for securitisation risks in the trading book, the industry admitted in a letter to the Basel Committee in October 2008[45] that while they felt comfortable with modelling corporate credit, the behaviour of securitisation risk 'over the economic cycle is less well understood'[46].

Essentially, reliance on own models for securitisation default risk as currently envisaged in the CRD is fraught with two problems: one is that the current modelling abilities of banks do not provide sufficient comfort that the outcome in terms of capital is sound enough; the other one is that compared to the banking book, allowing models in the trading book only may again provide incentives for arbitraging capital standards by moving items into the trading book.

3.3. Capital Requirements for Re-securitization Positions

Annex IX Part 4 of Directive 2006/48/EC sets out the risk weights determining capital requirements for securitisation positions in banks' non-trading books. In most cases, banks will determine capital requirements for securitisation positions by reference to the external rating of the securitisation positions. However, so far, no distinction is being made between normal securitisation positions and re-securitisation positions that have other securitisation positions as underlying assets.

Driver: Capital requirements for re-securitization positions in the banking book do not adequately capture risk of unexpected (low frequency high severity) losses.

Problems: Capital required for re-securitizations does not adequately reflect their higher risk compared to 'normal' securitisations. Swings in capital position, driven by losses from re-securitizations and volatility of capital requirements, exacerbate pro-cyclicality of bank lending with possible negative implications for the real economy

Re-securitisations are more sensitive to the ultimately underlying exposures defaulting jointly. High correlation of losses on mortgage loans affects a mortgage backed security (MBS), i.e., a security packaging the mortgage loans directly, less severely than a re-securitisation position such as a collateralised debt obligation (CDO) re-packaging mortgage backed securities for any given rating of the two securities. For illustration, a AAA rated MBS is unlikely to suffer impairment even if the underlying mortgage pool experiences heavy, highly correlated losses,

[45] http://www.bis.org/publ/bcbs14041/ca/isda.pdf

[46] These difficulties pertain to problems encountered while identifying what constitutes the default of the securitisation instruments given that the contractual agreements typically make the payments a function of pool performance; at the same time, it is particularly challenging in terms of data availability and data processing capacity to model risk based on the defaults and migrations of securitized assets in the pool.

because it is constructed to have a strong safety margin protecting it from losses in the underlying pool of mortgages. This is different for a more junior securitisation tranche with an initial rating of, say, BBB. Heavy correlated losses in the underlying mortgage pool are likely to lead to a credit quality impairment for this security even if its initial rating was considered to be of good investment quality.

For a CDO with an initial rating of AAA the situation is different. It will be built on MBS with lower, say BBB, credit ratings - however again subject to a strong safety margin protecting it from initial losses on any of the underlying securitisations. This leads to an expected probability of default comparable to that of the AAA mortgage backed security. Unexpectedly high, heavily correlated losses on mortgage loans, however, lead to many underlying BBB securities experiencing impairment at the same time which will eventually affect also the AAA-rated re-securitisation (see Chart 3 for the dynamics of rating changes for CDOs backed by US originated assets).

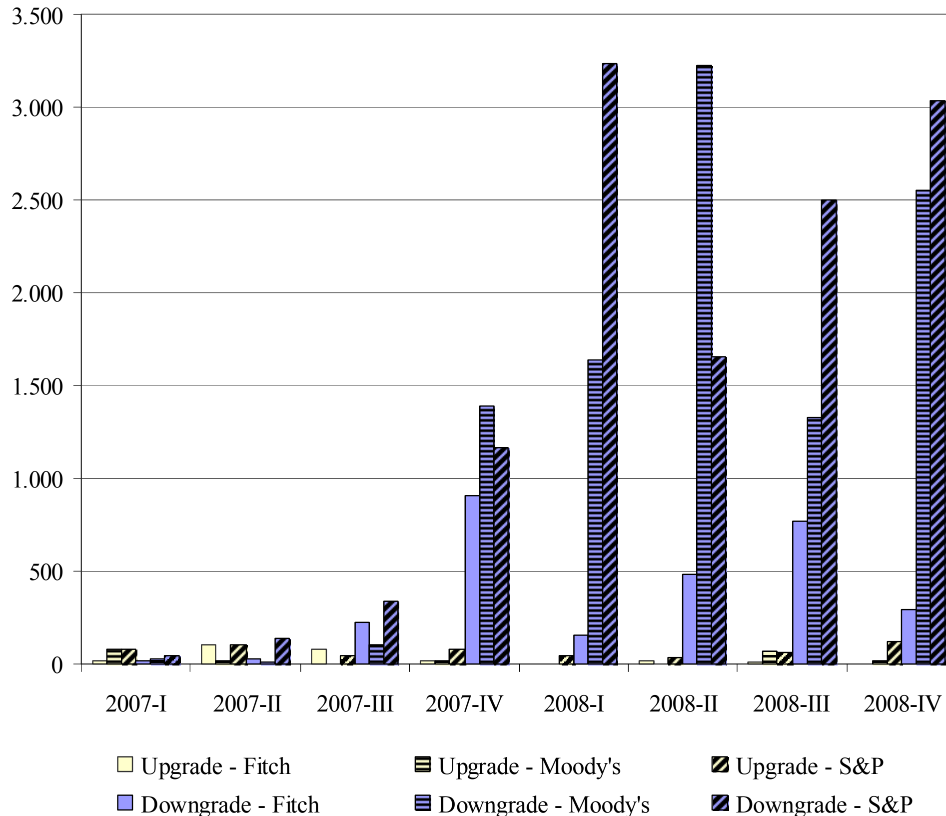
In April 2008, the IMF estimated that mark-to-market losses on the CDOs of US sub-prime and alt-A mortgage backed securities incurred by the euro area and UK banks totalled $32 billion, with losses for banks globally reaching $153 billion[47], assuming on average 60% loss on these instruments since the preceding year. By the end of 2008, the TABX index, used as a benchmark for CDOs backed by sub-prime MBS, showed no distinction in pricing between senior and junior tranches, which were all marked at around 3 to 4 cents on the dollar, reflecting the erosion of any protection from relative subordination of securities in the capital structure and deepening of losses[48].

Chart 3: Credit rating upgrades and downgrades of US-originated CDOs, 2007-2008[49]

[47] IMF, *Containing Systemic Risks and Restoring Financial Soundness* (Global Financial Stability Report), April 2008

[48] IMF, *Financial Stress and Deleveraging* (Global Financial Stability Report), October 2008

[49] Because the tree agencies track different securities and apply slightly different rating criteria, the numbers are not directly comparable.



Sources: European Securitisation Forum

Ratings issued by credit rating agencies aim at assessing only the likelihood (or, expected probability) of default[50]. Bank capital regulation, on the other hand, puts emphasis on the unexpected losses, incurred once defaults materialize, which banks should be able to absorb with the capital that they are required to hold[51]. Therefore, for a given credit rating, a re-securitisation constitutes a greater prudential concern than a straight securitisation position, because in cyclical downturns credit losses become more correlated and, as a result, certain re-securitisations, due to their intrinsic structure, are affected heavier than 'normal' securitisations. It is consequently problematic that capital requirements do not distinguish between securitisation and re-securitisation that are assigned the same external credit rating, assigning the same risk weight to either.

An undesirable problematic effect is that banks are unlikely to be adequately capitalised for losses on re-securitisation if correlated credit losses occur. The capital requirements are calibrated to 'normal' securitisations. Losses may exceed these capital requirements in the cyclical downturn as credit losses cluster. If banks then do not hold enough capital before the cycle turns down, losses will cyclically compromise their capital positions with possible negative consequences for the economy as a whole.

[50] See http://www.fitchratings.com.br/ytmr0608.pdf
[51] While expected losses should be covered with banks' on-going profits

3.4. Disclosure of Securitization Risks

Annex XII of Directive 2006/48/EC sets out disclosure requirements that banks, subject to a materiality threshold, have to make about their risk positions and how they assess regulatory capital against these. There is a dedicated section on securitisation risks, however this section currently only requires information on securitisation risks in the banking, not in the trading book.

Driver: Inadequate level of public disclosure of risks stemming from investments in securitizations Problems: Lack of transparency of banks' exposures to securitizations contributed to the loss of effectiveness of market discipline which bore a negative impact on banks' risk management, and the loss of market confidence, which had a negative impact on the liquidity of inter-bank markets, particularly affecting banks whose business model was reliant on wholesale funding

As more and more banks kept posting more and more losses relating to securitisation positions, market confidence in banks' stability declined further and further. Particularly noteworthy are episodes like those of German IKB and Hypo Real Estate banks. One day, companies publicly stated that they did not see an impact on their business from the sub-prime crisis only to realise a few days later that in fact indirectly they are hugely exposed given their role for instance as liquidity providers for securities arbitrage conduits or as investors in complex re-securitisations[52]. These episodes culminated in profit warnings and finally billions of write-offs, leaving market participants unsure about who else was exposed without having told the public so.

In principle, the CRD took account of this concern by introducing public disclosure requirements to strengthen markets' understanding of banks' risks and capital positions, thereby contributing to market confidence and risk management discipline over banks' management. Unfortunately, the directive's disclosure requirements entered into force too late (i.e., for financial year ending in 2008) to have a positive impact in this crisis. For the future, however, it is also important to understand that the existing disclosure requirements in the CRD might not have been sufficiently complete to address the concerns of market participants.

In this context, it should be noted in particular that while a big chunk of losses[53] on securitisation positions has resulted from banks' trading books, these positions are not covered by the disclosure requirements in the CRD[54]. In addition, a lot of uncertainty arose around how securitisation positions are valued (at cost, at market or model-based values, for instance)

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[52] http://www.ikb.de/content/en/press/press_releases/200714599/070720_vorlErgebnisQ1.jsp, http://www.ikb.de/content/en/press/press_releases/200714599/070730_KfW_staerkt_IKB.jsp

[53] As evidenced by relatively large share of losses in the fair value through profit and loss category that, in terms of scope, may be assumed to be close to the regulatory trading book category

[54] It needs to be pointed out, that Commission Communication of February 25, 2009 on the treatment of impaired assets in the Community banking sector set out criteria that need to be satisfied by eligible institutions in order to benefit from asset relief measures. Criteria include requirements for full ex ante transparency and disclosure of impairments on the assets which would be covered by the relief measures.

by individual banks, having important impact on the losses being taken and those probably still 'hiding' in the valuation of certain assets of unclear quality.

The necessity of having such disclosure requirements in place is underpinned by the latest estimates of securitization-related losses by the IMF, according to which potential writedowns on these instruments for banks globally are expected to reach $948 billion[55] by 2010[56].

Finally, the Basel Committee perceived[57] further shortcomings in existing disclosure standards in relation to banks' activities as sponsor of asset backed commercial paper (ABCP) programmes, their use of own credit assessments for such programmes and, finally, in their investments in re-securitisation and in their warehousing of loans to be securitised on their balance sheet.

3.5. Remuneration Schemes

The impact assessment accompanying the recent Commission Recommendation on remuneration policies in the financial services sector examined in detail the shortcomings of the remuneration arrangements prevalent in the financial services industry and explained the role these arrangements played in precipitating the financial crisis[58]. These shortcomings were shown to pertain to the structure of remuneration policies and inappropriate corporate governance systems. Furthermore, the ensuing risks to the institutions themselves and, more generally, to financial stability were not subject to adequate oversight by supervisors.

3.5.1. Inappropriate Structure and Internal Control Systems

Drivers: Inappropriately structured remuneration policies which failed to align employees' incentives with the long-term objectives of a company Lack of appropriate governance systems Problems: Excessive short-term risk taking impaired soundness of institutions, disrupted financial stability and exacerbated procyclicality in the financial system

Annual cash bonuses are a key variable element of remuneration in the financial services industry. To this end, investment banks set aside a significant portion of their income to provide the bonus pool[59]. In the run up to the financial crisis, bonuses typically made up a substantial portion of employees' pay, sometimes more than 75% of total compensation. While companies viewed year-end bonuses as a means to motivate and retain their employees, employees grew to see them as a normal and expected part of their compensation, regardless of firm profitability. For categories of staff whose daily activities are inseparable from risk-taking decisions, together with the typically short-term focus of bonus systems (which generally assess and reward performance on an annual basis), the fact that bonuses constituted

[55] Includes RMBS, CMBS, CDOs of ABS, consumer ABS originated in the US and Europe.
[56] IMF, *Responding to the Financial Crisis and Measuring Systemic Risk* (Global Financial Stability Report), April 2009
[57] http://www.bis.org/publ/bcbs150.pdf
[58] For more in-depth description and analysis of the problems please see the impact assessment accompanying the recommendation (SEC(2009) 580)
[59] For large investments banks, a portion of their net revenue set aside for employee compensation can exceed 50%, with much of that pool earmarked for bonuses

a high relative share of the total pay, provided them with perverse incentives to excessive risk-taking geared at maximizing short-term profits to the detriment of the long-term health of companies and, more generally, to financial stability. Moreover, while bankers and traders shared in any profits they generated, losses were predominantly borne by shareholders and taxpayers. To the extent that they entail (possibly disproportionate) rewards on the upside, with no risk adjustment or deferred payment to take account of future performance of the business unit or institution as a whole, remuneration policies can have a procyclical effect by contributing to the excessive credit growth and risk-taking in the expansionary phase of the economic cycle.

The impact of improperly structured remuneration policies was further aggravated by shortcomings in firms' risk management and internal control systems. Whilst the CRD includes requirements for an internal capital assessment by financial institutions, whereby they would need to assess their capital needs considering all the risks they face which would, in theory, also cover risks stemming from their remuneration policies, this was not found to be the case, in practice. Indeed, senior management of firms which suffered the biggest losses tended to encourage the expansion of risk without a commensurate focus on controls across the organization or at the level of business-lines[60]. Moreover, within these firms, the drive by senior management to generate earnings was not accompanied by clear guidance on the tolerated level of exposure to risk.

3.5.2. Insufficient Supervisory Oversight

Driver: Lack of express requirements to supervise risks arising in connection with remuneration policies Problems: Absence of clear legal requirements contributed to insufficient oversight by supervisors of risks posed by inappropriate remuneration policies which facilitated excessive short-term risk taking by institutions

Under the current European supervisory framework, there is no express requirement that the remuneration policies of financial institutions should be subject to supervisory oversight. During the process of authorization and ongoing prudential supervision, the supervisory and regulatory authorities oversee the organizational structure of financial institutions as well as their internal control and risk management, and assess the risk profile of the financial institutions taking into account *inter alia* operational and business risks[61][62]. This could in

[60] Senior Supervisors Group, *Observations on Risk Management Practices during the Recent Market Turbulence*, March 2008

[61] More specifically, in the banking sector, Article 22 of the CRD requires competent authorities to require every credit institution that they authorise and supervise to have robust governance arrangements, including effective processes to identify, manage, monitor and report the risks to which it is or might be exposed. Annex V to that Directive elaborates categories of risk that credit institutions should take into account when designing those governance arrangements. That Annex does not refer expressly to risks arising in connection with remuneration policies, although it is not intended to be definitive and it is arguable that such risks could fall within the scope of the general provision in that Annex that the management body must approve and periodically review the strategies or policies for taking up, managing, monitoring and mitigating the risks to which the credit institution is or might be exposed. This requirement applies at consolidated level to all firms which are captured under the scope of prudential consolidation (Article 125 of the CRD). This includes (by virtue of Article 31 of Directive 2006/49/EC) investments firms that are authorised and regulated under Directive 2004/39/EC, and subsidiaries of a credit institution that are not themselves authorised banks but which are 'financial institutions' (as defined in the CRD) carrying on credit, securities or investment services.

principle cover risk related to poorly designed remuneration policies of financial institutions as defined under the CRD.

Given the resulting absence of clear legal requirements, until recently, financial supervisory and regulatory authorities have not focused on the implications of remuneration policies for risk which facilitated excessive short-term driven risk-taking on behalf of supervised institutions.

3.5.3. Latest Developments and Need for Legislative Action

The recently adopted Commission Recommendation on remuneration policies in the financial services sector aims at tackling the problems described in the previous sections by setting out principles on sound remuneration policies. These include a general principle that firms should establish and maintain comprehensive remuneration policies, applying to those categories of staff whose professional activities have a material impact on the risk profile of the financial undertaking, which are consistent with sound and effective risk management and do not induce excessive risk-taking. Complementing this general principle, there are more detailed recommendations relating to the balance between fixed and variable components of remuneration (that is, between core salary and bonus); the determination of the bonus element on the basis of performance; deferred payment of bonuses with a link to the firm's future performance; the responsibility of the (supervisory) board for overseeing the policy and its application and the involvement of properly independent control functions in its design and operation. The Recommendation is addressed widely to all firms carrying on activities that are subject to regulation within the financial sector (irrespective of whether the firms are themselves regulated).

The objective of the Recommendation is to elaborate a set of principles which should enable firms to ensure that their remuneration structures are consistent with, and do not jeopardise, the risk management and internal governance that are the subject of enforceable obligations for regulated firms. A recommendation is an appropriate instrument for setting out a general framework and laying down detailed principles and objectives. However, since a recommendation is not a legally enforceable instrument, there is a case in the context of prudential supervision for a legally binding EU instrument reinforcing the role of the supervisors and empowering them to assess the remuneration schemes of certain regulated financial institutions in a broader context of sound risk management, so that relevant policy objectives are achieved more effectively[63]. There is also a possibility that in the absence of binding EU legislation there might be a potential for regulatory arbitrage, if companies chose to relocate to jurisdictions where the Recommendation does not apply.

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[62] Similarly, the Markets in Financial Instruments Directive, MiFID, (Directive 2004/39/EC and implementing Directive 2006/73/EC) which covers the provision of investment services and activities by credit institutions and investment firms and the operation of regulated markets and multilateral trading facilities, and imposes requirements relating to the internal organisation and control structures within investment firms and credit institutions that carry on MiFID services, does not either have specific provisions that deal with remuneration policy within these institutions. While the Directive does regulate the payment and receipt of inducements, this regime is relevant to benefits received from third parties in the course of the provision of investment services (for example, commissions paid in connection with the sale of a financial product) and is unlikely to touch upon core remuneration policies within a regulated firm.

[63] Such approach has been identified as a preferred option in the long term in the impact assessment accompanying the Recommendation

While the Recommendation pertains to all sectors of financial services, at the current juncture it appears that the greatest risks stemming from a possible deficit of compliance with its principles would come from the banking and investment banking sectors, not least because these institutions are at the centre of the problems described in the previous sections.

An enhanced supervisory role in this context is further warranted because of the market failure which is manifested by the shareholders' apparent lack of capacity and willingness to establish a greater alignment between the risk-taking horizon and the long-term viability of companies. As recent events have demonstrated, this has consequences for financial stability. Studies showed that institutional shareholders do not always have in mind long-term objectives and may rather look for short-term share value increases with their average holding periods being between one and two years[64], while in the US the average share is held for less than a year[65]. Because financial stability is a public good and it was shown to be undervalued by private institutions, better internalisation of potential costs of instability to society by these institutions themselves is warranted.

3.6. Risks Inherent in Baseline Scenario

There is a broad and growing international consensus that the four problem areas under review individually, and even more so if taken together, played a contributing role in exacerbating economic cycle and precipitating extreme financial instability that in turn evoked the global economic recession, damaging soundness and international competitiveness of the EU banking sector and subjecting a wide range of stakeholders, including bank creditors (e.g. depositors), shareholders, employees, borrowers and taxpayers, to unprecedented economic costs. If no action in the outlined areas is taken, the risk that systemic shocks of a similar scale occur in the future will not be addressed. In fact, in addition to the proposed ones, measures in other areas will be necessary to tackle this risk more effectively.

3.7. Is Action Necessary at EU Level?

Based on the nature of problems outlined in the above analysis, several major justifications that meet the principle of subsidiarity for action at the EU level become apparent. They include a need to correct for regulatory arbitrage opportunities which are made possible by the current legislation (e.g., capital requirements for securitisation positions in the trading book) or absence thereof (e.g. remuneration polices), address certain regulatory failures that were brought to light by the continuing financial crisis (e.g., capital requirements for re-securitizations), ensure a consistent EU approach for tackling various issues covered by the scope of this report, which would do away with the need for Member States to pursue individual approaches that risk fragmenting internal market.

More importantly, only EU-level approach could be expected to effectively provide for financial stability and tame excessive financial procyclicality, where policies geared to

[64] Gaspar, Massa, Matos, *Shareholder Investment Horizons and the Market for Corporate Control*, Journal of Financial Economics, vol 76, 2005, pp. 135-165

[65] On the New York Stock Exchange, the average share is currently held for less than a year, as compared to about five years in 1960 and two years in 1990. R. Khurana and A. Zelleke, *You Can Cap the Pay, but the Greed Will Go On*, The Washington Post, 8 February 2009

national needs have been shown to be inappropriate and ineffective from a broader systemic perspective.

4. OBJECTIVES

The overarching goal of this initiative is to ensure that the effectiveness of bank capital regulation in the EU, represented by the Capital Requirements Directive, is strengthened and any of its excessive pro-cyclical impacts on the real economy are contained while maintaining the competitive position of the EU banking industry. This translates into the following four general policy objectives to:

– Enhance financial stability (G-1);

– Enhance safeguarding of creditor interests (G-2);

– Ensure international competitiveness of EU banking sector (G-3);

– Reduce pro-cyclicality of the financial system (G-4).

In light of the problems presented in sections 3.2 through 3.5, four sets of operational objectives have been identified to address the applicable problem drivers. Effective realization of such operational objectives should contribute to the achievement of the following longer-term specific policy objectives to:

– Enhance adequacy of capital requirements (S-1);

– Minimize cyclicality of capital requirements (S-2);

– Eliminate regulatory arbitrage opportunities (S-3);

– Reinforce risk management incentives (S-4);

– Improve investor understanding of bank risk profile, i.e., market confidence (S-5);

– Enhance legal clarity (S-6);

and, in turn, should facilitate the attainment of the four general policy objectives.

Table 2 provides an overview of the identified problems, drivers underlying them as well as operational, specific and general objectives, by indicating linkages between them.

5. POLICY OPTIONS, IMPACT ANALYSIS AND COMPARISON

This section presents the policy options and their impacts on stakeholders for each of the four areas. Due to the number of the areas covered, the analysis of policy options and the comparison thereof have been combined for each area. Cumulative impacts of all preferred options are discussed at the end of the section.

As the impact assessment pertains to the provisions of existing EU legislation, the analysis of the type of policy instrument was assumed to be superfluous. In the area of remuneration schemes, the argumentation underlying the appropriateness and need for a legislative measure has been provided in sections 2.1 and 3.5.3.

Table 2: Summary of problems and objectives

Problems	Problem Drivers	Operational Objectives	Specific Objectives						General Objectives			
			S-1	S-2	S-3	S-4	S-5	S-6	G-1	G-2	G-3	G-4
			Enhance adequacy of capital requirements	Minimize cyclicality of capital requirements	Eliminate regulatory arbitrage opportunities	Reinforce risk management incentives	Improve investor understanding of bank risk profile	Enhance legal clarity	Enhance financial stability	Enhance safeguarding of creditor interests	Ensure int'l competitiveness of EU banking sector	Reduce pro-cyclicality of the financial system
Capital Requirements for Trading Book - Not all material credit risks in trading books are appropriately reflected in current capital requirements - Capital requirements of institutions as determined by using VAR models are not robust enough to absorb potential trading book losses - Swings in capital position, linked to trading losses and volatility of capital requirements for trading activities, risk exacerbating pro-cyclicality of bank lending and investment with possible negative implications for the real economy - Regulatory arbitrage possibilities possibly lead to undercapitalization	A robust institutions' internal modelling methodology for default and migration risk for securitisation positions in the trading book is missing	Enhance alignment of securitisation capital requirements for trading book with those of the banking book	√		√				√	√	√	√
	Charge for default risk does not capture credit rating migration risk	Introduce capital charges to capture credit rating migration risk	√	√	√	√						
	VAR models based on short periods of historical data which may not capture relevant stress episodes VAR models' assumption of independent returns does not hold at times of market stress when correlations between risk factors increase	Make capital requirements more prudent to reflect risks pertaining to extreme future events	√	√		√						
Capital Requirements for Re-securitizations - Capital required for re-securitizations does not adequately reflect their higher risk compared to "normal" securitisations - Swing in capital position, driven by losses from re-securitizations, exacerbated pro-cyclicality of bank lending with possible negative implications for the real economy	Capital requirements for re-securitization positions in the banking book do not adequately capture risk of unexpected (low frequency high severity) losses	Set more prudent regulatory capital requirements for re-securitization positions in banking book Discourage investments in complex re-securitizations	√	√		√	√		√	√	√	√
Disclosure of Securitization Risks -Lack of transparency of banks' exposure to securitizations contributed to the loss of market confidence, which had a negative impact on the liquidity of inter-bank markets, particularly affecting banks who relied on wholesale funding	Inadequate level of public disclosure of risks stemming from investments in securitizations	Enhance public disclosure requirements for securitization positions				√	√		√	√		
Remuneration Schemes -Excessive short-term risk taking impaired soundness of institutions, disrupted financial stability and exacerbated procyclicality in the financial system	Failure of remuneration policy structures to align employees' incentives with the long-term objectives of a company	Strengthen the link between pay and long-term performance Prevent incentives for excessive risk-taking in remuneration policy				√			√	√	√	√
	Lack of appropriate governance systems with regard to remuneration policies	Enhance corporate governance on remuneration policy				√						

Problems	Problem Drivers	Operational Objectives	Specific Objectives						General Objectives			
			S-1	S-2	S-3	S-4	S-5	S-6	G-1	G-2	G-3	G-4
			Enhance adequacy of capital requirements	Minimize cyclicality of capital requirements	Eliminate regulatory arbitrage opportunities	Reinforce risk management incentives	Improve investor understanding of bank risk profile	Enhance legal clarity	Enhance financial stability	Enhance safeguarding of creditor interests	Ensure int'l competitiveness of EU banking sector	Reduce pro-cyclicality of the financial system
	Insufficient degree of supervisory oversight	Enhance the role of supervisors with regard to overseeing remuneration policy management	√		√	√		√				

EN

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5.1. Trading Book

With respect to policy options on capital requirements for bank trading books, three policy options are considered:

- Policy option 1: Retain the current CRD treatment;

- Policy option 2: Impose a set of targeted measures to strengthen existing trading book capital requirements;

- Policy option 3: Change the modelling standard to a 99.9% 1-year level for all positions in the trading book.

Policy option 1: Retain the current CRD treatment

This option does not achieve any of the stated operational objectives. It also does not contribute to the specific and general objectives.

Policy option 2: Impose a set of targeted measures to strengthen existing trading book capital requirements

The following targeted amendments that are aligned with what is envisaged by the Basel Committee could be introduced to respond to the individual problems outlined in the problem definition sections 3.2.1 - 3.2.3:

– Add VAR based on stress scenario to ordinary VAR, adding an additional capital buffer to withstand stress conditions and dampening the volatility of the capital requirement[66]. This change may be expected to roughly double the requirements given the current environment; however, obviously as the 'normal' VAR component may decrease again in a more benign environment later, the stress VAR will remain high. This impact is pertinent mostly to large institutions that have a developed internal modelling capability and, more importantly, have received an explicit recognition of their models from supervisors. At the end of first half 2008, capital requirements for trading book for large EU banks[67] made up on average 6-7% of their total minimum capital requirements. Therefore, introducing a requirement for a capital buffer would translate into the like 6-7% increase in the minimum capital requirements, other things being constant.

– Extend the existing charge for default risk in the trading book to capture losses short of issuer default, e.g. rating downgrades, to address in particular the fact that losses on traded debt most of the time did not involve issuers actually defaulting. The overall impact of this change on the capital requirements will obviously depend on how banks portfolios will

[66] 'Stressed VAR' is different from the existing requirements for banks to perform stress testing under Pillar 2 of the CRD on the adequacy of their overall capacity to withstand different scenarios of stress and, if necessary, hold additional capital. 'Stressed VAR' is, by contrast, part of the minimum capital requirements for the trading book only and represents an amendment to the regulatory formula aimed at ensuring that such minimum capital requirements under Pillar 1 are adequate with the risks in the trading book: as outlined in the problem definition section, current minimum requirements for the trading book have been shown to be too volatile and too low at times of market stress. 'Stress VAR' is being proposed to address these shortcomings.

[67] Estimate is based on a sample of 27 large EU banks that have adopted the internal risk-based (IRB) approach for managing the credit risk of their corporate portfolios. It implicitly assumes that these banks have their internal models for market risk management recognized by supervisors.

adjust in terms of composition to the post-crisis environment. In particular trading in better rated instruments will become more expensive for banks as these instruments are relatively more subject to migration than to default risk.

– Base the charge for securitisation positions in the trading book on the (simple) risk weights in the banking book, addressing the methodological difficulties of modelling the default and migration risk of securitisations, i.e., difficulty to identify what constitutes the default of the instruments on the contractually agreed payments given that the contractual agreements typically make the payments a function of pool performance while it is overly difficult to model price risk based on the defaults and migrations of the assets in the pool. Again, the overall impact of this change on the capital requirements will obviously depend on how banks portfolios will adjust in terms of composition to the post-crisis environment.

It is difficult to estimate, however, how much additional capital banks would have to raise under this scenario, as generally banks tend to maintain capital levels that are in line with their internally developed 'targets' which are typically more linked to their economic capital planning[68] or a need to obtain and / or maintain a desired external credit rating which leads to higher capital levels than those required by minimum capital requirements. The overall solvency ratio for large euro area financial institutions was on average 11.4% at the end of first half of 2008, implying an average capital buffer (over the minimum capital requirements) of 3.4% of risk-weighted assets[69][70]. As a result of enormous market volatility during the second half of 2008, many institutions underwent additional stress to their capital positions, but, on the other hand, they also benefited from the unprecedented extent of state aid measures to recapitalize them. Strengthening the adequacy level of bank capital requirements is of a paramount importance in order to enhance financial stability and minimize any excessive procyclicality of the financial system. Nevertheless, given a rather bleak economic outlook for the EU in the next couple years, introduction of this or any other policy option that might have implications for individual banks' capital positions, has to be carefully timed in order to cushion any unwelcome pro-cyclical impacts of capital regulation on the real economy in the near term.

This option achieves all operational objectives. It contributes towards meeting the specific objectives S-1 (Enhance adequacy of capital requirements), S-2 (Minimize cyclicality of capital requirements), S-3 (Eliminate regulatory arbitrage opportunities) and S-4 (Reinforce risk management incentives) and thereby to meeting the general objectives G-1 (Enhance financial stability), G-2 (Enhance safeguarding of creditor interests) and G-4 (Reduce pro-cyclicality of the financial system). It also helps achieving the general objective G-3 (Ensure international competitiveness of EU banking industry) because these changes would be in line with what currently is envisaged at the level of the Basel Committee, an international standard setting body bringing together the supervisors of all large internationally active banks and those of the most important emerging markets.

Policy option 3: Change the modelling standard to a 99.9% 1-year level for all positions in the trading book

[68] See section 3.1 for an example on difference between economic and regulatory capital for market risk.

[69] ECB, *Financial Stability Review*, December 2008

[70] Doubling of requirements linked to stress VAR scenarios, for instance, would reduce such additional capital buffer by some 0.5% points.

This option aims at capturing all price risks, including those from credit related losses, at the same soundness standard as that imposed on the banking book, thereby implicitly also capturing the stress that occurs in the worst of a thousand years. This option achieves the operational objective of more prudent requirements to reflect risks to extreme events in practice less well than option 2; data availability constraints will imply that the actual implementation of option 3 in individual banks may fall short of achieving this objective – in theory, calibration would have to take place on the basis of hundreds of years of data history which are simply unavailable, so banks will have to use scaling up rules that may not be valid. Validation in terms of backtesting will be impossible given the long time series needed. The stress scenario VAR solution discussed above is more straightforward to implement and supervise.

Similarly, it is arguable whether the actual implementation of this option would achieve the operational objective of capturing credit migration risk as well as does option 2 which builds on well established credit risk modelling techniques. Finally, this option will not achieve the objective of aligning securitisation treatment in the trading and banking books more closely.

By consequence, option 3 appears less effective overall regarding the specific and general objectives attained by option 2. The overall impact of this option on the capital requirements will not only be a function of the future trading strategies of banks, but also one of the soundness with which such a requirement would be implemented. This option was also examined and consulted by the Basel Committee however neither the industry nor the supervisory community found it to be a workable and effective way forward.

5.2. Re-securitization

The question is if and to what extent a review of capital and risk management requirements for EU banks is warranted. The following four options have been identified:

- Policy option 1: Retain the current CRD treatment;

- Policy option 2: Imposing a separate set of higher risk weights for re-securitisation positions;

- Policy option 3: Imposing higher capital charges high enough to discourage investments in complex re-securitizations with a grandfathering for instruments already on banks' balance sheet, combined with targeted exemptions;

- Policy option 4: Enhanced supervisory oversight of new investments in re-securitizations combined with deductions from capital for highly complex re-securitizations where compliance with due diligence is inadequate.

Policy option 1: Retain the current CRD treatment

Under this option, risk weights for securitisation would continue to be the same for securitisation and re-securitisation positions with the same credit rating. While banks have in the past often solely relied on external credit ratings when making their investment decisions regarding re-securitizations rather than making their own analysis of risks, the CRD changes adopted by the Commission in 2008, require banks to conduct their own due diligence and stress tests for re-securitisations, looking through to the assets ultimately underlying the underlying securitisations. However, the practical application of these requirements may in some cases prove difficult, given limits to information availability and information processing

ability, which would hamper the effectiveness of this option in terms of achieving relevant policy objectives.

<u>Policy option 2: Imposing a separate set of higher risk weights for re-securitisation positions</u>

Under this option, for every rating grade re-securitisation positions would be assigned a higher risk weight than other securitisation positions, the higher risk weights for these purposes being set in accordance with the higher risk of unexpected impairment losses as discussed above. The Basel Committee has conducted analyses on the unexpected losses of residential mortgage backed securities on the one hand and CDOs backed by RMBS on the other hand. On the basis of that analysis, the Committee's consultative document[71] envisages a new set of risk weights for re-securitisation positions that could be used as a basis for risk-sensitive weightings to be introduced in the CRD. All applicable operational and the specific objectives would be attained and this would contribute towards achieving all of the general objectives.

<u>Policy option 3: Imposing capital charges high enough to discourage investments in complex re-securitisations with a grandfathering for instruments already on banks' balance sheet, combined with targeted exemptions</u>

Under this option, risk weights for re-securitisations would be set that exceed those proposed by the Basel Committee (i.e., option 2). In order to discourage new investment in highly complex securitisations, capital requirements could be set at a level equivalent to full deduction from capital, meaning that the institution has to hold 1 euro capital for 1 euro of such a position. Only new investments in certain types of complex re-securitisations would be subject to such capital charge whereas legacy instruments would benefit from a grandfathering subject to the underlying asset pools not being added to or replenished within the re-securitization entities in question. Notably, certain government sponsored restructuring transactions to 'clean up' banks' balance sheets ('bad banks') carried out at the moment would also be covered by this grandfathering clause[72].

Clearly, also under this option, the operational objective of setting more prudent capital requirements would be attained. Objective S-1 (Enhance adequacy of capital requirements) is met less well than under option 2, because under this option, capital requirements for new investments in complex re-securitizations would by design exceed the level 'adequate' to credit risk. Objective S-2 (Minimize cyclicality of capital requirements) however is better achieved than under option 2 because naturally, higher capital requirements always behave less cyclically as future losses in economic downturn are to a larger degree pre-empted in current capital positions.

Also objectives S-4 (Reinforce risk management incentives) and S-5 (Improve investor understanding of bank risk profile) are gradually better achieved than under option 2. Option 3 avoids giving a signal to the market that it is safe to invest in what essentially are very opaque and difficult to analyse instruments subject to a gradually higher capital charge. This policy option would rather provide a clear signal, encouraging investments in transparent

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[71] http://www.bis.org/publ/bcbs150.pdf?noframes=1; the approach outlined in the document is likely to be followed by jurisdictions outside the EU.

[72] Often, these transactions involve a securitisation SPV holding the bad assets, of which the 'good bank' retains different tranches. These tranches represent re-securitisation positions because, the underlying bad assets are typically securitisations (however not necessarily re-securitisations).

structures rather than in opaque ones, the latter being subject to much higher cost of capital. Thereby, better incentives for banks' risk management would be set. At the same time, less investment in overly complex structures will also positively contribute to market confidence as banks' risk profiles will be more easily understandable for market participants.

At the level of general objectives, this option would make a stronger contribution towards G-1 (Enhance financial stability), G-2 (Enhance safeguarding of creditor interests) and G-4 (Reduce procyclicality of the financial system) than option 2, however it may be problematic in relation to objective G-3 (Ensure international competitiveness of EU banking sector) as higher capital requirements compared to those agreed in the Basel Committee may negatively affect the competitiveness of the EU banking sector on the investment side. On the other hand, on the refinancing side, a stronger capitalization and less exposure to highly complex products will be positively perceived by market participants, actually strengthening the competitive position of EU banks.

The impact on bank capital requirements of option 3 would be more material than that under option 2. Yet due to its emphasis on bank investment decisions going forward and inclusion of a grandfathering provision, this policy option would avoid immediate capital hit for banks that otherwise would be material. Respondents to the public consultation estimated that in the absence of a grandfathering clause, the impact in terms of the amount of additional capital that would have to be raised by European banks would be in the region of €100-150 billion. The related cost of capital that the industry might incur could exceed €10 billion per year, depending on the market conditions[73]. Depending on the state of financial markets at the time of such approach coming into effect, it would be indeed problematic for banks to raise the indicated amount of new capital, which could lead to a further round of selling of these instruments or unwelcome pro-cyclical consequences for the broader economy in the short-run.

Feedback has also shown the importance of having a more targeted scope for application of the proposed treatment: the broad definition of re-securitization may capture instruments such as asset backed commercial paper (ABCP) conduits whose risk characteristics are typically very different from those of CDOs of RMBS. However, in many cases and for purely technical reasons, these conduits may in many instances still meet the definition of a re-securitisation[74]. The current volume of such ABCP conduits sponsored by EU banks is in excess of $252 billion[75]. If, however, the sponsoring activity became subject to a full deduction from capital requirement, EU sponsoring banks would in the most extreme scenario have to hold some €190 billion of additional capital, which would probably make this business model unviable. Careful legal drafting of this option would however be needed to

[73] The Commission Communication of December 5, 2008 on the recapitalization of financial institutions in the current financial crisis estimated average required rate of return for fundamentally sound euro area banks to be in the range of 7% of preferred shares with features similar to those of subordinated debt and 9.3% for ordinary shares.

[74] The problem lies in the way these programs are structured. Usually, to bundle volumes, a program consists of a 'conduit' that issues the commercial paper and receives cash flows out of separate Special Purpose Vehicles (SPVs) that purchase receivables, each from different firms. These firms or the sponsor will often bear the first loss on the receivables at the level of these separate purchasing SPVs. This means that the exposure of the conduit to the purchasing SPV is 'tranched', i.e. a securitization exposure, and the exposure to the conduit - whether in the form of a liquidity guarantee or in the form of commercial paper - becomes a re-securitization.

[75] According to a comment letter submitted by ISDA and other industry federations. 23.9% of this amount was euro denominated.

avoid that going forward ABCP structures could be modified to resemble the risk profile of CDOs of ABS.

Policy option 4: Enhanced supervisory oversight of new investments in re-securitizations combined with deductions from capital for highly complex re-securitizations where compliance with due diligence is inadequate

Banks investing in re-securitisations will be required, following the CRD changes adopted by the Commission in 2008, to exercise due diligence also with regard to the underlying securitisations and the non-securitisation exposures ultimately underlying the former. Depending on the complexity of the layers of securitisation structures and depending on the complexity of the non-securitisation exposures that ultimately underlie the re-securitisations, the required due diligence may be uneconomical or even impossible. This is in particular the case where the ultimately underlying exposures are themselves complex exposures such as leveraged buy-out or project finance debt.

Option 4 implies the Basel approach as discussed under option 2. However, for particularly complex re-securitisation positions, it would introduce a specific safeguard that reinforces both the due diligence requirements and the supervisory process to enforce them.

In a first step, the Committee of European Banking Supervisors (CEBS) would be required to draw up common guidelines on what types of re-securitizations have to be considered highly complex so that banks are at a particularly high risk of failing to meet the due diligence standards. The reinforced supervision would then only apply in a targeted fashion to these exposures, thereby allowing re-securitizations to remain unaffected where it can reasonably be expected that banks will be able to economically and effectively handle the complexity of those re-securitizations and exercise the required due diligence.

In the unlikely event of banks proceeding with investment in types of re-securitizations identified by CEBS as difficult for banks to economically and effectively handle the complexity thereof and exercise the required due diligence, national supervisory authorities would in a second step be required to examine, on a periodic but sample basis, each individual new investment of a bank in one of the highly complex re-securitization exposures according to the typology identified by the CEBS to establish whether the necessary due diligence has been exercised. However upon establishing that it had not, the credit institution would thereafter be debarred from investing in such class of re-securitization in the future. This approach would limit the incremental compliance costs implicit in the increased surveillance.

For the highly complex re-securitization exposures according to the typology identified by the CEBS, a general deduction from capital requirement would apply unless banks demonstrate in the periodic reviews that due diligence standards have been met.

Option 4 would be more-or-less as effective as option 3 in terms of contributing to all the relevant operational and specific objectives. However, it would be superior to option 3 in relation to objective G-3 (Ensure international competitiveness of EU banking sector) as it would be better aligned with capital requirements agreed in the Basel Committee and would result in 'de minimis' impact on the investment side to the instruments identified as highly complex by the CEBS. It would be also more efficient than options 2 and 3 as it would provide for a more complete attainment of relevant objectives at the given level of resources.

With respect to implications of options 3 and 4 and to a lesser extent options 2 for the future credit supply whose funding is facilitated in part by issuance of CDOs, available evidence shows that in Europe CDO issuance already contracted from €88.7 billion in 2007 to €47.9 billion in 2008[76]. Importantly, this contraction would have been even more pronounced had the European Central Bank and the Bank of England not been accepting securitization as collateral to provide banks with much needed liquidity: in 2008, 95% of all securitization issuance was retained by banks for repo purposes with primary issuance market remaining effectively closed due to significantly diminished investor appetite for these instruments[77][78]. Against such ongoing trends of the baseline scenario, any incremental impact of each of the options for the CDO issuance and, in relation, to the credit supply appears to be of a limited nature.

Policy options 3 and 4 and, to a lesser extent, policy option 2 could have a limiting effect on a possibility of the secondary market recovery for these instruments, were the demand for them to strengthen as a result of change in risk appetite of certain other investor groups, as the options aim at setting capital requirements that ensure a prudent attitude of banks towards these products – due to their inherent structural shortcomings outlined above - irrespective of the sentiment prevailing in the market.

5.3. Disclosure of Securitization Risks

- Policy option 1: Retain the current CRD treatment;

- Policy option 2: Enhance disclosure requirements in line with the Basel Committee's approach, in particular extending the requirements to the trading book.

Policy option 1: Retain the current CRD treatment

Under this option, the current set of disclosures would be left unchanged. Problems outlined in section 3.4 would not be addressed. Likewise, this option would not achieve any of the operational objectives and would not promote any of the specific or general objectives.

Policy option 2: Enhance disclosures

Under this option, disclosure requirements would be enhanced focussing on the following areas:

- securitization exposures in the trading book;
- sponsorship of off-balance sheet vehicles;
- the Internal Assessment Approach (IAA) for securitizations and other ABCP liquidity facilities;
- re-securitization exposures;

[76] In the US, CDO issuance contracted from €352 billion in 2007 to €40 billion in 2008; source: ESF

[77] European Securitisation Forum, *ESF Securitization Data Report*, Q4 2008

[78] Here it is important to point out, that if securitizations are structured to avail banks of central bank funding, in capital requirements terms such securitizations are not treated as such, rather, banks will continue to calculate a capital requirement for the securitized assets as if they had not been securitized.

– valuation with regard to securitization exposures; and

– pipeline and warehousing risks with regard to securitization exposures.

The costs that industry incurs as a result of information provision requirements that stem from legislation and that are incremental to those linked to the business-as-usual (BAU) practices are known as administrative burden. The incremental administrative burden for the EU banking industry is estimated at €1.3 million per year; it is expected to fall mostly on larger institutions with more advanced approach to risk management (for assumptions please see Box 2).

Box 2: Administrative burden of new disclosure requirements for securitization activities

The administrative burden due to existing public disclosure provisions under Directive 2006/48/EC is estimated at €17 million per year[79]. The key assumptions behind this estimate include:

– 20 man days per year to conduct all the necessary tasks,

– Business-as-usual factor of 75%, which implies that 25% of costs incurred businesses perceive as administrative burden, and

– Public disclosure requirements apply to all institutions.

Any administrative burden of policy option 2 is estimated, by building on the above assumptions as follows:

– Additional disclosure requirements are likely to be fully applicable to larger institutions that are active in the specific securitization-related activities outlined in this section while impact on smaller firms is expected to be of lesser materiality[80]. For larger banks that have adopted a more advanced approach to risk management[81], proposed changes are expected to result in an increase of approximately 15%[82] of annual man days required to meet existing disclosure requirements. For small banks only one half of the above increase, i.e., 7.5% was assumed to be realistic as their involvement in the activities for which new disclosure requirements are introduced has been of a lesser extent with a further retrenchment in the aftermath of the crisis very plausible.

– The two sub-samples are assumed to be approximately equal to 2% (larger institutions with more advanced risk management) and 98% (remaining smaller institutions) of all credit institutions[83].

[79] European Commission, *EU Project on Baseline Measurement and Reduction of Administrative Costs*, March 2009

[80] Moreover, article 146 of CRD provides for a possibility of proportionate application of disclosure requirements by allowing institutions to omit specific disclosures if the information is regarded as not material for its users in their making of economic decisions, proprietary or confidential.

[81] Approximated by a bank's choice of the approach for calculation of minimum capital requirement for the credit risk of its corporate portfolios. Based on the results of the Quantitative Impact Study 5 (QIS5), 144 EU banks have signalled their preference to adopt a more risk-sensitive Internal Ratings Based (IRB) approach for calculating minimum capital requirements for the credit risk of their corporate portfolios.

[82] Estimated based on the proposed number of net additional information items to be disclosed in Annex XII of Directive 2006/48/EC, Part 2, Point 14; assumes average cost per information item is approximately the same.

[83] In 2007, there were some 6,600+ credit institutions in the EU, not counting branches and subsidiaries of banks from other Member States and 3rd countries. See ECB, EU *Banking Structures*, October 2008

Based on the above outlined assumptions, the incremental administrative burden for EU banking industry is estimated at €1.3 million[84] per year and could be deemed to be rather immaterial compared to the total expected benefits of the proposal.

This option would contribute to achieving the relevant operational objective and it would directly contribute to the specific objective S-5 (Improve investor understanding of bank risk profile). Indirectly, it would also contribute to S-4 (Reinforce risk management incentives), allowing market participants to exert discipline on banks' risk management. By consequence, this option may also be expected to have a positive impact towards objectives G-1 (Enhance financial stability), G-2 (Enhance safeguarding of creditor interests) and G-4 (Reduce pro-cyclicality of the financial system). The fact that it is in line with internationally agreed standards and that it fosters market confidence makes also for a positive contribution towards objective G-3 (Enhance international competitiveness of EU banking sector).

5.4. Supervisory Review of Remuneration Policies

The following three general policy options have been identified for addressing the problems identified in relation to the effect of badly designed remuneration policies on sound risk management in financial institutions within the scope of the CRD:

- Policy option 1: Take no legislative action, and use 'soft' pressure means to promote and monitor the widespread implementation of the newly adopted Commission Recommendation on remuneration policies in the financial services sector;

- Policy option 2: Legislation to provide for supervisory review of remuneration practices and policies to ensure that institutions comply with the relevant high level principles for sound remuneration policies in a way that is appropriate to their size, internal organization and the nature and scope of their activities;

- Policy option 3: Legislation to provide for supervisory review of remuneration practices and policies and requiring a strict and uniform application of the relevant principles for sound remuneration policies.

Also, two additional options that could be viewed as sub-options of either option 2 and 3 and pertaining to the size of institutions to be covered are considered:

- Policy option 4: Apply proposed measures to all institutions irrespective of their size;

- Policy option 5: Apply proposed measures only to systemically important undertakings.

Policy option 1: No legislative action

This option would maintain the current legislative framework described in section 3.5.2, without imposing new binding obligations on firms, or reinforcing the supervisory overview by competent authorities.

Within this option, EU action would consist of active monitoring of the application of the principles contained in the Commission Recommendation on remuneration policies in the financial services sector, and measures to promote better implementation of the existing

[84] 17*(0.02*0.15+0.98*.075)=1.3

framework by Member States. Such measures might include dialogue with Member States and with interested parties, such as institutional shareholders, to encourage their promotion of the principles in the Recommendation; regular evaluation of industry compliance with the principles on sound remuneration; and publication of a European 'scoreboard' indicating the extent to which national law is consistent with the principles in the Recommendation.

Widespread application of the existing framework by regulated firms might also be promoted by national regulators in their enforcement of the requirements of the sectoral directives. As indicated, it is arguable that the obligations that currently apply to credit institutions and investment firms under the CRD and MiFID in relation to the identification and management of risks already require those firms to ensure that remuneration policies and practices do not expose the firm to unmanageable risks that exceed the level tolerated by the firm. Regulators have not focussed on such risks until recently. However, in the light of the current attention to the risks arising from poorly designed remuneration policies at international level, it is likely that regulators will make enhanced use of their existing tools of prudential supervision to ensure that the remuneration policies of regulated institutions are consistent with sound and effective risk management.[85] The development by the Committee of European Banking Supervisors (CEBS) of high level principles on sound remuneration policies could encourage and converge national regulators' supervisory oversight of remuneration policies within the limits of the existing framework.

However, the obligation under Article 22 of the CRD, and the obligation under Article 13 of the MiFID have been insufficiently explicit as regards remuneration policies to prevent the proliferation of remuneration structures observed in recent years that have provided incentives for aggressive risk-taking.

Moreover, by its nature the Recommendation is not binding, and is therefore likely to give rise to diverse national application and interpretation by national regulators in their supervision and enforcement of remuneration policies. While that diversity can be controlled to some extent by active monitoring and 'soft' pressure on the part of the Commission, and by the convergence work carried out by supra-national committees such as the CEBS, inconsistent application is likely to persist.

Similarly, national measures in the field of remuneration that have been adopted in advance of and separately from the Recommendation vary in their content and risk creating competitive imbalances. While the Recommendation represents a significant step in removing the risk of 'first mover disadvantage' associated with the national adoption of more stringent regulation, further convergence in supervisory review and enforcement is still desirable to ensure that the principles on sound remuneration set out in the Recommendation are applied in practice and in a way that achieves the objective of sound risk management.

This option implies a possible impact on the supply of talent to the industry, as employment in the relevant financial services sectors might become relatively less attractive (due to the level and modalities of remuneration affected) compared to the other sectors of the economy in the EU and compared to employment, including in the financial services sectors, outside the EU. The potential negative effect is attributable mainly to the following principles: i) requiring a deferred element, ii), adjusting performance measurement for risks, cost of capital

[85] Initiatives of this kind are already being taken by a number of regulators such as the UK's Financial Services Authority

and liquidity and iii) linking early termination payments to performance. Its extent is uncertain and there are arguments indicating that it might not be significant: the discounted value of the affected part of the remuneration would be known to the employees when negotiating their contracts, which will likely lead to negotiation of a higher fixed component of their compensation.

At the same time, factors such as tax, language, culture and social considerations should limit the drain of talent abroad. Given that similar principles on the structure of remuneration are already recommended by the FSF and endorsed by the G20, risks for EU companies vis-á-vis companies situated in other financial centres should be limited further. Also, having principles at the EU level should make it easier to promote and export them internationally at a bilateral or multilateral level thereby further reducing this risk.

Policy option 2: Legislation to provide for supervisory review of remuneration practices and policies to ensure that institutions comply with the relevant high level principles for sound remuneration policies in a way that is appropriate to their size, internal organization and the nature and scope of their activities

Under option 2, the proposed amendments will impose a binding obligation on credit institutions and investment firms to have remuneration policies that are consistent with effective risk management. This option would provide firms with discretion in relation to the procedures they would put in place to ensure effective compliance with the principles on sound remuneration. In particular, it would allow them to achieve compliance in a way that is appropriate to their size, internal organization and scope of their activities. The relevant high level principles will be set out in the CRD and will be closely aligned with those set out in the Recommendation. For the practical application of this binding obligation, the guidelines on sound remuneration policies developed by CEBS will be also highly relevant. They will provide guidance to banks as to how the binding obligation can be met, and a framework for supervisors when assessing banks' remuneration structures in the course of the 'Pillar 2' supervisory review, which should provide for a more harmonized approach to enforcement of these principles.

This option implies a certain degree of flexibility for companies when revising their remuneration schemes, which may minimize their one-off implementation and on-going compliance costs. Only a minority of respondents to the public consultation on remuneration policies expressly indicated the extent of potential incremental direct costs for them of complying with remuneration principles under this option. According to them, such costs would be relatively immaterial. Indirectly, the principles concerning the balance between the fixed and variable elements and on deferred payment of the variable element could result in an increase in the fixed element of remuneration and a higher share of fixed costs for the companies, which might reduce their financial flexibility. Supervisors' role would be critical to ensure that intended effectiveness of the rules is not compromised.

Under this option, all national supervisors will be able to apply both financial and non-financial sanctions against firms that fail to satisfy supervisors that they comply with the relevant principles in a way that is appropriate to their internal structure and business model. The nature of those sanctions will be prescribed in national law. However, non-financial sanctions could include the power of a public censure ('name and shame'). The main forms of financial sanctions would be fines. Fines might be imposed against institutions that fail to put in place and exercise claw-back clauses in appropriate cases, as well as in other instances of significant failure to comply with the principles.

The incremental impact of option 2 on a firm's ability to attract and retain talented staff is linked to its greater incremental effectiveness: making the relevant principles of the Recommendation binding will enhance compliance with them at a company level; therefore, any impact on attracting or retaining talent at the overall banking sector level should be more extensive than under the baseline scenario.

From the perspective of the institutions' employees, the impact of this policy option on balance should be positive. On the one hand, some categories of staff might see their overall compensation level fall although the degree of such effect is difficult to ascertain, assuming that the discounted value of the affected part of the remuneration would be known to such employees which in turn might lead to a negotiation of a higher fixed component of their compensation. On the other hand, any improvement in the financial soundness level of their employers in the longer run should minimize the likelihood of employees' losing their jobs if their company would undertake cost cutting or even be unwound if otherwise not tackled aggressive risk-taking practices pushed it into a financial difficulty.

With respect to the international competitiveness position of EU firms, any incremental negative short-term impact over and above the baseline scenario also stems from the binding nature of this option. This impact will be mitigated, on the other hand, by the fact that such high level principles are intended to serve only as guidance to firms on how compliance can be achieved. Its extent will also be subject, as mentioned under policy option 1, to the nature of actions taken in this area by other international jurisdictions: the G20 Declaration of April 2, 2009 included the commitment of the global leaders to implement the principles of the FSF for sound compensation practices[86]. In relation to intra-EU competition, certain incremental pressure might arise under this option, given that its scope covers only credit institutions and investment firms.

It is essential to underline that a more effective implementation of the relevant principles of the Recommendation certainly implies a trade-off that includes long-term benefits for the industry stemming from improved risk management outcomes and, more importantly, broader benefits in terms of a more stable and less procyclical financial system.

Policy option 3: Legislation to provide for supervisory review of remuneration practices and policies and requiring a strict and uniform application of the relevant principles for sound remuneration policies

Under this policy option, a binding obligation on credit institutions and investment firms to have remuneration policies that are consistent with effective risk management will be imposed by requiring a strict and uniform application of the principles for sound remuneration policies that would be closely aligned with those set out in the Recommendation, and, in comparison with the preceding policy option, would be defined at a more granular level.

This option would also leave little or no leeway for institutions to comply with the necessary changes in a way that is appropriate to their size, internal organization, and the nature and scope of their activities. For instance, principles might require that the major part of a significant bonus be deferred for a period which is appropriate for the nature of the business with the payment of any deferred part being linked to the future performance of the firm, including performance of the business unit of the individual concerned. Lack of flexibility

[86] See footnote # 15

under this option would imply that no account can be taken of the business cycle or the needs and expectations of employees and management in cases where firms are building new businesses that might take several years to reach profitability, no profitability equates to no bonuses, even though firms may wish to motivate their employees by rewarding them if they exceed their objectives in building relationships or mitigating risks (i.e., making risk management more effective).

Under option 3, all national supervisors will be able to apply both financial and non-financial sanctions as described under the previous option.

All the impacts that are captured by the trade-off between short-term costs and long-term benefits described under option 2 would be more strongly pronounced under this option due to a greater eventual level of compliance by companies under the scope. This option implies lesser flexibility for companies when revising their remuneration schemes, with the concomitant one-off implementation and on-going compliance costs higher than under option 2. In particular, it implies higher than warranted costs for institutions that are smaller and / or engaged in more atypical business activities (that merit a more customized approach when complying with the principles) than for their peers.

While both options 2 and 3 would be more-or-less equally effective with respect to attaining relevant operational and specific objectives, option 3, being more prescriptive, would be marginally more effective with respect to attaining objective S-6 (Enhance legal clarity). On the other hand, option 3 might imply some unintended 'side' effects, as it might not be able to effectively accommodate all possible real-life business situations. It would also be less efficient than Option 2 as the latter would provide for flexibility when making any necessary adjustments to remuneration policies already in place, resulting in lower compliance costs.

Policy options 4: *Apply proposed measures to all institutions irrespective of their size* ***vs.*** *Policy option 5: Apply proposed measures only to systemically important undertakings*

As regards the size of institution that might be covered, the principal options are to apply the proposed measures (option 4) to all financial institutions independent of their size; or (option 5) only to significant, systemically important undertakings the failure of which has a potential impact on the functioning of the relevant financial sector. Option 5, while superficially attractive, is inconsistent with the provisions of the CRD for supervision on a consolidated basis: it would be illogical and possibly counter-productive for requirements to apply differently to different entities in a consolidated group depending on their size. Therefore, option 5 seems to be inferior to option 4 with regard to objective S-6 (Enhance legal clarity). Similarly, where remuneration policies are organised and managed at group level, it makes little sense for the requirements and supervision to apply selectively.

While option 5 underscores the fact that from the point of view of enhancing financial stability (objective G-1), risk-taking behaviour of large firms is more pertinent, option 4 would be more effective with respect to contributing to objectives of protection of creditor interests (objective G-2) and reducing pro-cyclicality of the financial system (objective G-4) as it would reinforce risk management incentives (objective S-4) for a broader scope of institutions. Implications of option 4 for the compliance costs of small institutions would be mitigated by combining this option with option 2 that allows for a proportionate application of the relevant principles.

In any event, the flexibility within the supervisory review process would enable supervisors to focus most intensively on those cases where the remuneration policies and practices gave rise to unmanaged risks. Accordingly, option 4 is more appropriate in the context of a measure targeted at institutions within the scope of the CRD.

5.5. Summary of Policy Options

The following table summarizes the fourteen policy options analysed. Individual options within each policy set are ranked in terms of their relative effectiveness[87] and efficiency[88] with regard to achieving applicable longer term policy (specific) objectives. Options that are included in the legislative proposal are highlighted.

[87] Measures extent to which options achieve relevant objectives

[88] Measures extent to which objectives can be achieved for a given level of resources

Table 3: Summary of policy options' effectiveness and efficiency

Policy Option Set	**Policy Options**	**Policy Option Comparison Criteria**						
		Effectiveness						**Efficiency**
		Enhance adequacy of capital requirements [S-1]	**Minimize cyclicality of capital requirements [S-2]**	**Eliminate regulatory arbitrage opportunities [S-3]**	**Reinforce risk management incentives [S-4]**	**Improve investor understanding of bank risk profile [S-5]**	**Enhance legal clarity [S-6]**	
Capital requirement for trading books	1 Retain current approach	3	3	3	3			3
	2 Impose a set of targeted measures	1	1	1	1			1
	3 Change modelling standard	2	2	2	2			2
Capital requirement for re-securitizations	1 Retain current approach	4	4		4	4		4
	2 A separate set of higher risk weights	1	3		3	3		2-3
	3 Capital charges to discourage investments in complex re-securitizations with grandfathering & targeted exemptions	3	1		2	1-2		2-3
	4 Enhanced supervisory oversight combined with deductions from capital where due diligence is inadequate	2	2		1	1-2		1
Disclosure of risks from securitization positions	1 Retain current approach				2	2		2
	2 Enhance disclosure requirements				1	1		1
Remuneration schemes**	1 No legislative action	3		3	3		3	3
	2 Legislation requiring to comply with relevant high level principles, while taking into account specificities of a firm	1-2		1-2	1-2		2	1
	3 Legislation requiring strict and uniform application of relevant principles	1-2		1-2	1-2		1	2
	4 Application of measures to all institutions				1		1	1
	5 Application of measures only to systemically important undertaking				2		2	2

Scale of option ranking: 1=most effective / efficient, 4=least effective / efficient
**Options 1-3 are compared separately from options 4-5 as they are complementary

5.6. Cumulative Impact of Proposed Amendments

5.6.1. Overall Benefits

An estimated $1.4 trillion could be lost in asset writedowns by European banks as a result of the current crisis. These losses together with ensuing negative consequences for the real economy will be shouldered – to a varying degree – by different stakeholder groups, ranging from shareholders of financial institutions to taxpayers. In light of the lessons learned, it is crucial to review certain aspects of bank regulation so that the risk of losses of this scale occurring in the future is contained. Such containment constitutes the overarching and the most material expected benefit (or cost saving) of the proposed amendments and by far outweighs the costs that accompany them.

The policy improvements that are being proposed are not intended and, therefore, cannot be expected to alleviate the situation of the banking sector or the stability of the financial system at the current juncture. Rather, their aim is to address issues in certain areas of bank capital regulation that contributed to the evolution of the crisis and the level of aforementioned asset

writedowns. The changes are expected to render the CRD framework more robust in the long run, leading to more effective risk management incentives and practices, more adequate and less volatile bank capital requirements and enhanced disclosure of bank risk positions to the market participants. The policy option analysis has shown that proposals should contribute to limiting excessive pro-cyclical effects stemming from the current functioning of financial system, which is impacted by regulation, and containing risks to the financial stability and the concomitant costs to society in the future. At the level of individual stakeholder groups and systemic concerns, the expected benefits of the proposals are as follows:

– Enhancements to the regulatory capital framework - in terms of more adequate and less cyclical capital requirements together with strengthened public disclosure requirements - should provide the EU banking industry with appropriate incentives for improving their risk management as well as their internal governance and control systems and procedures. As a result, not only the long-term viability of EU banks but also their competitive position vis-à-vis their international peers in the long run would be enhanced.

– The proposed revisions will enhance the effectiveness of supervisors' monitoring of the risks that financial institutions are exposed to by providing more legal clarity on banks' obligations with respect to managing risks stemming from inappropriate remuneration policies; by eliminating regulatory arbitrage opportunities allowing banks to apply lower of the banking or the trading book capital charges and streamlining the regulatory treatment of securitization positions in banks' trading book.

– Protection of banks' creditors, including depositors, will be enhanced as improved effectiveness of the framework and its supervision will lead to a reduction of bank default risk.

– Borrowers, including SMEs[89], will benefit from a less cyclical nature of bank financing allowing them to engage in projects that are profitable and vital for the economic growth and prosperity.

– Importantly, by improving the adequacy and curtailing the cyclicality of regulatory capital requirements as well as enhancing risk management incentives for the EU banking institutions, the proposed amendments will strengthen financial stability and mitigate any excessive pro-cyclical effects of bank regulation in the long run, indirectly yielding substantial benefits to the wide range of social stakeholders, including bank employees (via improved financial soundness of their employers), households (e.g., via less cyclical availability of credit and restored trust in their banks) and taxpayers (via reduced likelihood of bank bailouts in the future).

5.6.2. Compliance Costs

The overall cumulative impact on compliance costs for the industry is expected to be material, chiefly driven by the cost of capital which would have to be raised in order to comply with revised rules. The most material implications in terms of compliance costs emanate from the proposed changes for minimum capital requirements for banks' trading book activities and re-securitization positions that are held in their banking books and are discussed under respective

[89] A study commissioned by the European Commission showed that there is a significant positive effect of the business cycle on bank loans to medium-sized firms, with the effect on small firms also significant but smaller; see EIM, *Cyclicality of SME Finance*, March 2009

policy options. To the extent that, as a result of their internal capital planning or credit rating agencies' requirements, banks hold capital levels exceeding regulatory requirements, the impact might be partially mitigated by the resultant capital buffers.

Introduction of proposals that have a direct bearing on the amount of capital that banks are required to hold will have to be carefully timed so that any unintended pro-cyclical impacts on the credit supply and, hence, the real economy are avoided or cushioned in the short-term. Nevertheless, to the extent that currently practically non-existent market appetite for such products resurfaces in the future, the credit supply might be impacted unfavourably by specific policy options aimed at dissuading banks from investing in re-securitization instruments.

The Commission's Better Regulation strategy is aimed at measuring administrative costs and reducing administrative burden. The distinction between the two is that the latter denotes costs linked to providing the information that businesses would not incur in the absence of legislation. The CRD is part of the Commission's Action Programme for reducing administrative burdens in the EU which has the goal of administrative burden reduction of 25% by 2012. In the area of prudential banking regulation, certain information requirements are necessary to provide for the desired level of financial stability and creditor protection and, hence, should be set at a level that ensures an equilibrium between ensuing administrative burdens and the benefits that they yield.

With regard to the legislative changes brought forward with this initiative, it has to be noted that they were undertaken with a view to achieving multiple operational, specific and general objectives (see section 4) and had to be designed accordingly. Significant implications of the proposed changes on reporting obligations for the industry are expected to stem only from enhanced disclosure requirements for securitizations in banks' trading books with the estimated resultant administrative burden falling in the range of €1 million per year.

Proposed amendments are not expected to disproportionately affect small financial institutions vis-à-vis the large ones, as the nature of activities being reviewed is more common to the latter group of institutions.

The following table lays out the expected net effect of the proposals on various stakeholders.

Table 4: Summary of impacts on stakeholder groups

Issue Areas / Key Stakeholders	Banking Industry	Supervisors	Investors / Creditors	Borrowers	Bank Employees	3rd Country Banks
Capital requirement for trading books	+/- (↑ financial soundness in the long run, indirect benefits from financial stability offset by ↑ compliance costs)	+ (↑ effectiveness of monitoring)	+ (↓ potential economic crisis related costs)	+ (↑ improved availability of credit over the cycle)	+ (↓ potential crisis related costs due to enhanced soundness of their employers)	≈
Capital requirement for re-securitizations	+/- (↑ financial soundness in the long run, indirect benefits from financial stability offset by ↑ compliance costs)	+ (↑ effectiveness of monitoring)	+ (↓ potential economic crisis related costs)	+ (↑ improved availability of credit over the cycle)	+ (↓ potential crisis related costs due to enhanced soundness of their employers)	+/- (↑ competitive position in the short run offset by ↓ in the long run as more prudent EU approach yields results)
Disclosure of risks from securitization positions	+/- (↑ financial soundness in the long run, indirect benefits from financial stability and market discipline offset by ↑ admin burden)	+ (↑ effectiveness of monitoring)	+ (→ disclosure requirements allowing to better understand bank risk profile)	≈	+ (↓ potential crisis related costs due to enhanced soundness of their employers)	≈
Remuneration schemes	+/- (↑ financial soundness in the long run, indirect benefits from financial stability offset by ↑ compliance costs)	+ (↑ effectiveness of monitoring)	+ (↓ potential economic crisis related costs)	+ (↑ improved availability of credit over the cycle)	+/- (↓ potential crisis related costs due to enhanced soundness of their employers; →changes to remuneration policies)	+/- (↑ competitive position in the short run offset by↓ in the long run as more prudent EU approach yields results)

Legend: + overall positive effect, - overall negative effect, +/- overall mixed effect, ≈ effect not significant, ↓ decrease, ↑increase, → introduction

6. MONITORING AND EVALUATION

It is expected that the proposed amendments will enter into force in 2011. For changes in the areas of capital requirements for the trading book and re-securitization positions this date is driven by the timetable followed by the Basel Committee. At the same time - as highlighted throughout the report – care will have to be exercised that, in line with the agreement of the G20 of April 2, 2009, any measures geared to improving the quantity of capital in the banking system are introduced 'only once recovery is assured'.

The amendments are tightly inter-linked with other provisions of the CRD, that are already in effect since 2007-2008, will come into effect following the implementation of Proposal

COM/2008/0602 and following possible CRD revisions that are foreseen for adoption by the Commission later in 2009.

Normally, the practice at the Commission is to conduct an evaluation of a legislation some four years after its implementation, however, given the number of revisions that the CRD has and will be undergoing in the near future it might be worthwhile conducting a comprehensive evaluation of the CRD that would be based on the entirely overhauled framework, which complicates setting of such target date. On the other hand, the current and recent proposals underscore the importance of timely and appropriate changes of the rules in response to market events. Therefore, it is also possible that individual provisions of the CRD will continue to be formally evaluated on a piecemeal basis, following the outcomes of various monitoring exercises both at the EU and the international level or the necessity to act as dictated by the market.

The Commission, in co-operation with Member States will monitor the effectiveness of the proposals once implemented. The Commission will also have regard to other stakeholders such as industry and consumers while assessing if the objectives outlined in this impact assessment are fulfilled. It will also take account of the macro-prudential indicators already developed and utilized by the ECB to monitor the stability of the banking sector. Outcomes of the macro-prudential monitoring work of the to-be-created European body to oversee the stability of the financial system as whole[90] might also be used to gauge the effectiveness degree to which general policy objectives pertaining to ensuring financial stability and limiting procyclicality are attained.

The Commission also participates in the working group of the Basel Committee and the joint task force on the impact of the new capital framework, established by the ECB and CEBS, that are monitoring the dynamics of bank capital positions under the Basel II framework[91] globally and in the EU, respectively (relevant for measuring progress of reaching specific objectives of capital requirement adequacy and cyclicality).

[90] As per the Commission Communication for the Spring European Council of March 4, 2009

[91] Indicators that are monitored include capital adequacy ratios, capital buffers, parameters used as inputs in minimum capital requirement calculation for the credit risk, etc.

GLOSSARY

Administrative burden	Costs specifically linked to information provision that businesses would not collect and provide in the absence of a legal obligation
Alt-A mortgages	Mortgages that are usually granted to borrowers with good credit records who seek atypical underwriting or loan terms such as reduced proof of their income
Assumption of independent returns	Assumption central to the 'random walk' hypothesis is a financial theory which holds that stock price changes have the same distribution and are independent of each other, so the past movement or trend of a stock price or market cannot be used to predict its future movement
Back-testing (of VAR models)	Requirement for the institution to monitor the accuracy and performance of its model. The back-testing has to provide for each business day a comparison of the one-day VAR measure generated by the institution's model for the portfolio's end-of-day positions to the one-day change of the portfolio's value by the end of the subsequent business day
Basis risk	Risk that a hedge instrument for a given position will not experience a price change in an entirely opposite direction, thus, diminishing effectiveness of a hedge
Business-as-usual factor	Expresses costs of providing the information that would be collected and processed by businesses even in the absence of the legislation as a percentage of total information provision-related costs
Collateralized debt obligation (CDO)	Securitization where underlying exposures commonly include mortgage-backed securities (MBS), commercial real estate bonds and corporate loans
Confidence level	Statistical measure that could be interpreted as providing an estimate for the number of times out of 100 that test results can be expected to fall within a specified range. For example, a confidence level of 99% means that the result of an action is expect to meet expectations 99% of the time
Consolidating supervisor	The supervisor responsible for the supervision on a consolidated basis of a banking group. As a rule, this is the supervisor of the Member State where the parent bank of the group is based
Credit risk	Risk of losses in on and off-balance sheet positions resulting from the failure of a counterparty to perform according to a contractual arrangement
Credit risk mitigation	Technique used by a credit institution to reduce the credit risk associated with an exposure which the credit institution holds
Economic capital	Capital held and allocated by the bank internally as a result of its own assessment of risk. It can differ from regulatory capital, which is determined according to supervisory rules
Incremental default risk	The default risk of trading book positions that is incremental to the default risk captured by the VAR measure as specified by specific requirements, e.g., VAR that assumes 10-day holding period and 99 % confidence level
Internal Ratings Based (IRB) approach	Advanced approach by which a bank can use its own credit assessments to calculate its regulatory capital requirements for credit risk. Depending on the risk factors the bank is allowed to estimate, a distinction is made between a foundation IRB and an advanced IRB approach
Long position	Financial term which means that the holder of the position owns the security, such as a stock or a bond, and will profit if the price of the security goes up

Loss given default (LGD)	The loss, measured as a percentage of the exposure at default, which is likely to occur in case a borrower defaults; one of the required input parameters to derive the risk weight under the internal ratings-based approach
Market risk	Market risk is the risk of losses due to price fluctuations of financial instruments in the trading book
Migration risk	Risk of loss resulting from marking-to-market debt instruments, driven by a change in market perception (incl. credit ratings) of the corporate names' default risk
Mortgage backed security (MBS)	Securitization where underlying exposures include mortgage loans, most commonly on residential property, in which case securitization is referred to as residential mortgage backed security (RMBS)
Operational risk	Risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk
Original own funds	The most reliable and liquid element of a bank's capital that comprises share capital, retained earnings and hybrid capital instruments which meet the criteria agreed at G10 level. Subject to technical differences, original own funds correspond to the Basel Accord terminology of Tier 1 capital
Procyclicality	Procyclicality of the financial system can be defined as the tendency of financial activity to amplify business fluctuations which may lead or contribute to financial instability. It operates mainly through feedback mechanisms which may give rise to cumulative processes in the form of spirals and self-sustaining booms and busts
Re-securitization	Securitization where one or more of the underlying exposures meet the definition of a securitization
Residential mortgage backed security (RMBS)	See *Mortgage backed security*
Securitization	Transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, with payments in such transaction or scheme being dependent upon the performance of the underlying exposure or pool of exposures. The subordination of tranches determines the distribution of losses during the ongoing life of such transaction or scheme
Solvency ratio	Measure used to assess a bank’s ability to meet its long-term obligations and thereby remain solvent and is often represented by the ratio of a bank’s capital (or Tier 1 capital) over its risk-weighted assets
Standardized approach	Method by which a bank can use external ratings (if available) by external credit assessment institutions to calculate its regulatory capital requirements for credit risk
Sub-prime mortgages	Mortgages that are usually granted to borrowers with lower credit ratings
Tier 1 capital	See *Original own funds*
Trading book	Comprises those instruments held for short-term resale or to hedge other financial instruments that are held for short-term resale
Unforeseen event risk	Risk of losses emanating from events which are outside the parameters of portfolio capital allocation and, therefore, might trigger unexpected default of an institution or cause it to experience difficulties, regardless of the performance of the rest of the portfolio. Such events include a sudden drying up of market liquidity, internal fraud, government action, loss of a major customer or market and are usually not reflected in ex ante credit quality assessments

Unfunded credit protection	A technique of credit risk mitigation where the reduction of the credit risk on the exposure of a credit institution derives from the undertaking of a third party to pay an amount in the event of the default of the borrower or on the occurrence of other specified credit events
Value-at-risk (VAR) models	VAR models measure the risk of loss on a specific portfolio of financial assets. For a given portfolio, probability (confidence level) and time horizon, VAR is defined as a threshold value such that the probability that the mark-to-market loss on the portfolio over the given time horizon does not exceed this value (assuming normal markets and no trading in the portfolio) is the given probability level

ANNEX ON PROCYCLICALITY

Procyclical effects can be defined as those which tend to follow the direction of and enhance an economic cycle. Within the financial system, such effects transpire as the tendency of financial activity to amplify business fluctuations, which in turn may contribute to financial instability. These effects operate through feedback mechanisms, which may give rise to self-sustaining booms and busts.

In light of the financial crisis, the effect of procyclical feedback mechanisms on the financial system has been examined by a number of international groups, including the Financial Stability Forum (FSF), the Basel Committee of Banking Supervisors (BCBS), the Group of 20 (G20) and, within the EU, a working group of the Economic and Financial Committee (EFC). Several of these groups, including the FSF, the BCBS and the G20, published their findings and / or recommendations in spring 2009.

The objective of mitigating pro-cyclicality featured in the recommendations of the Larosière Group. It was reinforced by the Commission Communication for the Spring European Council of March 4, 2009, which outlined a number of policy measures to stem procyclicality in the financial system to be pursued during the course of 2009.

Systemic Aspects

Banking business and financial markets are inherently cyclical. The risk appetite of banks when lending to their customers tends to increase in economic upswings, when risks are perceived to be lower. However, lending criteria tighten during economic downturns, when the risk of default is perceived to increase. This may then create feedback effects for the real economy.

Some procyclical effects result from imperfections in the financial system. These include the inaccurate identification and pricing of risks across an economic cycle, where the incentives of market participants encourage them to under-estimate risks during the upswing, thus fuelling booms in credit and investment. There is evidence to suggest that market agents have difficulty in assessing absolute risk, especially over a prolonged period (though they fare better at assessing relative risk), and so rarely identify booms with consequences for systemic risk.

This misperception of risk may be exacerbated by strong competitive pressures. The decisions made by each market participant may be rational in their own terms to promote the success of an individual institution during a period of growth (or to preserve capital or liquidity during a downturn), but may be sub-optimal when considering the system as a whole.

These market imperfections are often compounded by macroeconomic (e.g. monetary) policy mistakes, inappropriate incentive structures and unintended effects of some regulations (e.g. capital rules).

Adding a robust macro-prudential overlay to the current micro-prudential approach may reduce these systemic weaknesses. Such an overlay may support the earlier identification of cycles and the build up of risks in the system, which, when accompanied by robust links to supervisors and policy-makers, could enable action to be taken earlier to avoid excessive volatility and procyclicality in a downturn.

Following recommendations in the Larosière report, on May 27, 2009 the Commission adopted a Communication on Financial Supervision in Europe[92], proposing the setting up of a European Systemic Risk Council (ESRC) to oversee the stability of the financial system as a whole. The ESRC would identify systemic risks at European level and issue risk warnings. Mandatory follow-up and monitoring tools, and the possibility to refer issues to global early warning mechanisms, would be essential.

Bank Regulation

With regard to bank capital regulation, the Basel I framework required banks to hold a minimum amount of capital for each type of exposure, and banks were required to maintain a ratio of capital to loans largely independent of the risk of these loans. One of the main objectives of Basel II framework, in the EU transposed by the CRD, was to enhance financial stability by making capital requirements more risk sensitive. As a consequence, the capital requirements became more variable (or cyclical) over time than they were previously under Basel I. For instance, with respect to capital requirements for the credit risk as a probability of default (PD) of an exposure decreases in the economic upswing and increases during the downturn, capital requirements will fluctuate accordingly over the cycle. This may cause credit institutions, as has been seen during the recent financial market turmoil, to raise capital at the point of the economic cycle when it is most expensive to do so. This can have further feedback effects, such as banks curtailing lending to retain resources.

It is important to note, however, that regulatory capital requirements are not the only relevant factor for banks in deciding how much capital to hold. The expectations of other market participants, in particular credit rating agencies, may force banks to increase their capital levels even when an institution complies with its regulatory requirements.

The possibility that more risk-sensitive capital requirements under the CRD may create additional procyclicality had been recognized during the design phase. Therefore, the CRD already includes certain elements that aim to mitigate these effects, such as the use of downturn Loss Given Default (LGD) estimates, PD estimates being based on long data series, technical adjustments made to the risk weight function, stress testing requirements and Pillar 2 supervisory review process.

However, more measures might be necessary to dampen the procyclicality of the capital requirements framework. The spectrum of options ranges from reducing its cyclical risk sensitivity to enhancing its risk capture and deliberately introducing counter-cyclical buffers (comprised of capital and/or provisions). The spectrum is broadly reflected by the recommendations that were recently put forward by the FSF.

In its report on Addressing Procyclicality in the Financial System[93], the FSF set out recommendations to mitigate mechanisms that amplify procyclicality by covering three areas: i) bank capital framework, ii) bank loan loss provisions as well as iii) leverage and valuation issues. Recommendations for bank capital framework were developed with the Basel Committee and included the following proposals:

[92] http://ec.europa.eu/internal_market/finances/docs/committees/supervision/communication_may2009/C-2009_715_en.pdf
[93] http://www.fsforum.org/publications/r_0904a.pdf

– Strengthen the regulatory capital framework so that the quality and level of capital in the banking system increase during strong economic conditions and can be drawn down during periods of economic and financial stress;

– Revise the market risk framework of Basel II to reduce the reliance on cyclical VAR-based capital estimates;

– Supplement the risk-based capital requirement with a simple, non-risk based measure to help contain the build-up of leverage in the banking system and put a floor under the Basel II framework;

– Supervisors should use the Basel Committee's enhanced stress testing practices as a critical part of the Pillar 2 supervisory review process to validate the adequacy of banks' capital buffers above the minimum regulatory capital requirement;

– Monitor the impact of the Basel II framework and make appropriate adjustments to dampen excessive cyclicality of the minimum capital requirements;

– Carry out regular assessments of the risk coverage of the capital framework in relation to financial developments and banks' evolving risk profiles and make timely enhancements.

These recommendations provide a broad orientation, and their effectiveness will be driven by the eventual design of the measure(s). In line with the above, the Commission in its Communication of March 4, 2009, announced that it would pursue certain measures aimed at enhancing level (incl. for the trading book and complex securitizations) of capital and introducing counter-cyclical buffers and a supplementary metric to better control leverage and liquidity risks.

Remuneration Policies

There is now a widespread recognition that remuneration practices in financial institutions have contributed to the financial crisis through encouraging excessive risk taking, and procyclical behaviour. More specifically:

– There was an excessive concentration on short term profits without adequate regard to longer term risks;

– Perverse incentives were created that exacerbated excessive risk-taking: if the reward for risk-taking is too high, there are incentives to relax controls within the organisation and to take on imprudent levels of risk;

– Remuneration policies likely fostered conflicts of interest by motivating certain categories of staff to behave in a way that prioritises their personal remuneration over the interests of the institution: managers may focus on improving quarterly profits over long-term growth of the business; traders may take excessive risks to increase their bonus even if the trading strategy is not consistent with the risk appetite of the bank.

Remuneration policies have a procyclical effect where they entail (possibly disproportionate) rewards on the upside and insufficient penalties on the downside, e.g., bonuses based on short-term profits that are paid immediately, with no risk adjustment or deferred payment to take account of future performance of the business unit or institution as a whole.

With respect to addressing these issues, the Commission Communication of March 4, 2009, included a commitment to table a recommendation on remuneration practices in the sector, which, together with a recommendation on remuneration of directors of listed companies, was adopted on April 29, 2009. The communication accompanying the two recommendations set out additional steps necessary for their more effective implementation, referring to a need to modify the CRD in order to bring banks' and investment firms' remuneration policies and their link with risk management clearly within prudential oversight laid out under the Directive.