

Policy Department
Economic and Scientific Policy

Workshop
The Financial Crisis

Session I Issues in Risk Management in Financial Institutions

Session II The Role of Central Banks and Supervisors and the Proposals for Improvement from the Financial Stability Forum

Wednesday 25 June 2008
14.00hrs – 17.00hrs
ASP 5G2

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Table of Contents

Programme.....	4
Curricula Vitae.....	6
Session I - Speakers.....	7
Session I - Referents.....	8
Session II - Speakers.....	9
Session II - Referents.....	10
Presentations.....	11
Session I: Issues in Risk Management in Financial Institutions.....	12
Peter Lutz.....	13
Daniel Amadiou.....	16
John Hennessy.....	19
Rick Watson.....	27
Mathias Schmit.....	32
Briefing Note by Dr. Mathias Schmit: Moving from the Capital Requirement Directive to a Risk Governance Directive.....	39
Session II: The Role of Central Banks and Supervisors and the Proposals for Improvement from the Financial Stability Forum.....	48
Paul Mercier.....	49
Adrian Blundell-Wignall.....	52
Svein Andresen.....	62
Briefing Note by Prof. Avinash Persaud: The role of Central Banks and Supervisors in the light of the Credit Crisis.....	69
Briefing Note by Prof. Willem Verschoor: A perspective on Contagion in Financial Markets: What Lessons Can Be Learned?.....	80



PARLAMENTO EUROPEO EVROPSKÝ PARLAMENT EUROPA-PARLAMENTET
EUROPÄISCHES PARLAMENT EUROOPA PARLAMENT ΕΥΡΩΠΑΪΚΟ ΚΟΙΝΟΒΟΥΛΙΟ EUROPEAN PARLIAMENT
PARLEMENT EUROPÉEN PARLAMENTO EUROPEO EIROPAS PARLAMENTAS
EUROPOS PARLAMENTAS EURÓPAI PARLAMENT IL-PARLAMENT EWROPEW EUROPEES PARLEMENT
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**DIRECTORATE-GENERAL INTERNAL POLICIES OF THE UNION
- DIRECTORATE A -
ECONOMIC AND SCIENTIFIC POLICIES**

Workshop: The Financial Crisis

25 June 2008

European Parliament, Brussels, Room: **ASP 5G2 14.00-17.00 hrs.**
(Interpretation DE, EN, FR)

14.00-14.05 **Introduction by ECON Chair Pervenche Berès**

14.05-15.45 **Session 1: Issues in Risk Management in Financial Institutions**

- Are risk management procedures and practices followed through correctly? Is due diligence respected? Are rules on stress testing applied?
- Are codes of corporate governance applied?
- What were the effects of remuneration and bonus systems?
- The new accountancy rules-who do they protect? Do they give a true view of the financial health of a company?
- Regarding securitisation; a description of its benefits and excesses that have contributed to the crisis
- What role have credit derivatives played? Correct evaluation of complex financial products.

Introduction: MEP Mr. Daniel Daianu, Co-Rapporteur (ALDE)

Guest speakers:

- Dr. Peter Lutz, Member of Senior Supervisor Group (SSG), Senior Director of Cross Sectoral Risk Modelling Department at Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), Bonn.
Dr. Lutz will report about the research of the SSG in 11 global acting banks on shortcomings and strengths being observed during the crisis.
- Mr. Daniel Amadiou, Senior Advisor to the CRO, Société Générale, Paris.

- Mr. John Hennessy, Chief Risk Officer, Wholesale, Abbey National, Santander Group, London.
- Mr. Rick Watson, Managing Director, Securitisation Forum, London.

Referents:

- Prof. Mathias Schmit, Solvay Business School, Brussels.
- Prof. Jan Pieter Krahen, Goethe University, Frankfurt.

15.45-17.00 **Session 2: The Role of Central Banks and Supervisors and the Proposals for Improvement from the Financial Stability Forum**

- A description of the role of the different supervisors and the gaps in the connection between micro- and macro prudential supervision and central banks and treasuries/governments
- The supervisory role of the ECB and other central banks and possible contradictions in the monetary role and the role of lender of last resort
- Were off balance sheet items sufficiently taken into account? (Citibank, IKB, Royal Bank of Scotland, SachsenLB, UBS, etc.)
- Counterparty risk and the due role of investment banks (Bear Stearns)
- Deposit guarantee schemes and protection of consumers (Northern Rock)

Introduction: MEP Ms. Ieke van den Burg, Co-Rapporteur (PSE)

Guest speakers:

- Mr. Paul Mercier, Deputy Director General Market Operations, ECB, Frankfurt.
- Mr. Adrian Blundell-Wignall, Deputy Director, Directorate for Financial and Enterprise Affairs, OECD, Paris.
- Mr. Svein Andresen, Secretary General, FSF, Basel.
The FSF as represented by Mr Svein Andresen will set out the findings and recommended actions of the FSF to enhance market and institutional resilience going forward.

Referents:

- Prof. Avinash Persaud, Chairman Intelligence Capital, London.
- Prof. Willem Verschoor, Erasmus University, Rotterdam.

Curricula Vitae

Session I - Speakers

Dr Peter Lutz

Dr. Peter Lutz is Executive Director at BaFin. As of March 2008 he became head of the cross sectoral risk modelling department at BaFin. He has years experience in banking supervision. he was responsible for capital adequacy regulation in BaFin's policy department and was involved in the development of Basel II as well as its transformation into national legislation. Furthermore, he has been the responsible supervisor for the largest German banking group. In this function he participated in the so called Senior Supervisor Group, which consists of the supervisory authorities of 5 countries responsible for 11 internationally active banking groups. The Senior Supervisor Group is aiming for coordinated and common supervisory activities with respect to internationally active banks to ensure a a level playing field and stable financial markets.

Daniel Amadiou

35 years spent in banking, covering the whole scope of banking activities (retail, asset management, specialized finance and corporate and investment banking).

During the last ten years, he has been :

- Head of Risk for Corporate Banking
- Chief Financial Officer of the Corporate and Investment Banking Division
- Global Head of Operations of the Corporate and Investment Banking Division
- Group Head of the Basel II Program

Daniel Amadiou was recently appointed Senior Advisor to the Chief Risk Officer.

John Hennessy

John Hennessy has been with the Santander Group since 1989, and has held a number of front office and risk positions in Madrid, London and New York.

Since 2006 he has been the Chief Risk Officer for Santander's wholesale operations in the UK, with responsibility for a £40 billion balance sheet and a derivatives portfolio comprising fixed income, equity and property derivatives.

Rick Watson

Rick Watson is Managing Director and head of the European Securitisation Forum, where he leads industry-wide efforts to promote education, understanding and development of cash and structured products businesses among its 160-strong member base. He is actively involved with a variety of industry initiatives to address the credit markets turmoil. Previously, Rick was employed in investment banking with a specialisation in securitisation. In January 2006, he co-edited the Euromoney Books publication “Asset Securitisation and Synthetic Structures: Innovation in the European Credit Markets.”

Session I - Referents

Prof. Mathias Schmit

Mathias is a professor of Finance and Risk Management at the Solvay Business School, Université Libre de Bruxelles (Belgium). He holds a Phd in finance and has published numerous scientific papers on the impact of Basel II on the financial industry. He is also the founder of SAGORA, a network of senior risk professionals merging extensive asset financing and banking experience. SAGORA develops strong analytical skills and innovation in risk management and governance.

Prof. Jan Pieter Krahn

Jan Krahn is Professor of Finance at Goethe University in Frankfurt, and Director of its Center for Financial Studies. His current research focuses on incentive problems and risk transfer in banking and structured finance, topics on which is also writing commentaries (e.g. Financial Times 2007). He has published widely on empirical banking and corporate finance issues, most recently in the Review of Economic Studies.

Session II - Speakers

Paul Mercier

Paul Mercier is currently Deputy Director General of Market Operations at the European Central Bank. Previous assignments: European Monetary Institute, National Bank of Belgium and Office of Commissioner Mr. Willy De Clercq at the European Commission. Former Professor of Economics at the Faculty of Law of the University Saint Louis in Brussels.

Dr. Adrian Blundell-Wignall

Deputy Director for Financial and Enterprise Affairs (DAF) at the OECD; effective from 14th February 2007; Chairman and portfolio manager for *The Anika Foundation*

Senior Positions:

- 2002 Citigroup (Australia, Ltd) Director, Head of Equity Strategy Research.
- 2000 Executive Vice President, Head of Asset Allocation, BT Funds Management.
- 1993 Head of Derivative Overlays and Levered Products at Bankers Trust Funds Management, building a new \$4 billion business.
- 1991 Head of the Research Department at the Reserve Bank of Australia: directing a department and participating in monetary policy discussions at the internal pre-Board meetings.

Education:

1st class Honours degree and PhD in Economics from Cambridge University, UK.

Svein Andresen

Svein Andresen is the Secretary General of the Financial Stability Forum (FSF), a position he has since the FSF's initiation in 1999. Prior to this he held various positions at the Bank for International Settlements (BIS). He was Advisor to the General Manager of the BIS from 1997 to 2000. From 1995 through 1997, he led the secretariat to G10 central bank Governors on financial issues. He was Secretary to the Committee on the Global Financial System from 1992 till 1997 and to the Markets Committee from 1995 till 1997. He joined the BIS Monetary and Economic Department in 1989.

Prior to joining the BIS, Mr. Andresen was an assistant professor of economics at the University of North Carolina at Chapel Hill. He has a Masters degree in economics from Simon Fraser University in British Columbia, Canada, and a PhD from the Graduate Institute of International Studies in Geneva, Switzerland. Mr. Andresen is a Norwegian citizen, is married and has three children.

Session II - Referents

Prof. Avinash Persaud

Avinash D. Persaud's career spans banking, academia and public policy. He spent 20 years as a senior director of major investment houses including: J. P. Morgan, UBS and State Street. He is Emeritus Professor of Gresham College, Member of Council of the Royal Economics Society and former Visiting Scholar, ECB and IMF.

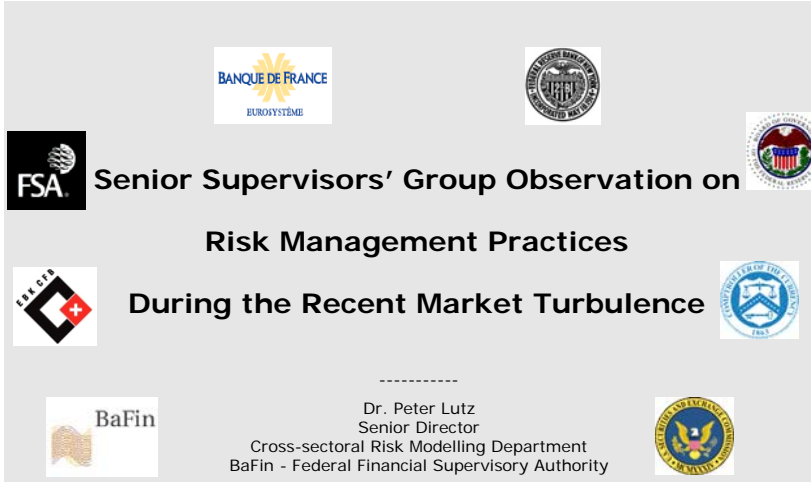
Prof. Willem Verschoor

Willem Verschoor is Professor of Finance at Erasmus School of Economics and Chairman of the Finance Department. Before joining Erasmus University Rotterdam, Willem was a Professor of Financial Economics and Corporate Finance at Radboud University Nijmegen and Professor of International Finance at Maastricht University. He received his PhD in 1993 from Maastricht University's Finance Department. Before entering his academic career, he worked as a Chief Economist at Kempen & Co and The National Investment Bank (1994-1998). Willem's research focus is international finance with a particular interest in foreign exchange market efficiency, emerging markets, financial crisis and exchange rate risk. Willem has published in leading academic journals such as the Journal of Business, the Journal of Applied Econometrics, the Journal of Empirical Finance, the Journal of International Money and Finance, and Oxford Bulletin of Economics and Statistics.

Slides

Session I

Issues in Risk Management in Financial Institutions



**Senior Supervisors' Group Observation on
Risk Management Practices
During the Recent Market Turbulence**

Dr. Peter Lutz
Senior Director
Cross-sectoral Risk Modelling Department
BaFin - Federal Financial Supervisory Authority

Conclusions: Four factors differentiated performance

- (1) The effectiveness of communications among senior management, business lines and risk management functions;
- (2) The effectiveness of senior management oversight of balance sheet, liquidity and capital positions;
- (3) The sophistication, diversity and adaptability of risk measures utilized; and
- (4) The attention devoted to valuation issues.

(1) Communications among senior management, businesses, and risk management functions

Successful firms

- Emphasized a comprehensive, firm-wide look at risk.
- Across business units, activities, risk types
- Exhibited a disciplined risk management culture and well-established processes for routine discussion of current and emerging risks across the business lines, risk management, and finance.
- Made decisions about aggregate firm-wide exposures and risk mitigation (e.g., hedging) rather than relying solely on the judgment of business lines.

Less successful firms

- Business lines were “siloeed” in their view of risks and made decisions in isolation. Did not make decisions based on consolidated views.

(2) Management of the balance sheet, liquidity, and capital positions

Successful firms

- Disciplined in measuring and limiting these risks.
- More agile in reducing/hedging exposures.
- Strong processes around allocation and internal pricing of liquidity and capital.

Less successful firms

- Not focused on consolidated positions.
- Weak or missing controls, particularly around contingent liquidity needs.

(3) Sophistication, diversity, and adaptability of risk measures

Successful firms

- Used a wide range of informative risk measures to discuss and challenge views on credit and market risk broadly across different business lines within the firm in a disciplined fashion.
- Understood the limitations of individual risk measures.
- Had adaptable MIS.

Less successful firms

- Were dependent on a single methodology, limited set of tools, or inflexible applications that could not be adjusted to the crisis.
- Tended to apply a “mechanical” risk management approach.

(4) Discipline, skepticism, and judgment in valuation

Successful firms

- Emphasized mark-to-market discipline.
- Invested in the development of independent pricing models and staff with specialized expertise.
- Skeptical of, and less reliant on, external ratings.

Less successful firms

- Did not put as strong an emphasis on market prices.
- Adopted relatively passive approaches of observing prices and using external assessments of value.
- Treated positions as a “par assets.”



Workshop: The financial crisis
European Parliament

Brussels

June, 25th, 2008



The financial crisis : reminder of the main drivers

- Regulatory environment encouraging “regulatory arbitrages”
- Deteriorated lending standards
- Packaging of highly complex and opaque structured products
- Excessive reliance on products’ external ratings
- Inadequate risk management regarding credit and liquidity risk embedded in trading book transactions
- Compensation and incentive schemes often too short term designed
- Valuation difficulties as assets shift from liquid to illiquid
- Pro-cyclical effect of fair value accounting in times of market strains



The financial crisis : regulatory issues

- **Many unregulated mortgages originators in the USA**
- **Insufficient coverage of some items by Basel I**
 - ▶ No capital requirement for liquidity commitments with a maturity < 365 days
 - ▶ Market risk VaR non always reflecting properly credit and liquidity risk of bonds or derivatives with credit products underlying (ABS, CDO's, CDO's squared, etc.)
- **Better coverage by Basel II but some issues still under review by regulators**
 - ▶ Higher capital requirements for off balance sheet assets
 - ▶ Pillars II and III
 - ▶ Treatment of securitization and credit exposures in trading book
- **Discussions with accounting standard setters on fair value application in times of dislocated markets**
- **Fears of pro-cyclicality of Basel II and fair value accounting**

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3



The financial crisis : "originate to distribute" model issues

- **Huge benefits for the real economy of the "Originate to distribute" model, based on exposures securitization ...**
- **... But adjustments needed**
- **Action to be taken on securitization transactions :**
 - ▶ Application of sound lending standards by originators
 - ▶ Enhanced due diligences (originators and investors)
 - ▶ Better disclosure (both at product and firm level)
 - ▶ Appropriateness of products sold vs buyer's awareness
- **Compensation / incentives schemes to be better aligned with long term objectives and performance**
- **Credit rating agencies activity framework to be more controlled**
 - ▶ Two different rating scales needed (corporate bonds and structure products)
 - ▶ Transparency on methodologies used
 - ▶ External validation of models

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4



The financial crisis : risk management issues

■ Risk management organization : “breaking the silos” by

- ▶ Regrouping research teams : economists, industry specialists and quants in order to set up early warning indicators
- ▶ Having a transversal multi-risks approach; especially credit, market, operational, liquidity and concentration risk
- ▶ Developing global stress tests
- ▶ Aligning treasury functions with risk management processes

■ Global risk profile : leveraging on Basel II tools by

- ▶ Optimizing the use of comprehensive data collected according to Pillar I requirements
- ▶ Fulfilling the Pillar II framework which imposes to measure all types of risks and to implement stress tests

■ Top management and board : reinforcing the information given by

- ▶ Better explaining the various risk measurement processes
- ▶ Establishing a comprehensive firm's risk profile
- ▶ Having a systematic risk/reward approach in information given

Workshop - “The Financial Crisis”

Session 1 - Issues in Risk Management Santander’s Perspective

John Hennessy
Chief Risk Officer, Wholesale, Santander UK

European Parliament, Brussels,
June 25th, 2008



Contents

2

1. Santander international profile
2. What went wrong?
 - “Originate to sell” model assumes uninterrupted liquidity, weakens underwriting, ...
 - ... which leads to asset quality problems when liquidity dries up
 - ... which leads to further liquidity problems
3. Why was Santander largely unaffected?
 - A strong governance framework
 - Independent risk function
 - Role of the Board
 - A conservative risk profile
 - A focus on “retail”
4. Conclusions - Short and Medium Term Actions (IMF Report)



1. Santander international profile

3

International profile



Europe. Santander has presence in:

- Spain
- UK
- Portugal
- Italy
- Germany
- France
- Netherlands
- Poland
- Czech Republic
- Austria
- Hungary
- Finland
- Norway
- Sweden
- Russia

Latin America. Santander also conducts businesses in:

- Brazil
- Mexico
- Chile
- Argentina
- Venezuela
- Puerto Rico
- Colombia
- Uruguay

USA. Through Drive Financial

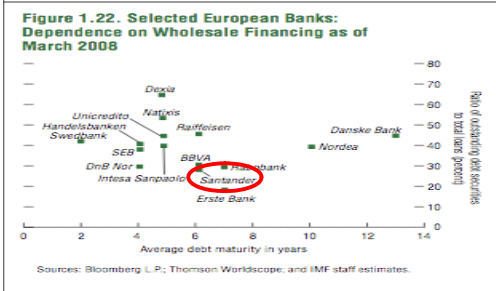
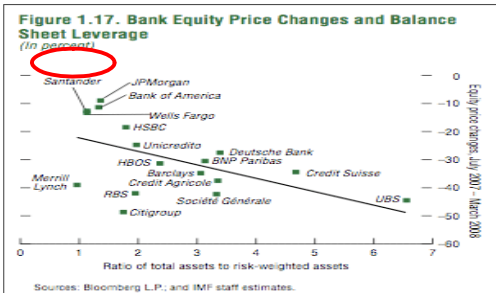
In the past twenty years we went from having 75% of total profit in Spain to a 45%



2. What went wrong?

4

“Originate to sell” model weakened underwriting standards, and led to aggressive balance sheet expansion, assuming uninterrupted liquidity....



- “Banks that adopted this strategy aggressively [rapid balance sheet expansion in recent years] became more vulnerable to illiquidity in the wholesale money markets, earnings volatility from marked- to-market assets, and illiquidity in structured finance markets. Equity markets appear to be penalizing those banks that adopted this strategy most aggressively.” IMF Financial Stability Report, April 2008.
- Santander's model - client based, where we happy to keep the risk on our books. Same credit standards applied to our own book as to our securitized portfolio. Always "responsible lending".



2. What went wrong?

Which impacted liquidity/price of certain assets types....

- Asset Backed Securities became illiquid, prompting large write-downs, with major capital hits.

Subprime Writedowns and Credit Losses Top \$245 Billion Globally Bloomberg

Writedowns and credit losses stemming from the collapse of the U.S. subprime mortgage market announced by commercial and investment banks have reached \$245 billion globally.

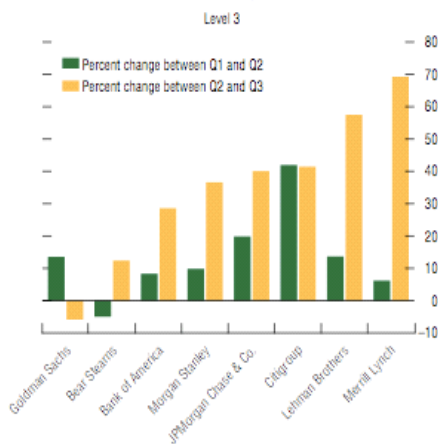
Firm	Writedown	Credit loss	Total
UBS	38.0		38.0
Merrill Lynch	25.1		25.1
Citigroup	21.4	2.5	23.9
Morgan Stanley	12.6		12.6
HSBC	3.0	9.4	12.4
IKB Deutsche	9.1		9.1
Washington Mutual	0.3	8.4	8.7
Bank of America	7.3	0.9	8.2
Deutsche Bank	7.5		7.5
Credit Agricole	6.6		6.6
Credit Suisse	6.4		6.4
JPMorgan Chase	2.9	2.1	5.0
Wachovia	2.9	2.0	4.9
CIBC	4.1		4.1
Societe Generale	3.9		3.9
Bayerische Landesbank	3.7		3.7
Mizuho Financial Group	3.4		3.4
Lehman Brothers	3.3		3.3
WestLB	3.3		3.3
Barclays	3.2		3.2
Royal Bank of Scotland	3.1		3.1



2. What went wrong?

Liquidity

Figure 2.1. Selected U.S.-Based Financial Institutions: Change in Level 3 and 2 Assets
(Percent change; 2007:Q1-2007:Q3)



- 2007 showed a sharp increase in illiquid assets on certain US institutional balance sheets, particularly Lehman and Merrill.
- Interestingly, Bear did not show a huge increase

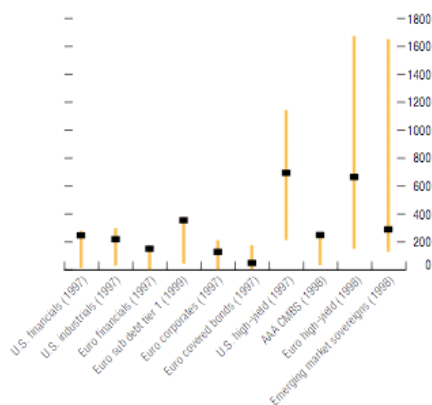


2. What went wrong?

7

Credit Quality

Figure 1.29. Spreads Across Credit: Historical Highs, Lows, and Current Levels
(In basis points)



Credit spreads are at historic highs in Financials and Industrials, but not near the peak in high yield / emerging markets.

Sources: JPMorgan Chase & Co., Merrill Lynch, and IMF staff estimates.
Note: Yellow lines indicate period ranges. Black squares are as of March 2008.
Data inception in parentheses. CMBS = commercial mortgage-backed security.



3. Why was Santander largely unaffected?

8

A Strong Governance Framework

Risk Management Corporate Culture

1. One Division reporting to **3rd Vice-Chairman** of Grupo Santander.
2. The Vice-Chairman chairs the **Risk Committee of the Board of Directors**:
 - Sets the Group's risk policies.
 - Sets the risk limits and the level of authority delegated;
 - Ensures units meet the risk targets;
 - Resolves Operations beyond powers delegated.
 - Supervises targets, tools, initiatives to improve risk control.

Risk Division Principles

1. Independence
2. Global Reach: All risks, all clients
3. Decisions at Committee level
4. Medium-low profile of risks
5. Wide range of tools: internal ratings, Economic capital, RORAC, VaR, Stress testing, Scenario Analysis
6. One Division, two different operational units
7. Human Resources for Risk - stable, well trained team, experienced through many cycles.

INDEPENDENCE + CAPACITY TO SUPERVISE GROUP POLICIES CONSISTENT WITH BUSINESS STRATEGIES



3. Why was Santander largely unaffected?

9

Risk Governance At Board Level

Risk Decision Committees



3. Why was Santander largely unaffected?

10

Risk profile across the Group

1. Strong asset growth maintaining high risk quality
2. High geographic and business diversification
3. Low concentration in large corporate and financial institutions
4. Sharp focus on risk-return trade-offs
5. Significant reduction of cross border exposure
6. Low complexity of financial market activities
7. Economic Capital Allocation in line with Group client focus

Medium-low and predictable risk profile

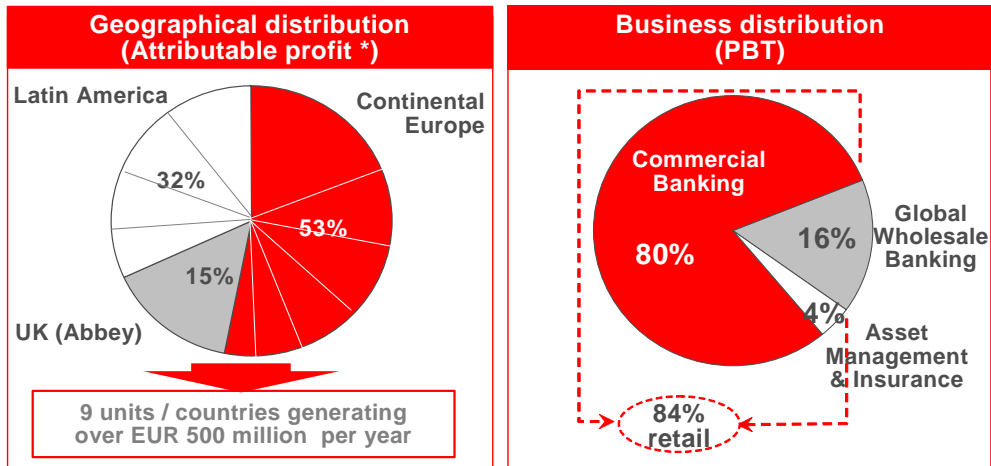


3. Why was Santander largely unaffected?

11

Strong geographical and business area **diversification**: retail banking focus

Attributable profit by operating business areas*



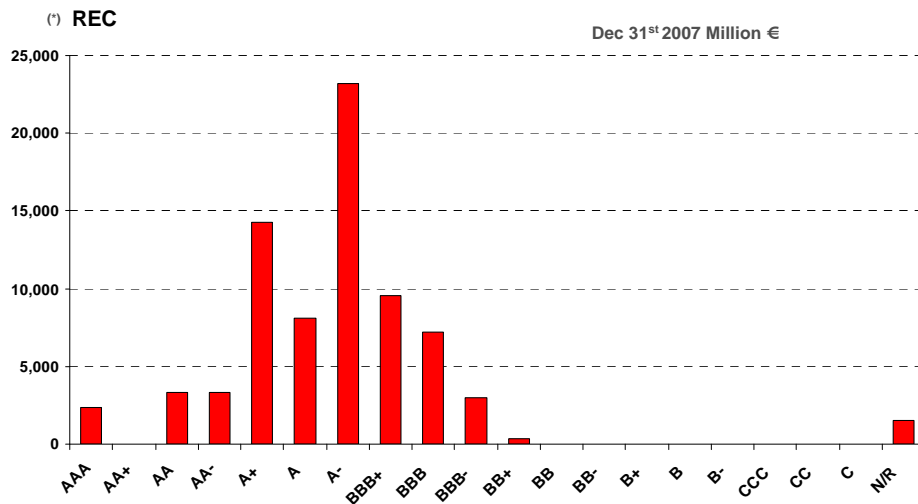
(*) Data as of December 2007



3. Why was Santander largely unaffected?

12

Corporates: Risk Distribution by Rating



(*) Banesto not included



4. Conclusions

13

Short term actions

IMF Global Financial Stability Report - Short Term Actions

- Disclosure
- Bank balance sheet repair
- Overall risk management
- Managerial compensation structures
- Consistency of treatment
- More intense supervision
- Special stability reports
- Early action to resolve troubled institutions
- Public plans for impaired assets



4. Conclusions

14

Medium Term Actions

IMF Global Financial Stability Report - Medium Term Actions

- Standardization of some components of structured finance products
- Reform of rating systems
- Transparency and disclosure
- Greater attention to applying fair value accounting results
- Incentives to set up SIVs and conduits.
- Tighten oversight of mortgage originators
- Liquidity risk management
- More realistic assumptions about the liquidity of complex structured securities
- Strengthen existing international liquidity guidance
- Monitoring best practices



4. Conclusions

15

Outlook for 2008

IMF Global Financial Stability Report - Medium Term Actions

- Broader range of collateral
- Wide group of counterparties
- Maturity structure of liquidity provision
- Better coordination among financial overseers
- Supervising responsibility and enforcement



European Parliament Workshop: The Financial Crisis

Rick Watson
Managing Director
European Securitisation Forum

25 June 2008



Consensus on Securitisation Benefits



For consumers: reduces cost of home borrowing and increases product choice

For investors: broadens investment opportunities; more liquidity

For lenders: diversifies funding sources; easier capital raising

For banks: improved capital management; improved ROE, new investors

For all: spreads risk – economic and regulatory capital

What Happened?



Fraud and due diligence issues in unregulated US subprime loan origination process – different than EU

Leverage – AAA investor base (SIVs, banks, conduits), resecuritisations

Credit Rating Agency issues

Investor Concerns - Complex structures (SIVs, CDOs of ABS), money market investors (headline risk), mark to market/liquidity concerns for term investors

Confidence crisis

Industry supports provision of liquidity by ECB, BoE and Fed (Bear Stearns) to financial institutions has helped ABS market confidence in short term

3

Securities Industry and Financial Markets Association

Where is the Market Today?



EU Public ABS New issue Volume: 2006: EU 437 billion, 2007: EU 461 billion, Q1 2008: EU 7 billion distributed to investors (estimate). US ABCP outstandings down 28% from peak, EU ABCP down 44% from peak.

AAA Investors – 40-70% of investors in AAA tranches were banks and money market funds (looking for low risk, fair returns), and many have still not come back. SIVs restructured or assets moved to banks, with lingering concerns about potentially large secondary market supply overhang. ABCP *securities* conduits are slowly shrinking due to illiquidity of ABCP, as well as rationing of credit and liquidity by sponsoring banks. ABCP *receivables* conduits have stabilised.

Lower Rated Tranches – investor base (asset managers, hedge funds, derivatives desks) for cash and derivative/synthetic issuance is generally still open.

Residential Mortgage Origination – mortgage rates have not, and might not, rise to levels sufficiently high to securitise profitably, due to competition from deposits, bank debt, covered bonds. Result is reduced lending by banks, and also non-banks due to pricing considerations. Key is ROE to originator on each funding alternative, and incentives for each form of funding.

4

Securities Industry and Financial Markets Association

Incentives - Striking the right balance

- ▶ “Originate to Distribute”
 - EU business model benefits from stronger and existing forms of regulation
 - But IFRS conflict between retaining risk/first loss vs accounting sale treatment
 - Proposed CRD revisions
- ▶ Issuer Incentives – Economics, efficient and fair risk transfer, costs vs alternatives
- ▶ Investor Incentives – Performance, valuations, due diligence
- ▶ Accounting Incentives – Consolidation (leverage implications) vs. disclosure
- ▶ CRAs, Arrangers, Derivatives, Others – Reputational and financial risk considerations

5

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Reducing Complexity

- ▶ Important implications for valuations and liquidity
- ▶ No free lunch though – less complexity may increase cash flow uncertainty
- ▶ Market has adjusted – more complex and leveraged structures dead

Reinforcing Capital Framework (CRD)

- ▶ Needed – but beware unintended implications on securitisation
- ▶ Recommend disclosure by originator of risk retained or sold vs required retention
- ▶ Need consistent global outcome

Strengthening Investor Due Diligence

- ▶ Internal credit assessment and valuation process – less reliance on CRAs

Clarifying Role, Process and Oversight of CRAs

- ▶ Improve transparency – but not via different symbols for structured finance vs corporate ratings
- ▶ Regulation should not interfere with methodologies and opinion forming process
- ▶ Need consistent global outcome

6

Securities Industry and Financial Markets Association

Transparency - Industry initiatives in response to Oct 07 ECOFIN

- ▶ **Transparency in reporting of securitisation exposures** under CRD – June 2008
- ▶ **Transparency in EU and US securitisation market data** - Public industry report - June 2008
- ▶ **Transparency in information to investors** – June and ongoing
 - Standardise issuer disclosure practices in ABCP and Term markets
 - Broaden access to transaction information
 - Improve usability and comparability of information via standardisation of product definitions, and standardisation and digitisation of investor reports, including more granularity
 - Centralise access – Data provider portals, ESF website
 - Strengthen investor internal due diligence processes

Promoting responsibility and industry discipline

Restoring investor confidence

Rebuilding the AAA investor base – regulatory considerations

Strengthening industry infrastructure for the future – risk control processes, principles/codes of conduct, valuations, modelling, product and staff expertise, systems

Referent's Slides

Issues in Risk Management in Financial Institutions

Dr. Mathias Schmit
Solvay Business School,
Université Libre de Bruxelles

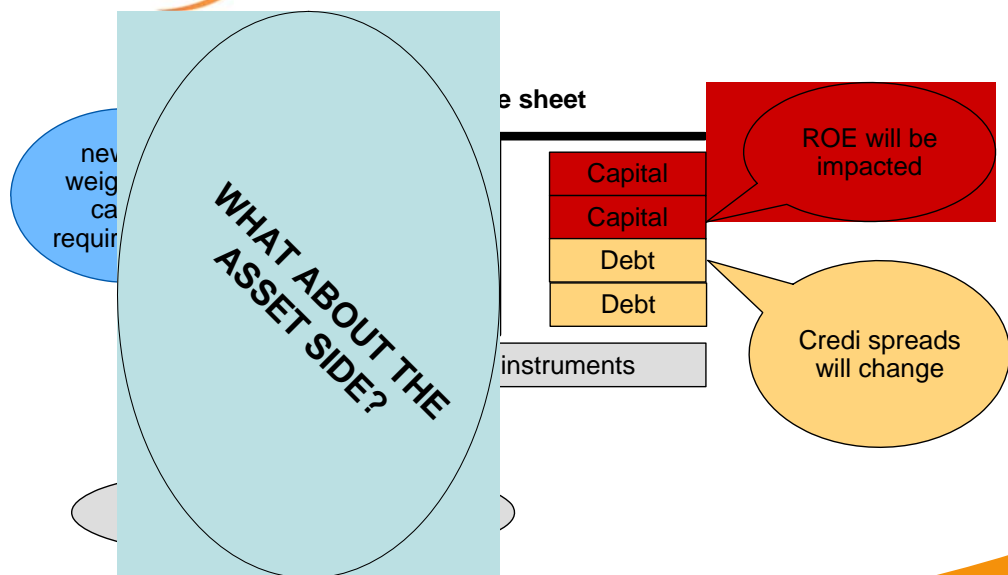
European Parliament, 25 June 2008



- **Banks fail to assess and manage:**
 - Counterparty credit risk and thus operational risk
 - Interactions between:
 - Market risks;
 - Credit risks;
 - Operational risks;
 - Liquidity risks;
 - Strategic risks;
 - Etc...
 - Concentration risk
 - Strategic risk
 - Reputational risk: a risk or an impact (second order)?
- **Failure to understand fat-tailed distributions**
 - Stress testing was ineffective (useless?)



- New practices are about an integrated approach of Risk Management
- Risk management
 - Is a **process** effected by people at **every level of the organisation**
 - Is applied in **strategy setting**
 - Is applied across the enterprise and includes taking an **entity-level portfolio view of risk**
 - Is designed to **identify events** potentially affecting the entity and manage risk within its **risk appetite**
 - Provides **reasonable assurance** to an entity's management and board
 - Is geared to the **achievement of objectives** in one or more separate but overlapping categories
- Risk Management Function: **Business support**





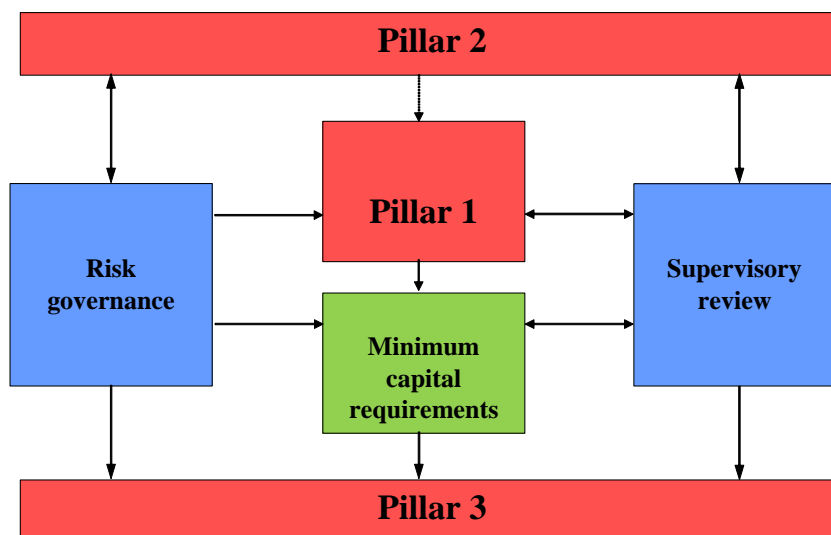
Set of guidelines to be implemented and followed in order to achieve these objectives



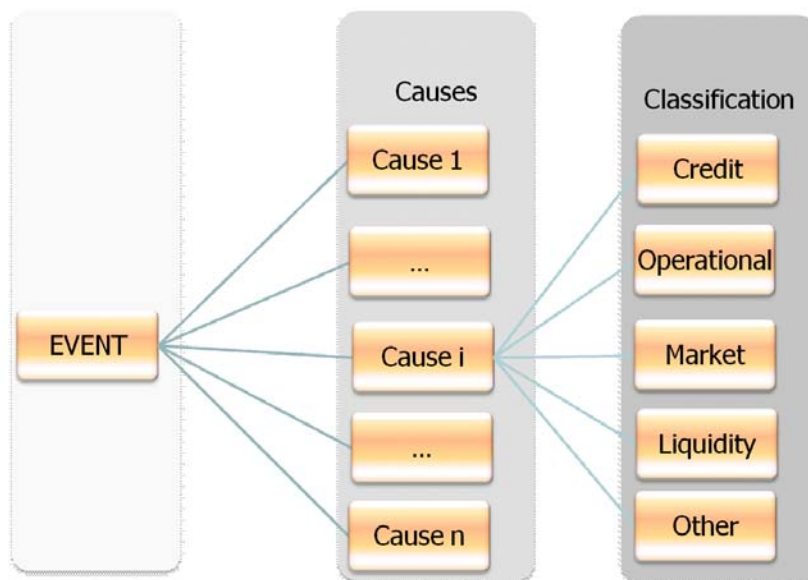
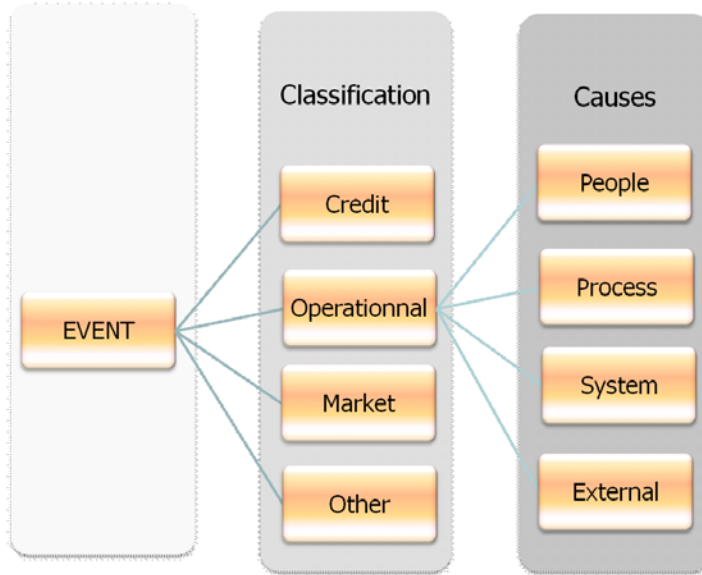
- **Pillar 2: is the fundamental part of the framework**
- Pillar 2 covers risk management, internal governance and supervisory review of all risks faced by the bank.
- Pillar 1, complemented by an effective pillar 2, aims at determining the regulatory capital.
- After setting the right incentives for banks to establish an institution-wide risk assessment system, supervisors can evaluate, review and monitor the institutions' progress and impose add-ons if capital requirements set under Pillar 1 are proved to be insufficient in relation to the overall risk profile.



- The first and the second pillars should be the fundamentals for the elaboration of the **third pillar** – ‘Disclosure’ aiming at market discipline.
- In view of the weak interaction between pillars 2 and 3 under Basel II, international regulators may consider investigating **the disciplinary role of disclosing specific information** under the supervisory review process



Source: Ayadi, R.; Nieto M. & Schmit, M. 2008, *The implementation of Basel II: Do the achievements respond to the challenges in the aftermath of the crisis?*, ed. the Center for European Policy Studies.





- **Proper vision** is not always present up front prior to any implementation
 - Risk management framework must be elaborated taking into account the organization strengths, internal constraints and environment.
 - Consistent and rigorous approach will beat a constantly changing strategy
 - Necessary condition: buy-in from the business
- **Pillar II** may be should have been reviewed before tackling Pillar I
- **RMF cannot** be implemented day one
 - a roadmap to migrate from today's environment to tomorrow's is needed and well accepted by regulators but should integrate Pillars I & II



- **Risk Management Framework** not adequately implemented and not always fully understood
 - Upfront request
 - Use test (buy-in)
 - Lack of control, validation
- **Operational risk** is often treated as a credit risk
 - Risk is generated and managed by people (not maths...)
 - Risk should be discussed openly and not managed in silos
- Still a lot of **implementation** uncertainties...
 - Regulatory
 - Business practices
 - Experience
- But adequate implementation leads to **value creation** that comes on top of a pure regulatory compliance



- Finally, what is **the aim** of Pillar I?
 - Why do we need it?
 - Is it the right solution?
- Let's come back to the **rationales of regulations** (e.g.: protection of depositors, financial stability, efficiency)
 - On the liability side
 - Avoid moral hazard and agency costs
 - Ensure liquidity: stress testing & funding plan
 - Look also at the asset side of the BS
 - Define strategy, investment policy and governance
 - Ensure LT sustainability
 - Ensure quality and liquidity of assets
- Some **issues to be urgently** considered
 - Wide Enterprise risk management to avoid silos
 - A cause-effect driven approach



EUROPEAN PARLIAMENT

DG INTERNAL POLICIES OF THE UNION

Policy Department Economic and Scientific Policy

**“Moving from the Capital Requirement Directive to
a Risk Governance Directive”**

by Mathias Schmit

Briefing Note

Executive Summary

This paper aims to provide high-level policy recommendations concerning the future of prudential regulations on the basis of (1) a recap of some major scientific studies in modern finance and (2) a critical assessment of the achievements of the Capital Requirement Directive (CRD) during the recent period of turbulence.

This paper questions whether Pillar 1 (capital requirement) of CRD fulfils the objectives of prudential regulation. In the first place, the available literature on capital structure suggests that banks' capital has other functions in addition to covering all risk exposures. For example, capital aims to mitigate moral hazard, agency costs or liquidity issues. Secondly, capital adequacy ratios do not guarantee the bank's soundness, particularly if various value drivers and types of risks have not been adequately managed. Thirdly, Pillar 1 should not be viewed as an end in itself or as key objective, but rather, as a tool that is only effective in combination with Pillar 2 (supervisory review process). The Second Pillar should be considered the fundamental part of the Basel II framework and should be reinforced.

On the basis of our analysis and experience in the field, we would like to submit the following recommendations to MEPs with a view to complementing the ECON Committee Draft Report of 13 June 2008:

- a. Ensure that the CRD is understood by all stakeholders (financial institutions, supervisors, auditors, etc.) as a Risk Governance Directive and not just as a Capital Management Directive (contrary to what officials sometimes seem to suggest);
- b. Reinforce Pillar II: As a first step towards this goal, the GL03 published by the CEPS in 2006 on the Guidelines for the Supervisory Review Process under Pillar II, including guidelines on Internal Governance Requirements for financial institutions, should be made binding.
- c. Strengthen the roles and responsibilities of management bodies in respect of risk governance.
- d. Consider setting up "risk assessment committees" at the highest level of management in banks in order to accurately monitor the risks and risk strategy of financial institutions. The members of these committees should be "financially literate" and some of them at least should have experience in risk management and governance.
- e. Make explicit the key need to manage strategic risks. Establishing a detailed framework under Pillar II for the Supervisory Review Process would be a major step towards improving risk management by financial institutions.
- f. Establish an effective cause-driven framework (instead of an effect-driven framework). This will be most helpful in identifying, analysing and managing the causes of the risks in order to avoid dramatic events.

1. Introduction

The recent turmoil in the financial markets, starting with the subprime crisis and leading to huge losses among financial institutions, has highlighted the need to improve the supervisory approach of banks. Although the Basel II Accords have been put in place to take the risk sensitivity of assets into account, the development of complex products involving risks that are difficult to assess requires more than just focusing on capital requirements, which are addressed by the First Pillar. It requires a better understanding and management of the risks associated with the assets, as part of a strategic outlook. Up until now, the industry has mainly focused on the First Pillar and the aim of this paper is, first, to show that risks have to be mitigated not only on the liability-side but also on the asset-side and, secondly, to explain why the Second Pillar – which deals with the supervisory review process and internal governance – is crucial for developing a sound risk management. Indeed, capital requirements alone will not protect us from other financial crises unless we develop an overall approach to risk governance.

This paper summaries our key thoughts, and aims to provide MEPs with some lines of reasoning with a view to complementing the ECON Committee Draft Report of 13 June 2008

2. Objectives of prudential regulation in financial markets

The regulation of financial institutions has two main aims: the first is to **avoid systemic crises in the financial market**. The failure of some banks could set off a chain reaction that may undermine the stability of the financial system. Public information about the condition of individual banks is highly imperfect and, therefore, when a number of banks fail, it may be difficult to know whether the cause is idiosyncratic shocks to individual banks or a more widespread shock. Thus, depositors will panic when some banks fail and they may try to withdraw their funds out of fear that other depositors will do so first, thus causing the bankruptcy of other banks¹.

The second main reason for prudential regulation is the **protection of depositors**, given that depositors are unable to monitor banks². Banks are subject to moral hazard and adverse selection problems. Therefore, it is important for investors to monitor them, but this is an expensive activity and requires access to information.

¹ Diamond and Dybvig (1983)

² Dewatripont and Tirole (1993)

3. Basel II and its three pillars

To fulfil these objectives, the Basel Committee on Banking Supervision instituted the new Basel Capital Accord (Basel II), which was formally released in June 2004. Its European version was released in June 2006 and came into effect in 2008 for all EU financial institutions. The Basel II Accord introduces an evolutionary, flexible and more complex risk-sensitive approach to banking supervision, which reflects a response to the weaknesses of the Basel I Accord and to the rapid development of technologies and techniques in banking and risk-management.

Basel II introduces a set of new aspects to the regulation and supervision of banks, structured around three mutually reinforcing pillars: The *First Pillar* is a minimum capital requirement. This is a major tool for maintaining an adequate cushion of capital to absorb losses that would otherwise cause the failure of a bank. The *Second Pillar* deals with the supervisory review process carried out by national authorities. The purpose of this process is to ensure that banks have sufficient capital to cover all the risks to which they are exposed. The second pillar is complemented by internal governance requirements. Finally, the *Third Pillar* requirements aim to ensure market discipline and transparency.

4. Does the financial market need Pillar 1 to fulfil the objectives of prudential regulation?

In the Basel II Accord, the minimum required capital ratio for financial institutions depends on risk-weighted assets that are, in turn, a function of the credit risk, market risk and operational risk exposures. The key issue is to know whether the requirements of the minimum supervisory capital calculations are in line with the objectives of prudential regulation. We examine this issue from the perspective of the available empirical scientific literature on capital structure for financial institutions.

According to Gropp R. and Heider F. (2008), capital regulation does not have a strong effect on banks' capital structure (except for some banks close to the regulatory minimum) and most banks seem to be optimising their capital structure in much the same way as non-financial firms. Moreover, the results of Gropp and Heider's studies confirm those of other authors³ showing that the capital levels of banks in the U.S. and around the world are much higher than regulatory levels. Furthermore, recent theories⁴ of optimal bank capital structure argue that regulatory capital requirements do not necessarily correspond to the optimum level.

Thus, all these studies show that the bulk of banks hold a level of capital higher than required by current regulation (including Basel II). One possible explanation of this fact is the explanation put forward by Peura and Keppo (2006), which suggests that banks hold capital buffers above the regulatory minimum in order to avoid the costs associated with having to issue fresh equity at short notice.

Hence, a question arises whether regulators should adopt a different computation method in order to take into account other drivers of capital structure such as lower agency costs, moral hazard and liquidity problems. A great deal of literature has been published in this field in recent years. According to Diamond and Rajan (2000), for example, optimal bank capital structure is the result of a trade-off between liquidity creation, the costs of bank distress, and the ability to force borrower repayment.

³ E.g. Barth et al. (2005), Flannery and Rangan (2007) and Berger et al. (2007)

⁴ Flannery (1994), Myers and Rajan (1998), Diamond and Rajan (2000) and Allen et al. (2006)

Thus, a greater amount of capital increases the rent absorbed by the bank as well as the buffer against shocks and the amounts that can be extracted from borrowers. Flannery (1994) for his part highlights the impact of agency costs on financial institutions and concludes that debt counters the risk-shifting incentives for the management of financial firms. In 1998, Myers and Rajan showed that a financial firm has an optimal interior level of leverage that depends on the liquidity of its assets. Banks may also hold equity in order to monitor their loans more effectively in a competitive environment (Allen et al., 2007).

5. Strategic risk: Supervisors should monitor the value preservation of financial institutions' assets

Looking at the current turmoil and other instances of failure, it can be seen that in many cases the problems are due to harmful business practices or inadequate strategic risk management (including liquidity issues). For example, in relation to the recent Northern Rock fiasco, Llewellyn (2008) mentions – as a decisive cause – *"a particularly hazardous business model which seems not to have been sufficiently monitored by the supervisory authority. Northern Rock has been the only major bank to have securitisation as the centre-piece of its business strategy"*⁵. Currently, some other major financial institutions (e.g. Fortis, Citigroup, UBS, etc.) are under threat in terms of preserving the value of their assets, mainly because of the lack of an adequate strategic outlook or at least an inadequate perception of strategic focus on the part of various stakeholders.

Financial institutions act rationally in order to maximise their value, which mainly depends on their assets. In order to preserve and/or generate value, financial institutions should approach strategy from the asset-side management perspective in addition to considering the associated risks. Strategic risk management should examine investment policies and their implementation taking into account changes in investment and asset allocation, industry trends, the competitive environment, the macroeconomic environment, innovation and technologies, project failures, etc.

Supervisors should ensure that banks use best practices to manage strategic risks in order to preserve the value of their assets. In this connection, it should be noted that, in the current Basel II risk taxonomy, strategic risk is only viewed as a remaining risk (in Pillar 2) and is not even mentioned in the CRD, whereas in actual fact it can be the most serious cause of value destruction as experienced nowadays by several major financial institutions.

The CEBS defines strategic risk (in an appendix to GL03 of the "Guidelines on the Application of the Supervisory Review Process under Pillar II", published in 2006) as follows: *"the current or prospective risk to earnings and capital arising from changes in the business environment and from adverse decisions, improper implementation of decisions or lack of responsiveness to changes in the business environment"*. On the basis of these considerations, strategic risk and its measurement in a context of ERM (Enterprise Risk Management) should receive high attention from the industry and supervisors.

Furthermore, we strongly recommend calling on the relevant EU institutions or bodies to work on legally-binding sound principles for strategic risk management and its governance. Indeed, in our view, supervisors should provide high-level guidelines on the implementation, validation and assessment of strategic risk to ensure that it is adequately dealt with.

⁵ Llewellyn (2008)

High-level guidelines should be based on a common understanding among supervisory authorities, with a view to promoting the use of ERM frameworks in a formalised way. Of course, this is one of the greatest challenges faced by the industry and supervisors in implementing the so-called Risk Governance Directive.

6. Internal governance: the core building block to manage risk

Since the Board of Directors is ultimately responsible for the sustainability and viability of the bank, there is a need for an overall (strategic) risk assessment at Board level. An adequate understanding, on the part of directors, of the risk factors and potential impacts faced by the bank is vital, but some members of the Board (possibly coming from outside the financial industry) do not always have such an understanding. Thus, it may be necessary to entrust the design, review and monitoring of risk policies to specially qualified members of the Board of Directors. Although this is already the case in some financial institutions, "risk assessment committees" accountable directly to the Board of Directors should be put in place in a well-defined form and in accordance with well-defined legal rules. In order for such committees to function effectively, at least a minimum number of members should be "financially literate" in risk management and governance. This approach follows the same principle as the reinforcement of audit committees in the recent past. The several failures identified in the auditing task led to the implementation of the Sarbanes Oxley Act, which aims to promote better monitoring and avoid further corporate scandals.

The GL03 "Guidelines on the Application of the Supervisory Review Process under Pillar 2" proposed by the Committee of European Banking Supervisors (CEBS) already deal with internal governance. They focus on the responsibility of the management bodies (both supervisory and senior management functions) by providing high-level principles regarding how the financial institution defines its business objectives and its appetite for risk, how the business of the institution is organised, how responsibilities and authority are allocated, how reporting lines are set up and what information they convey, and how internal control (including risk control⁶, compliance, and internal audit) is organised⁷. This focus should be made legally binding. At any rate, the development of risk assessment committees (not even mentioned in GL03) should be given full consideration and supported by an in-depth reflection on how these committees should be structured in order to improve efficiency and avoid conflicts of interest.

Finally, these improvements of internal governance should be complemented by further thought on corporate governance that concern shareholders and other stakeholders (like remunerations schemes, corporate liability regimes, credit rating agencies as mentioned in the draft report released by the EU Parliament).

7. Cause-driven approach

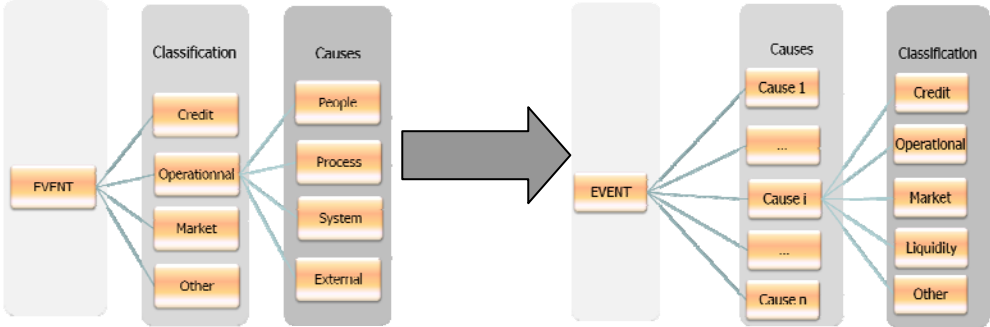
A cause-driven framework is the key to establishing an effective risk-assessment and management system. Although it is supposed to be well-defined by the Basel Committee and EU legislators, risk delimitation remains a puzzle for a number of banks. Indeed, one of the main problems is the definition of boundaries between different types of risk (including any new or emerging ones) – a problem which leads to potential inefficiencies in risk assessment.

⁶ It should be noted that GL03 mentions the risk control function as an internal control function (independent of the audit, compliance and risk management functions). But this function is not adequately implemented in practice because it is not yet fully understood. Furthermore, it is not formally recognised in EU national texts on internal governance.

⁷ See CEBS (2006), GL03, p.39.

A straightforward example is counterparties with an overdue of 90 days losses being automatically flagged in the credit risk database. Thus, they are primarily viewed as credit risk events, even when they relate to mismanagement of collaterals. Ultimately, this may lead to disregard for adequate corrective actions to mitigate the risk, given that the problem is primarily treated as a credit risk rather than as an operational risk event⁸.

Figure 1: From an effect-driven to a cause-driven approach



EU legislators – in cooperation with the Basel Committee – should consider developing an up-to-date risk taxonomy, based on a causality methodology to distinguish between different types of risks as illustrated in figure 1. The application of this framework by banks would help to prevent the use of unsuitable risk assessment and management methods that are based exclusively on the classification of events (effects) without taking into consideration the causes. Such a framework would have been most helpful in identifying and analysing the risks that led to the recent financial market turmoil.

8. Conclusion

To return to the initial question of whether Pillar 1 of the CRD adequately fulfils the objectives of prudential regulation, an in-depth review of scientific studies in modern finance theory and a critical analysis of the current structure of the CRD suggest three main remarks: first of all, banks’ capital has other functions in addition to covering all risk exposures at the 99.9% confidence level over a given time horizon. Capital aims, for example, to mitigate moral hazard by reducing agency costs such as the costs of banks' financial distress or liquidity-related issues. The second remark is that capital requirement is neither the sole means of covering banks' risks nor a miracle solution that can protect all financial institutions from failures and fiascos. Therefore, high capital adequacy ratios do not guarantee the bank’s ability to generate positive added values with its assets, particularly if all types of risks have not been adequately managed or if the risks involved are not fully identified. The third remark – following on from the second one – is that capital requirements are, at most, just one tool among others to mitigate risk and do not prevent asset-side mismanagement. Therefore, Pillar 1 should not be viewed as an end in itself or as a key objective but merely as a tool to mitigate some kind of risks. To sum up, the First Pillar is only effective in close combination with the Second Pillar, which should be considered the fundamental part of the CRD framework.

Based on the foregoing analysis, we strongly argue that the future of prudential regulation lies in the development of a comprehensive risk governance, assessment and management framework that transcends capital management. The sustainability and viability of financial institutions results from the management of the assets, not just from the constraints imposed on the liability-side of the financial institution.

⁸ For more details, see Mush, F., Ayadi, R., Nieto, M. And Schmit, M. (2008), pp. 46-47.

Hence, reinforcing the Second Pillar is essential. Indeed, this would help banks to develop a holistic approach to assessing, managing and governing, first and foremost, their asset value drivers and risks at the strategic level (including liquidity risk). On this basis, the implementation of Pillar 1 (i.e. the chosen approaches to the assessment of risks, including credit, operational and market risk) is a matter of having an adequate model management framework to assess risks with an adequate validation process. It follows that this integrated approach should strongly rely on the role of supervisors to promote and scrutinise a more comprehensive risk-management awareness within institutions. Furthermore, to fulfil this challenging task, the role, status and resources of supervisors and level3 committees must have strengthen in respect to ensuring convergence and coordination implementation and enforcement of EU regulations. We hope these important recommendations will be given due consideration by MEPs as a first step towards more effective governance prudential regulations.

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Session II

The Role of Central Banks and Supervisors and the Proposals for Improvement from the Financial Stability Forum

ECB Liquidity Management in times of market turmoil

Paul Mercier

Brussels, 25 June 2008

Workshop on the Financial Crisis

Committee on Economic and Monetary Affairs

European Parliament

Simplified Balance Sheet - Eurosystem

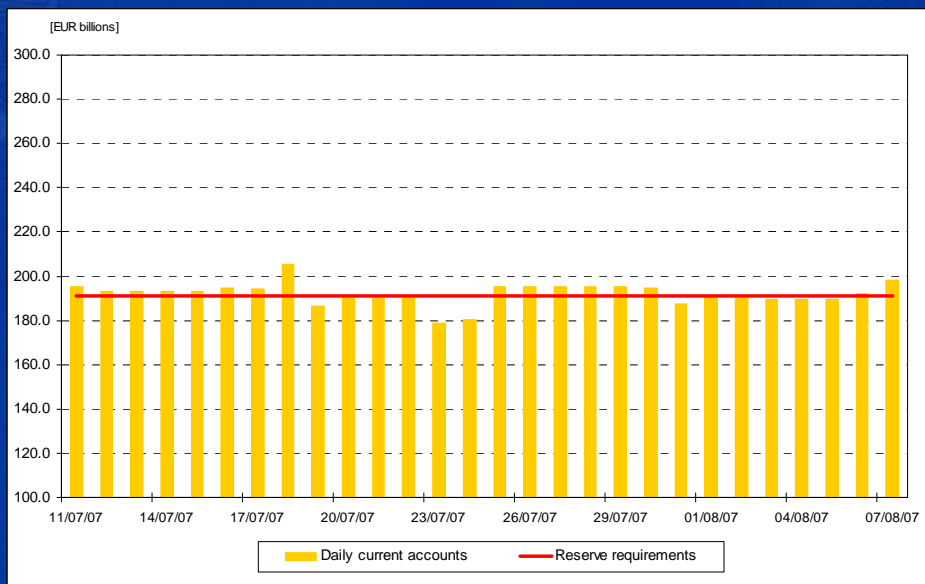
Assets		Liabilities	
Net foreign reserves			Banknotes in circulation
Monetary policy (net credit provided to the banking sector)			Reserves requirements

Consolidated balance sheet of the Eurosystem

Consolidated balance sheet of the Eurosystem, 13 June 2008 (in billion of EUR)			
Assets		Liabilities	
Autonomous liquidity factors		Autonomous liquidity factors	
Net foreign assets (A.1+A.2+A.3 -L.6-L.7-L.8)	305	Banknotes in circulation (L.1)	675
Domestic assets portfolio (A.7+A.8)	153	Government deposits (L.5.1)	59
		Other autonomous factors (net)	-34
			700
Monetary Policy Instruments		Monetary Policy Instruments	
Main refinancing operation (A.5.1)	191	Current accounts - Res. Requ. (L.2.1)	226
Longer term ref. Operation (A.5.2)	275	Absorbing Operations (L.2- L.2.1-L.2.2)	0
Marginal lending facility (A.5.5)	2	Deposit facility (L.2.2)	0
	926		926

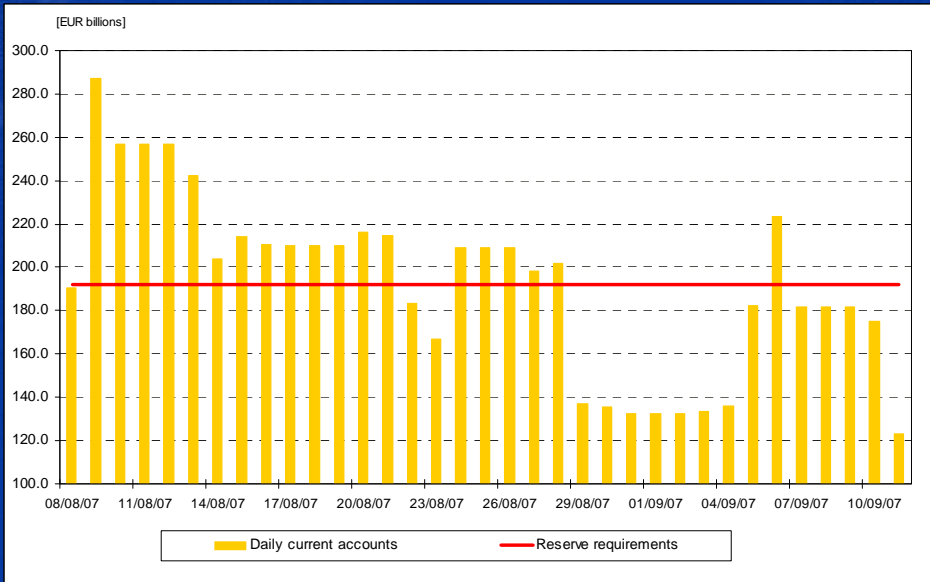
EUROPEAN CENTRAL BANK

Normal Conditions - Maintenance period 11 July – 7 August 2007



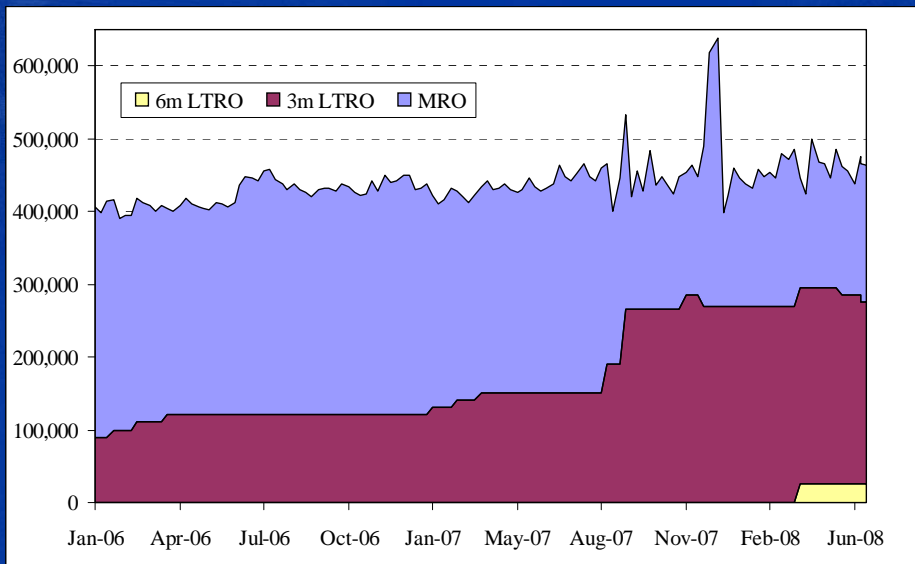
EUROPEAN CENTRAL BANK

The turmoil - Maintenance period 8 August 2 – 11 September 2007



EUROPEAN CENTRAL BANK

The modified maturity pattern



EUROPEAN CENTRAL BANK

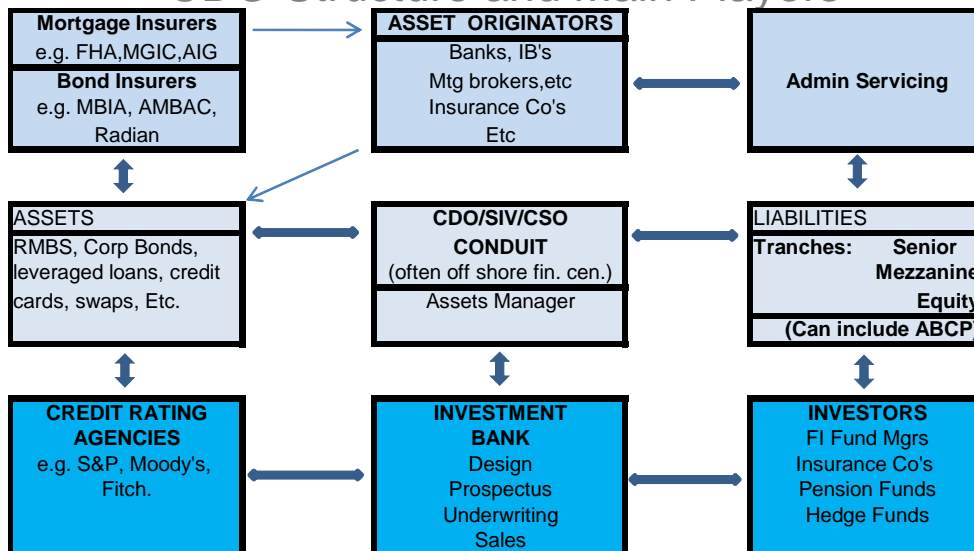


Subprime Crisis: Causes, Losses, Deleveraging & Policy

Adrian Blundell-Wignall

Deputy Director, Financial & Enterprise
Affairs

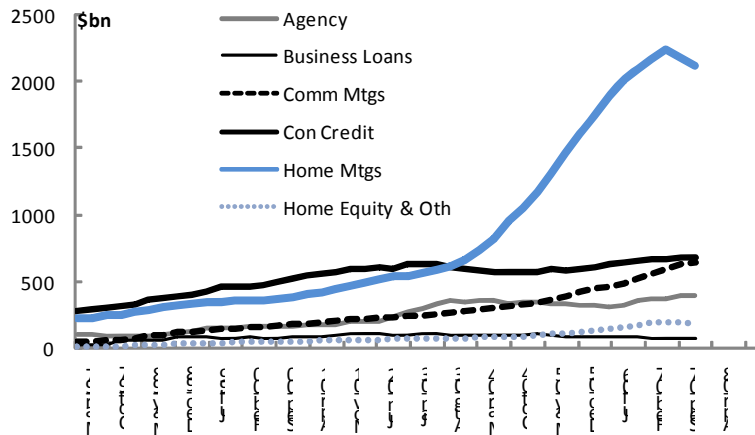
CDO Structure and Main Players



Source: OECD



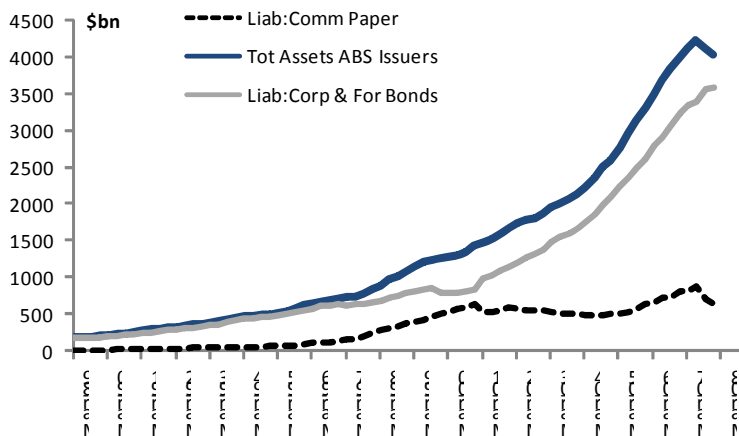
Securitised Assets USA Private Label \$bn



Source: OFHEO, OECD.



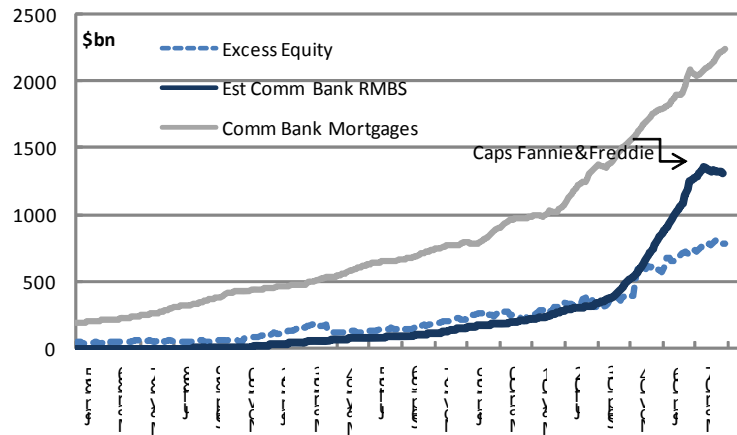
ABS Issuers: Assets & Liabilities



Source: OFHEO, OECD.



US Comm. Banks: Mortgages & RMBS est.



Source: OFHEO, OECD.



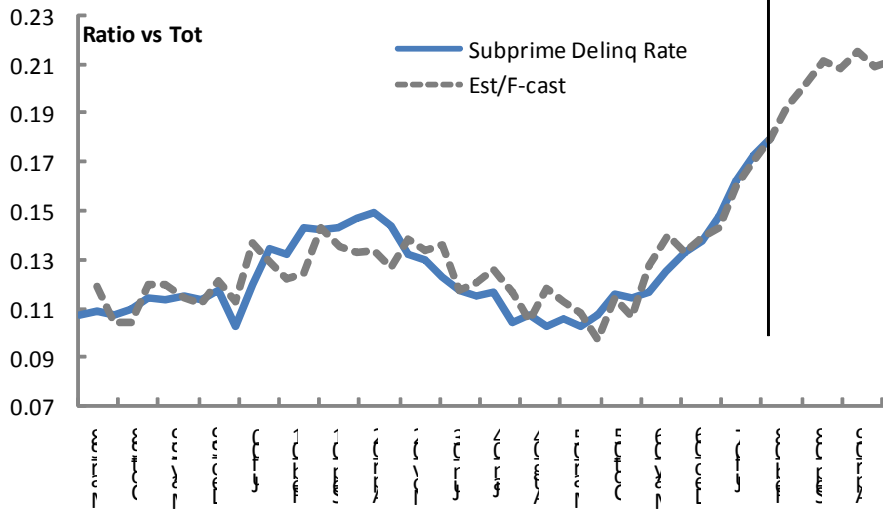
ABX-based Subprime Loss Estimates

	PRICES -- 2007			PRICES -- 2008		
	07-Sep	19-Oct	30-Nov	11-Jan	22-Feb	14-Mar
ABX 06(1)						
AAA	98	98	95	94	93	86
AA	95	93	86	85	78	64
A	84	75	61	59	50	33
BBB	65	47	34	31	25	16
BBB-	57	38	30	25	19	15
EQ	0	0	0	0	0	0
ABX 06(2)						
AAA	97	94	87	84	78	71
AA	88	77	62	60	50	37
A	63	46	40	34	22	17
BBB	47	26	21	19	15	10
BBB-	40	24	19	18	13	10
EQ	0	0	0	0	0	0
ABX 07(1)						
AAA	95	91	77	73	65	56
AA	77	65	47	40	31	22
A	50	34	28	24	14	11
BBB	36	23	20	18	12	9
BBB-	33	21	19	17	12	9
EQ	0	0	0	0	0	0
ABX 07(2)						
AAA	95	92	72	70	63	52
AA	86	70	39	40	30	22
A	61	43	32	28	22	17
BBB	42	26	21	24	17	13
BBB-	39	24	21	22	16	13
EQ	0	0	0	0	0	0
OVERALL DEFAULT-LOSS PROBABILITY IMPLIED BY THE WEIGHTED BASKET						
%	87.7	84.0	75.3	73.0	67.9	60.2
RMBS \$bn	2378	2303	2303	2228	2228	2228
LOSS \$bn	292	368	568	602	715	887

Source: ABX, OECD



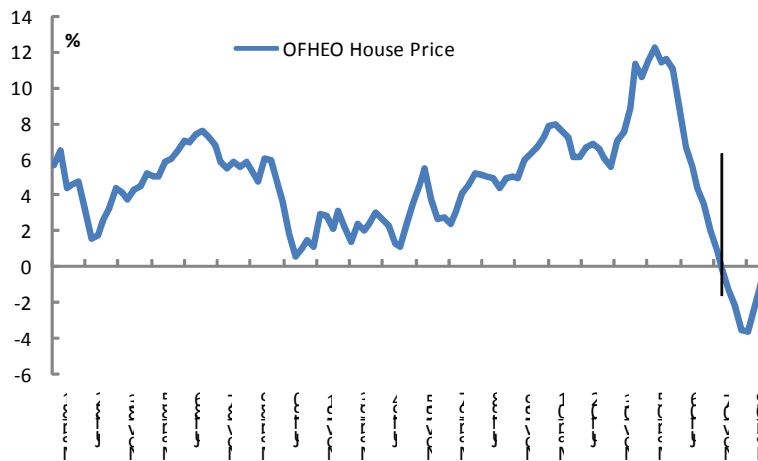
Model of Subprime (av.) Delinquency Rate



Source: Datastream, OECD



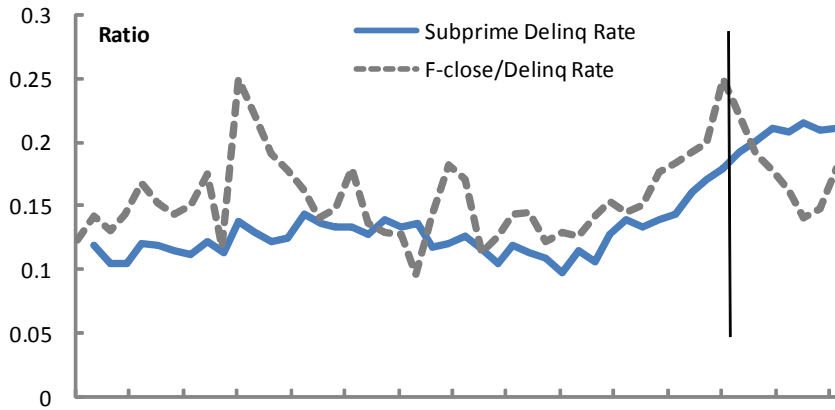
OFHEO House price Scenario: %p.a.



Source: OFHEO, OECD.



Delinquency v. Foreclosure/Delinquency



Source: Datastream, OECD



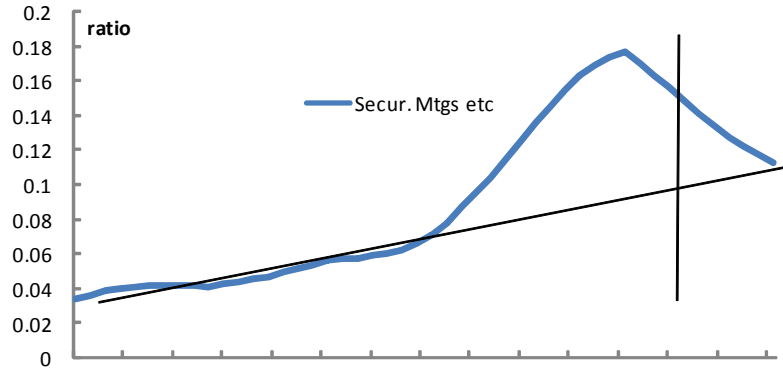
Securitized Mortgages Cumulative Loss Model: Range Based on Recovery Rate

Quarter	CUMUL. \$bn LOSS @ RECOVERY RATE			
	0%	40%	50%	60%
Sep-07	74	45	37	30
Dec-07	153	92	77	61
Mar-08	253	152	127	101
Jun-08	344	206	172	138
Sep-08	422	253	211	169
Dec-08	495	297	248	198
Mar-09	559	335	279	224
Jun-09	614	368	307	245
Sep-09	668	401	334	267
Dec-09	733	440	366	293

Source: OECD.



Mortgage-backed Securities Stock/GDP

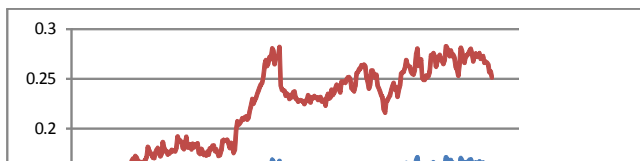


Source: Fedrreral Reserve, OECD



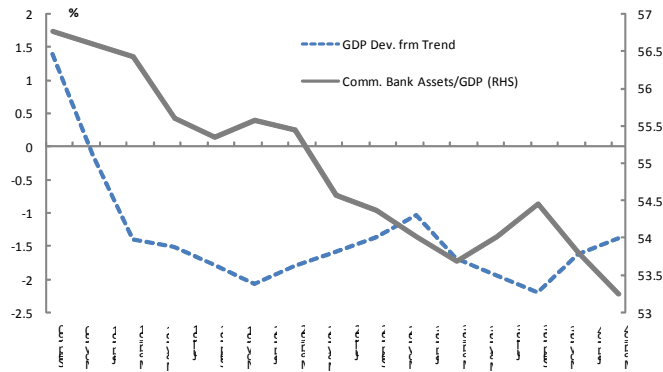
Commercial Banks Deleveraging v. Capital Requirements

	At start (Jun-07)	At full adjust. (Dec-09?)	%	Equity Req. (\$bn) for Asset growth p.a. of: & socialise losses		
				0% p.a.	7% p.a.	with 7% p.a.
0% Recovery of Losses						
Assets \$bn	10088.4	9102.1	-9.8			
Equity \$bn	1064.7	960.6		104.1	178.6	74.5
Lev Ratio	9.48	9.48				
Cum. Loss (14% \$703bn total)		104.1				
40% Recovery of losses						
Assets	10088.4	9496.4	-5.9			
Equity	1064.7	1002.2		62.5	137.0	74.5
Lev Ratio	9.48	9.48				
Cum. Loss (14% \$422bn total)		62.5				
50% Recovery of losses						
Assets	10088.4	9595.9	-4.9			
Equity	1064.7	1012.7		52.0	126.5	74.5
Lev Ratio	9.48	9.48				
Cum. Loss (14% \$351bn total)		52.0				





Commercial Bank Assets/GDP v. GDP Gap to Trend 1990-1994



Source: Moody's/ Morgan Stanley



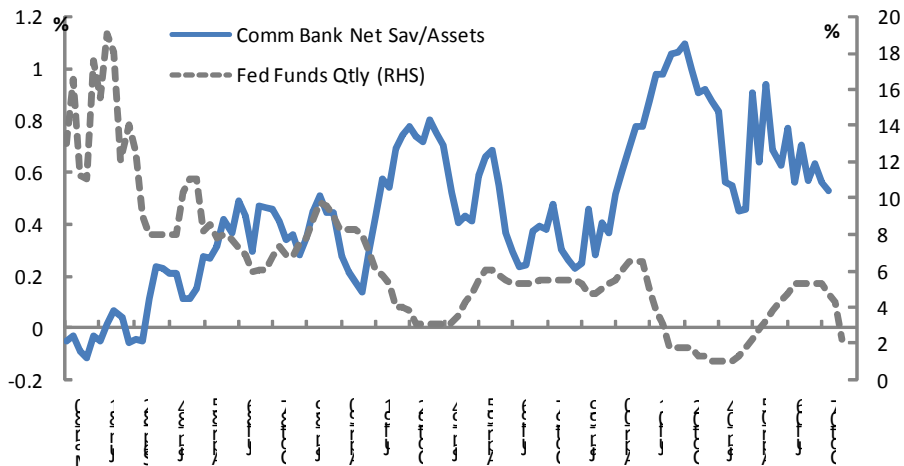
Recapitalising Through Earnings: Fed Rate Cuts, Dividend Cuts & Time Required (to offset losses but not grow the balance sheet)

Eam Rate pa Assets \$11.4trn Dec 2007 (%)	Payout Ratio 0.5			Payout ratio 0.25			Payout ratio 0		
	Net Eam Rate %pa	Cap Build \$/tr p/ctr	No. qtrs recap. \$62.5tr	Net Eam Rate %pa	Cap Build \$/tr p/ctr	No. qtrs recap. \$62.5tr	Net Eam Rate %pa	Cap Build \$/tr p/ctr	No. qtrs recap. \$62.5tr
1.1	0.55	\$15.68	40	0.8	\$23.51	27	1.1	\$31.4	20
1.5	0.75	\$21.38	29	1.1	\$32.06	19	1.5	\$42.8	15
2	1.00	\$28.50	22	1.5	\$42.75	15	2.0	\$57.0	11

Source: OECD



Fed Funds v. Comm. Bank Net Saving as a % of Assets



Source: Federal Reserve, OECD



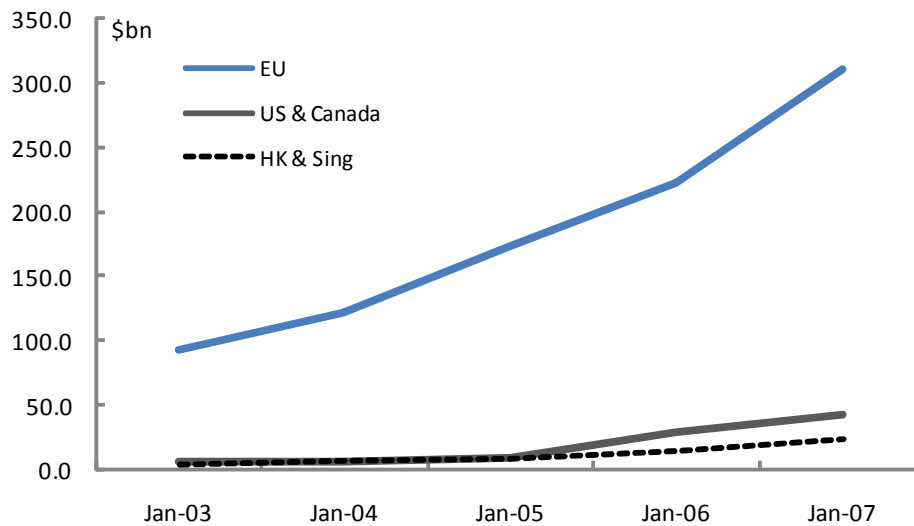
Prime Broker Exposure to Hedge Funds

	Total Credit Exp \$bn	Ratio to Tier 1 Capital	Hedge Fund \$bn	HF% Total Exposure	HF Exp Ratio to Tier 1 Capital
Loaned Securities	557	1.05	223	40%	0.42
Reverse repos	1,996	3.77	499	25%	0.94
Derivatives PRV	1,128	2.13	372	33%	0.70
Margin Loans	403	0.76	266	66%	0.50
Total	4,084	7.72	1,360		2.57

Source: Company Reports, OECD



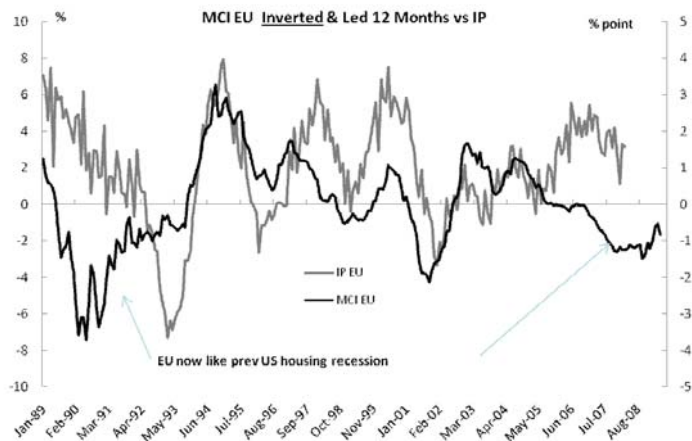
Retail Equity Structured Product Issuance



Source: Structured Retail Products, OECD



Financial Conditions Index EU v. IP % Note The Early 1990s



Source: Datastream, OECD



Summary on Losses & Capital

- 2004 explosion of RMBS—excess capital & Fannie Freddie caps are causal.
- Losses \$366-\$440bn, US commercial & investment banks about \$90bn.
- Commercial bank capital required to stand still: \$62.5bn, & to grow balance sheet at 7% p.a. \$137bn.
- To recapitalise via earnings with dividend payout cut to 25% and a (back-to-all-time-high) 1.5% earning rate on assets is 2 quarters (to stand still) & to grow at 7% is 4-5 quarters.
- Less than ½ the capital raised so far.



Summary on Economic Effects

- It is not over, as not enough capital raised; and we have not factored in second round effects—from hedge fund losses, and from corporate bond defaults.
- About 1-1/2 to 2% GDP impact likely in USA.
- Europe: has subprime (UBS etc); is exposed to (asset bubble) Eastern Europe borrowing; has the largest issuance of equity structured products (by far—already banned in Norway); has banks that are massively less capitalised than their US counterparts; is only lagging behind the USA, (just as in early 1990s) with tight financial conditions.

FSF Report on Enhancing Market and Institutional Resilience

**Presentation to EU Parliamentary Committee on Economic
and Monetary Affairs
25 June 2008**

**Svein Andresen
Secretary General, FSF**

A collaborative effort across authorities in the main financial centres and the key international supervisory and regulatory bodies

- joint diagnosis;
 - joint assessment of actions required;
 - recommendations that are coordinated across areas of responsibility;
 - processes for implementation in place.
-

Svein Andresen – EU Parliament, 25 June 2008

Guiding principle

A financial system

- that is more immune to the perverse incentives seen;
 - where leverage is ultimately lower;
 - where leverage and its risks are correctly identified and addressed.
-

Svein Andresen – EU Parliament, 25 June 2008

Five areas of recommendations:

- Strengthening prudential oversight of capital, liquidity and risk management.
 - Enhancing transparency and valuation.
 - Changing the role and uses of credit ratings.
 - Strengthening the authorities' responsiveness to risks.
 - Dealing with stress in the financial system.
-

Svein Andresen – EU Parliament, 25 June 2008

Strengthening prudential oversight of capital, liquidity and risk management

- **Basel II Pillar 1:** Capital charges for CDOs, default and event risk in the trading book and for OBS liquidity lines will be raised (end 2008).
- **Basel II Pillar 2:** Guidance for supervisory reviews under Pillar 2 in five areas – with capital implications (2008-9)
- **Liquidity:** BCBS supervisory guidance (July 2008)
- **Over-the-counter derivatives:** expect prompt action to improve legal, operational and settlement infrastructure.

Svein Andresen – EU Parliament, 25 June 2008

Enhancing transparency and valuation

- **Robust risk disclosures:** leading disclosure practices for mid-year 2008 reports; new Pillar 3 requirements - in 2009
- **IASB Standards for OBS vehicles and valuations:** Consolidation/derecognition and OBS disclosures; guidance on FV valuations when markets are no longer active - in 2008
- **Firms to strengthen valuation processes:** BCBS will set out supervisory guidance in this area – end 2008
- **Transparency in structured products:** expanded information in the securitization chain and about structured products.

Svein Andresen – EU Parliament, 25 June 2008

Transparency in the securitization process (cont'd)

Looking for industry - on initial and ongoing basis - to:

- Strengthen information flow at each stage of the securitization chain
- Be explicit about underwriting standards in OTD and disclose due diligence results
- Make available to investors much expanded information on underlying asset pools
- Improve transparency of prices and volumes in structured credit market

IOSCO will be reporting progress to FSF in this area by end-2008

Svein Andresen – EU Parliament, 25 June 2008

Changing the role and uses of credit ratings

- Implementation of revised IOSCO Code of Conduct Fundamentals for CRAs (end-2008);
 - Differentiated ratings and expanded information on structured credit products (2008 -);
 - CRA assessment of data input in SF transaction;
 - Regulators to review the role of ratings in regulatory rules and prudential frameworks (end-2008).
-

Svein Andresen – EU Parliament, 25 June 2008

Strengthening the authorities' responsiveness to risks

- Supervisory resources and skills
 - Translating risk analysis into action
 - College of supervisors for each of the largest global financial institutions
 - Speeding up work in international committees
 - Joint reviews of work programs
-

Svein Andresen – EU Parliament, 25 June 2008

Processes for implementing the recommendations

- Recommendations linked to specific committees now part of their work programs;
 - For other recommendations, FSF setting processes in train;
 - Rely on industry for number of recommendations. But authorities will retain option of regulation;
 - FSF follow-up reporting to the G7/G8:
 - June 14 in Osaka;
 - comprehensive update in October.
-

Svein Andresen – EU Parliament, 25 June 2008

Implementation by mid-July:

- Robust risk disclosure in mid-2008 reports (national supervisors, using leading disclosure practices in SSG report);
 - Accounting and disclosure standards for OBS entities (IASB to have initiated work);
 - Guidance on fair-value accounting (IASB to establish expert panel);
 - Liquidity risk management guidelines (BCBS);
 - Revised IOSCO code of conduct fundamentals for CRAs (IOSCO, and rapid implementation by CRAs).
-

Svein Andresen – EU Parliament, 25 June 2008

Follow-up on pro-cyclicality

- Areas where regulatory and supervisory policies and risk management practices have a bearing
 - Focus on:
 - Capital and liquidity regimes
 - Reserving and provisioning
 - Accounting and valuation
 - Margining practices
 - Role of compensation schemes
-

Svein Andresen – EU Parliament, 25 June 2008



FINANCIAL STABILITY FORUM

FSF Report on Enhancing Market and
Institutional Resilience is available at:

http://www.fsforum.org/publications/FSF_Report_to_G7_11_April.pdf

Svein Andresen – EU Parliament, 25 June 2008



EUROPEAN PARLIAMENT

DG INTERNAL POLICIES OF THE UNION

Policy Department Economic and Scientific Policy

**The role of Central Banks and Supervisors
in the light of the Credit Crisis**

by Professor Avinash Persaud

Briefing Note

INTRODUCTION

The zeitgeist of finance over the last decade was “marketisation”: the switch from bank finance to market finance¹ as loans were originated and securitized by banks, rated by agencies and then relocated to investors. A cynic may say that a better description of what went on was regulatory arbitrage. Risks were transferred, on paper at least, from the regulated sector to the unregulated sector². But it is important to recall that bank supervisors in Europe and elsewhere welcomed the “marketisation” of financial risk. They saw it as a way of spreading risks. They saw risks being removed and distributed away from a small number of large and systemically important banks to a large number of investors. The marketisation of finance was as much a conspiracy of the Gnomes of Zurich as it was of the Gnomes of Basle³. It is part and parcel of the approach to banking embedded in the Capital Requirement Directive and the new Basle accord on credit risk (Basle II).

The marketisation of risk was associated with the greater use of market prices in the measurement and control of risks – a feature of the new Basle accord on capital adequacy (Basle II). During quiet or normal times, market-based finance appeared to offer greater liquidity, lower risk premium and sophisticated risk management incorporating high frequency reporting. All this reinforced the view of bank supervisors that this was the future and that the future was bright. But of course the reason why we regulate the banking sector, over and above standard corporate regulation, is that markets fail.

When the financial markets failed with respect to credit risk, the pre-eminent role of market price in the measurement, control and reporting of risks and capital implicit in the market-finance model, led to a redoubling of imprudent lending and to the later, inevitable, systemic crash. There had been warnings before⁴ that the marketisation of risks contained a Faustian bargain: greater liquidity, lower risk premia and the appearance of sophisticated risk management was delivered early, to the detriment of future resilience of the system. Bank supervisors brushed these warnings aside at the time.

One of the consequences of making market prices central to the management and control of risks and capital is that when markets fail and prices disappear, the authorities are left with no option but to intervene to set a floor in the market price of assets they would not normally purchase because of the level of market and credit risks. The marketisation of finance has been associated with a switch in the role of the central bank from lender of last resort, to buyer of last resort⁵.

¹ I first heard the term, the “marketisation of finance”, as well as separately the term “macroprudential” risks from one of the leading experts in this field, Claudio Borio.

² Professor Charles Goodhart makes the important point that one of the problems with the originate, rate and relocate model is that many banks were too greedy to relocate the risks very far and often put them into their own bank sponsored Structured Investment Vehicle or hedge fund. Indeed, the collapse of Bear Sterns started with a collapse of a Bear Sterns hedge fund.

³ The Gnomes of Zürich is a disparaging term for bankers. The British Labour Party politician Harold Wilson, then Shadow Chancellor, coined the term in 1964 when he accused Swiss bankers of pushing the pound down on the foreign exchange markets by speculation. Basle is the home of the Basle Committee of G10 Bank Supervisors who developed the Basle accords on bank capital adequacy.

⁴ See *Sending the herd off the cliff edge: the disturbing interaction of herding and market sensitive risk management practices*. A. Persaud, 2000. Jacques de Larosiere Prize, IIF, Washington, www.bis.org/publ/bppdf/bispap021.pdf

⁵ I was led to this idea by Professor Willem Buiter who was one of the first to write about central bankers becoming buyers of last resort.

Beneath the wreckage, there is a coherent system at work. A system that has been adopted by bankers and government. In the responses of these groups to the crisis⁶, there is no sign of an abandonment of this system. The system is as follows. Risks are marketised. This is associated with increasing levels of transparency in the price discovery process and increasing use of market pricing in accounting and risk management. During the quiet time, liquidity is strong, risk premia falls and in response, there is market pressure for innovations that widen the inclusiveness of finance. (The securitisation of sub-prime mortgages was part of that process.) But every five to seven years, markets fail. In the crisis, through the role of price in accounting and risk management, declines in prices feed further declines in prices. The government is inevitably forced to underwrite risks in the financial sector for some period of time before calm breaks out and the cycle repeats itself. Some policy makers argue that the wider benefits experienced for seven years or so outweighs the costs of the year of crisis. There is a legitimate trade-off to consider, but I am not convinced.

The full consequences of the Credit Crunch, which started in 2007, have yet to be realized. Estimates of the first round effects of losses amount to around US\$250bn in the middle of 2008 but are likely to climb⁷. And then there are the likely and potentially more serious second round effects. During a surprisingly lengthy period from July 2007 through to July 2008, banks lost confidence in other banks, hoarded liquidity and distanced themselves from each other. It is therefore likely that private individuals will have a lasting loss of confidence in the banking sector, which may lead to a reduced willingness to use financial instruments to save, with negative spillover effects for investment in the productive sectors. Recall that the housing market boom in the US and Europe was partly a result of investors eschewing mutual funds after the dotcom bezzle of 1999-2001. It is a measure of public disillusionment with financial markets when real estate agents are more trusted than fund managers. It would be reasonable to expect banks to respond to recent developments with a lower risk appetite and reduced lending which in turn will threaten levels of economic activity more generally. Initiatives to make the benefits of finance more inclusive will also likely fall victim to this new conservatism.

This litany of woe does not include issues of moral hazard as the authorities make necessarily hasty efforts to preserve the financial system. Bad banks as well as good banks will be saved by the rising tide of government guarantees. Furthermore, today, taxpayers are underwriting risks, created by bankers who paid themselves substantial bonuses before retiring. There is a widespread belief that these bonuses are often lightly taxed, offshore. It is understandable therefore that the political response to the credit crunch is partly fuelled by moral outrage.

The clear and present danger is that this, justifiable, moral outrage leads to a regulatory response that is too distracted by the ethical failure of the private sector to deal effectively with the government failure⁸. The scale of today's credit crunch could have been avoided by central bankers and supervisors who had both sufficient information and the necessary instruments to respond, but failed to do so for a variety of reasons.

⁶ See, recent reports from the Financial Stability Forum (FSF), representing the views of regulators and the Institute of International Finance (IIF), representing the views of the large banks.

⁷ Public loans to Northern Rock alone has already cost close to US\$100bn

⁸ It is argued that this was the fate of efforts in the US in 2001-2002 to respond to the major corporate accounting scandals, which culminated in the Sarbanes Oxley Act of 2002.

These reasons include an absence of political will and a convenient intellectual entanglement with the prevailing zeitgeist of finance.

SYSTEMIC RISKS AND THE ROLE OF THE ECB AND BANK SUPERVISORS

Over the past ten years bank supervisors have been given so many things to do that their real purpose has been lost. The mission creep includes anti-money laundering and anti-terrorist financing. These are important initiatives that need to be done by somebody, but they are pervasive activities and they have encouraged pervasive regulation. In the regulated sectors, financial regulation is heavy-handed, expensive and ill focused. A measure of that ill focus is that supervisors were able to look at Northern Rock in the UK and IKB in Germany, just a few months before they failed, and give them a good mark for compliance, when they were quite transparently engaged in systemically dangerous activity.

The principal reason why we regulate banks over and above the way we regulate other industries is that bank failures can be systemic. If the high street shoe shop fails, surrounding shoe shops profit. The shop failures are not systemic. If the high street bank fails, the loss of confidence and panic could cause a run on the other banks. The reason why banks are systemic are many but critically, banks run substantial liquidity risk (banks borrow money over the short-term, but lend it over the long-term) and as a bank deposit at one bank can be collateral for other loans, the failure of one bank can directly undermine the solvency of another. Today's regulation was born from the devastating consequences of bank runs and the resulting systemic failure of payments and credit systems over the past⁹. Deposit insurance is specifically designed to reduce the risk of systemic bank failures.

Because the wider effects of one bank failure are far greater than the private costs to the owners of a single bank failing, banks left on their own devices would “under-invest” in preserving systemic stability. They would put aside less capital than they would if the focus of their concern was not the viability of one institution, but the risks of the failure of one institution leading to systemic failure. This is a serious externality. As a result, banking regulators should be focused on the systemic activities of financial institutions. Regulators should intervene so as to cause bank shareholders to invest more in systemic stability than they would otherwise do (thereby internalizing the externality). Banking regulation has lost sight of this goal. It does not draw clear distinctions between systemic and non-systemic activities.

It tries, oddly, to mimic what a “good” bank would do on its own¹⁰, motivated purely by private motives, and it encourages homogeneity of behaviour that adds to systemic risks. Banking regulation maybe in the narrow interests of bank shareholders, but not of the system and its stakeholders.

⁹ “Prior to the passage of deposit insurance legislation in 1933, banking panics were a recurrent feature of U.S. banking history. Federal regulation was absent in the antebellum period with panics in 1819, 1837, 1857 and incipient panics in 1860 and 1861. During the National Banking era, banking panics occurred in 1873, 1893, and 1907 with incipient panics in 1884 and 1890. After the Federal Reserve Act was passed in 1913, there were four full-scale banking panics, one in 1930, two in 1931, one in 1933 and a localized panic in Chicago in 1932”. (Elmus Wicker).

¹⁰ One of the stated goals of Basle II is to better emulate the economic capital models that the banks use themselves. But if regulation was merely about emulation and not about addressing market failures, why would we need it?

The principal source of systemic crises is the economic cycle. Financial crashes do not stem from the random failure of an institution - though this is the implicit assumption of banking regulation. Crashes follow booms and the credit cycle is often an appendage of the economic cycle. Consequently any focus on systemic failure has to put the credit and economic cycles at the heart of financial regulation - moderating excesses in a credit boom and the following credit contraction. Yet in banking regulation today, in the CRD and Basle II, the economic cycle is absent.

Regulators often respond to this criticism by saying two things. They either say that it is up to monetary and fiscal policy to address the economic cycle or they say that national supervisors can impose contra-cyclical measures under Basle II. Pillar II of the new accord provides for discretionary supervisory intervention if supervisors feel that banks are not sufficiently capitalized. Neither response is satisfactory.

DEALING WITH THE CYCLE: INSTITUTIONAL ARRANGEMENTS

The problem with relying on monetary and fiscal policy to address booms and crashes is that the level of interest rates or taxes required to curb an asset market bubble in one sector of the economy would cripple the rest of the economy. Imagine a housing market bubble, where house prices have risen by 20% per year for the past few years and they are expected to continue doing so, where loan-to-value mortgages are close to 100% and the market is well developed with home owners regularly re-mortgaging. Raising interest rates from 4% to 8% would push the manufacturing sector into recession, but would do little to curb the housing boom. A rate hike of this order may even increase the flow of funds into housing as it becomes one of the few sectors in the economy able to grow amid these higher interest rates. It would take interest rate levels closer to 20% to definitively curb the housing boom. But that would eviscerate the economy. More effective would be a regulatory intervention that lowered the permitted loan-to-value ratio of mortgage lending.

In the European context the scope for monetary and fiscal policy to address the pumping up, and subsequent deflation of asset market bubbles is even more limited than elsewhere. The ECB has an uncompromising focus on inflation and fiscal policy is limited to some extent by the 1997 Stability and Growth Pact. That is not to say that monetary and fiscal policies have no responsibility in managing the economic cycle. At a minimum, monetary and fiscal policy should try not to encourage the creation of asset market bubbles. In this regard European macroeconomic policy has scored better than US macroeconomic policy. Nevertheless, the ECB and national treasuries cannot shoulder the burden of reducing the financial excesses of the credit cycle. The problem is that bank supervisors have not been very good at taking on this burden either.

Supervisors have discretion to raise capital charges at banks if they feel a bank is not sufficiently capitalized. But this discretion is seldom used for political reasons.

“It was former Fed Chairman McChesney Martin who argued that the authorities should “remove the punch bowl before the party gets going”.

“But parties are fun, and the revelers enjoy the dance. Underpaid supervisors cannot easily squeeze past powerful and rich lenders; borrowers with seemingly worthy projects; and politicians taking credit for the good times, to take away their punch bowl.¹¹” Supervisors must shoulder the principal burden of dampening the worse excesses of a credit cycle, but they need some rules to help them resist the substantial political pressure for doing nothing.

One example of a contra-cyclical rule would be to have the minimum capital adequacy requirement for banks that is not fixed across time, as is currently the case, but rises and falls with the cycle. One appropriate measurement of the cycle would be the rate of growth of bank held assets - this moves pro-cyclically. We could start off with a capital to risk adjusted assets ratio of 8%. “There could then be a basic allowance of asset growth which could be linked to the inflation target, the long-run economic growth rate, and some allowance for structural changes in the bank lending/GDP ratio. This formulation allows regulators and central banks to better link micro to macro stability. Growth in the value of bank assets would be measured as a weighted average of annual growth. To emphasise more recent activity, exponential weights could be used. Growth above the basic allowance over the past 12 months would have a 50% weight; growth over the preceding year would have a 25% weight and so forth until 100% is approximated. Regulatory capital adequacy requirements could be raised by 0.33% for each 1% growth in bank asset values above the basic allowance”. For example, “if bank assets grew at a rate of 21% above the growth allowance, minimum capital requirements would rise from, 8%, to 15%.¹²”

One of the other implications of putting the credit and economic cycle back at the heart of financial regulation is that the distance between the ECB and bank supervisors should be narrowed further. Both institutions should house representatives of the other and new committee structures that better integrate macro financial and micro financial issues should be constructed.

The integration of banking supervision with the ECB, likely to be politically unpopular, should also be reconsidered. If systemic risk is the key focus of banking regulation, as it ought to be, it is best done close to the institution with the greatest systemic expertise and operational capacity. Moreover, key components of dealing with a systemic crisis, deposit insurance or a public lender or buyer of last resort are not within the scope of supervisory institutions but within the realm of the central bank, either as an agent for the Treasury, an advisor, a principal or all three.

SYSTEMIC RISK AND DEPOSIT INSURANCE

The experience of the UK in September 2007 was that the existing deposit insurance arrangements had become “out-of-date”. The level of full coverage had become too small for the average depositor and the “haircut” that depositors suffered on larger amounts contributed to the run on Northern Rock and other UK building societies.

¹¹ From: Goodhart and Persaud, “The party poopers guide to financial stability”, *Financial Times*, June 4, 2008

¹² *ibid*, it should be noted however that the original Goodhart and Persaud article assumed that this exercise would be carried out for individual banks, but as suggested above, this approach could be used to estimate a country or region wide capital adequacy requirement.

The government's response was to effectively announce a 100% guarantee on all deposits.¹³ It is not clear how this would work formally, but it would seem that a 100% guarantee on depositors is today required to halt incipient bank runs. The idea of "co-insurance" between the tax payer and the depositor has been found wanting.

There are clear moral hazard issues in offering blanket insurance. One alternative approach that maintains the insurance but reduces the moral hazard is to follow the example of the government approach to car insurance. Having car insurance cover is mandatory to be allowed to drive, but the insurance is provided by the private sector and high risks are priced accordingly. Taking this over to banking, it could be a requirement of any deposit taking institution that they have some minimum level of insurance for their depositors, but they must buy this insurance themselves from the private sector or some combination of private and public sector. Insurers would try to differentiate good and bad risks and hopefully the greater the risk the greater the premiums and some institutions will not be able to be insured at all and would therefore be denied a banking license.

MACRO FINANCIAL PROBLEMS OF MICRO FINANCIAL EFFICIENCIES

The focus of banking regulation has been historically on identifying good practices at banks and making these practices a standard for others to comply with. In the section above we have highlighted how this does not address the social externality, where a focus on a banks' private interests will lead to an underinvestment in systemic stability, nor does it address the systemic aspects of the pro-cyclical behaviour of banks during credit cycles. While best practices may be insufficient to mitigate systemic risks it is commonly thought that high and common standards are a good and necessary thing. But this is not as clear-cut as you might imagine. To appreciate the problem it is important to understand that financial market liquidity is not about how big a market is, but how diverse it is. If a financial market has two people in it, but whenever one wants to buy something the other wants to sell it, it is a very liquid market. If a market had one thousand people in it, and they are all using the best practice valuation, risk-management and accounting system so that when one wants to sell something, in response to their risk management, valuation and accounting systems, so does everyone else. At any one time there will only be buyers or sellers; but you need both for liquidity. This market is bigger but less liquid.

An inclusive financial system has natural diversity in it. A pensioner, a young saver putting aside savings for a distant future, an insurance company and a charitable endowment, all have different investment objectives and different capacity for risks and these should be reflected in different valuation and risk management systems. For example, an illiquid 5-year bond backed by good collateral would be a risky asset for an investor funded with overnight money, but a relatively safe asset for an institution with no cash commitments over the following five years, like a young pension fund.

¹³ On September 17, 2007, the UK Chancellor of the Exchequer said: "I want to put the matter beyond doubt. I can announce today that following discussions with the governor [of the Bank of England] and the chairman of the FSA [Financial Services Authority], should it be necessary, we, with the Bank of England, would put in place arrangements that would guarantee all the existing deposits in Northern Rock during the current instability in the financial markets." Later this guarantee was extended to all UK banking institutions.

The risk management, valuation and accounting system that the institutions with overnight funding should use, should be different than the one the long-term investor should use. The trend however for the same transparency, valuation, accounting and risk management rules reduces this natural diversity and increases systemic fragility. Some of the Special Investment Vehicles that were forced to sell assets in the credit crunch, adding to the turmoil, were forced to do so, not because their funding dried up, but merely because they were using the same accounting and risk rules that the banks used even though they had longer-term funding commitments.

One of the key lessons of the crisis is that a critical factor in systemic risks is funding liquidity. When the system freezes, those with short-term funding topple over. Those with long-term funding are the system's stabilizers. They are if you like risk absorbers. However, by using common mark-to-market accounting, valuation and risk rules we do not make any distinctions between those with a funding liquidity issue and those without, between risk traders who are short-term and risk absorbers who, as a result of long-term funding liquidity have a capacity for market and liquidity risks. This absence of any distinction at the regulatory and accounting level has encouraged the growth of risk traders at the expense of risk absorbers and has worsened the systemic resilience of the system.

One of the problems with the originate, rate and relocate model is that risks were transferred to a varied group of investors, who may have structurally had different objectives, but through common valuation, accounting and risk systems, they in fact behaved as one investor. We ended up with a greater spread across legal entities but less diversity. The trend of common standards is actually championed by the banks under the guise of equal treatment. Their interest is to reduce any advantage others may have in the financial system and allow them to set up investment subsidiaries. But if that advantage is based on a different capacity for risk, through a genuinely different funding structure, then this difference should be preserved for systemic reasons, not removed. Accounting, valuation, risk management and transparency standards, and the equality of treatment are all generally good, but it must be understood that in some cases there is a trade-off with macro financial stability. If standards are a force for more homogeneity in the financial system then we must think again about how they are derived and implemented.

BROADENING REGULATION, COUNTER-PARTY RISK

The crisis has been an occasion for renewed calls for the greater regulation of independent hedge funds and private equity firms. Our analysis so far points to three issues in consideration of the greater regulation of these institutions. First, these firms did not play a pivotal role in the crisis. The credit crunch centred on the banks and the banks own in-house investment vehicles. Second, spreading these common rules across from banks to hedge funds, private equity firms pension and insurance firms and others while continuing to ignore the distinction between risk absorption and risk trading will make the financial system even less safe because it is within this group of investors that those with long-term term funding - the natural stabilizers of the financial system – reside.

Where hedge funds and more recently private equity funds can contribute to systemic risks is through their use of leverage. Hedge funds and investment banks in general, are far more leveraged than commercial banks.

When things go wrong de-leveraging has systemic and contractionary consequences. However, they do not generate their leverage on their own, they get leverage from the commercial banks. It is therefore possible to regulate the most important part of what these institutions do, by regulating the way commercial banks give them leverage. This would be a far more effective form of regulation of institutions that for a variety of reasons are often domiciled in offshore locations and where their principals are footloose.

Indeed, part of the systemic problem has been that the supply of leverage to these institutions, is regulated by their counter-parties, the commercial banks, in a homogenous manner. The common rules that turn on and off leverage from the commercial banks to hedge funds, investment banks and private equity firms and the common approach that these rules take to value and manage risk is a major source for a reduction in diversity of behaviour and an increase in financial fragility. Where hedge funds have been a point of stress over the past twelve months it is often as a result of weakness in a market, causing its counter-party bank using its internal, short-term model of risk and value to cut lending to funds that are then forced to off-load assets on to a weak market.

This is a mechanism for spreading risks. The regulation being proposed to extend regulation to these counter-parties of banks is about reinforcing these systemically risky processes not disrupting them.

The solution to these issues is two-fold. First, capital requirements should be counter-cyclical and this should regulate the flow of leverage to bank counter-parties. Second, regulators should resist calls for equal treatment by the banks and make a distinction between those financial institutions, whatever they are called, that have short-term funding, less than 12-24 months say, and those that have longer-term funding. Those with short-term funding would be required to follow bank capital adequacy requirements. Those with long term funding receive an exemption from this regime. They will be required to provide disclosures to the regulators that make them comfortable that they do not have a funding liquidity risk, but they are not required to follow the capital regime. Instead they are required to follow a long-term solvency regime that takes into account long-term valuations. This would focus regulation on systemic activities and it would incentivise long-term investors to behave like long-term investors.

RISK ABSORPTION, PENSION FUNDS AND BANKS

There is an understandable instinct that wishes to shield pension funds from risk. But of course pension funds can only generate returns for their members by taking some risk. The issue therefore is more what is the right risk for a pension fund to take. It is my contention that regulation is pushing pension funds to take the wrong kind of risk and exposing them to inappropriate danger. In thinking about what the right kind of risk to take it is important to understand that there is not one kind of risk, but several and that “riskiness” is less to do with instruments and more to do with behaviour.

As we have discussed above a “risky” instrument held by a bank may be a “safe” instrument if it is held by a pension fund. There are broadly three types of risk: market risk, credit risk and liquidity risk. The way to diversify market and liquidity risk is through time. The way to diversify credit risk is actively across different types of credit. A young pension fund has the ability to earn the market and liquidity premium, but not clearly the credit risk premia. They

should therefore invest in high quality credits with poor liquidity or assets with strong long-term prospects but much short-term volatility.

What they should not do is buy highly liquid instruments and low volatility instruments with large credit premia. And yet this is the route they are chased down by accounting and regulatory standards. A pension fund required to match the duration of its assets to its liabilities, mark-to-market its assets, and earn a high yield is inexorably led down the path of buying liquid instruments with poor credit. In buying liquid instruments they are paying up for a liquidity that they do not need and in poor credits they are earning a risk premia they do not have a natural capacity to earn as they do not have ready access to active hedging of credit risks. The person who loses from this unnatural asset allocation, is not the consultant, actuary or manager, but the pensioner.

In a similar vein banks have been pushed towards the wrong kind of risks. A bank has short-term funding. It therefore has little capacity for liquidity and market risks. However, it has much capacity for credit risks as it is an expert in credit origination and through its origination activity it is able to actively source and hedge across a variety of credit risks. Yet, what do banks do today? They sell their credit risk to pension funds and they fund private equity and hedge funds that effectively taking liquidity and market risk. We have said that we need to put the credit cycle at the heart of financial regulation, we also need to put their concept of risk capacity and different risks flowing towards institutions with a capacity for that risk.

CONCLUSIONS, OFF-BALANCE-SHEET INSTRUMENTS AND A NEW SUPERVISORY FRAMEWOK

The current approach to regulation is that we begin with the banks and regulate them for holding risk. Regulation is like a tax and like all businesses the banks try to avoid the tax by shifting risks to, investment banks say. So, we regulate the investment banks. Who in turn shift risk to SIVs and hedge funds. So we plan to regulate these, but they will only shift risks to some other place. What is the logical conclusion of this game? That the system will be heavily regulated, but that it will not hold much risk; risk will instead have shifted and shifted until it has found it spot where it can no longer be seen. This does not strike me as a good model.

We saw an element of this during the current credit crisis. Banks shifted credit risks to off-balance sheet investments where they were not very visible. Basle II correctly addresses off-balance sheet instruments by requiring banks to hold capital against contingent liabilities that may arise from these off-balance sheet instruments. But while this responds to the specific issue of off-balance sheet instruments it does not really address the more general problem that the old distinctions of instruments and institutions are less relevant. What matters is whether an activity is systemic, not whether it is called a bank or an SIV. Activities where there is a mismatch between funding liquidity and asset liquidity are likely to be systemic. Activities where there is substantial short-term leverage are likely to be systemic.

A better model of banking regulation would be based on three pillars.

The first pillar of supervision would be about doing away with distinctions based on legal entities of banks or investors and instead focusing on risk capacity and systemic risks.

In some regards this would be a broader regime - incorporating institutions, off-balance sheet and other investment vehicles not currently regulated - and a more focused regime.

Those institutions with little funding liquidity have little capacity to hold market and liquidity risk and should follow a capital adequacy regime. In calculating risk-adjusted assets under the capital adequacy regime, short-term measures of value and risk, mark-to-market accounting and high standards of transparency would apply.

Those institutions with long-term funding liquidity can be exempt from the capital adequacy regime in return for disclosures that satisfy the regulator that this is appropriate and adherence to a new “solvency regime” that allows institutions to use long term measures of valuation and risk in determining and reporting their solvency. This approach will be attacked for creating an uneven playing field, but it seeks to deliberately support the natural diversity in the financial system and supports the systemically beneficial role of risk absorbers.

The second pillar of supervision would be about putting the credit cycle back at the heart of the capital adequacy regime. Capital adequacy requirements should rise and fall with the overall growth in bank assets. Contra-cyclical mechanisms face tough political resistance and they should be supported with clear rules. They should be formulated closely and perhaps in conjunction with the monetary authorities. The third pillar of supervision would be about maximizing transparency where it will benefit investor protection, with the constraint of not reducing heterogeneity in the behaviour of market participants. The related but separate issue of investor protection can be managed by requiring institutions that take in depositors’ money to have some minimum, transparent level of deposit insurance that is provided privately.



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Policy Department Economic and Scientific Policy

**A Perspective on Contagion in Financial Markets:
What Lessons Can Be Learned?**

by Prof. W.F.C. Verschoor

Briefing Note

Executive Summary

The recent crises during the last three decades have raised questions regarding the transmission of shocks from one national market to the next and the stability or shifts in these transmission channels during a crisis and thus triggered a discussion of the effects and policy responses to international financial integration. Central to the discussion is the distinction between interdependence and contagion. Some studies support the high level of market co-movement during all states of the world, and therefore, question the hypothesis of contagion. However, it seems that the contagion-versus-interdependency conclusion is dependent on the assumed speed of transmission of shocks.

Furthermore, the subprime and Asian financial crisis exhibited both common symptoms and common problems. Nevertheless, the current policy responses differ from the one of a decade ago. Interestingly, Asian economies have coped well with the current financial turmoil and the resulted U.S. economic slowdown. The limited exposure of Asian banks to complex structured financial products, together with low loan-to-deposits ratios thus far have helped banks to remain relatively resilience and to avoid funding stress in the current turmoil. Over a longer horizon, however, the return of capital flows into emerging Asia should be well managed to mitigate their adverse impact on the real economy.

Introduction

The debate regarding the vulnerability of international markets and the propagation mechanisms of foreign shocks continues to be an issue of central concerns to central banks, financial markets regulators, international investors and policymakers. Probably, the most important factor that has generated this considerable interest, is the fact that the process of liberalization of international capital markets has had a direct impact not only on economic science, but also on the economic activity throughout the world; financial crisis spread across (emerging) countries, thereby affecting apparently healthy economies whose policies, only a few months earlier, had been praised by market analysts and the multilateral institutions.

While the financial crises spread to other parts of the world is significant, policymakers are concerned about the consequences of contagion and raise important questions such as “How can pre-crisis warning signals better be identified”, “How could the risk be mitigated and the impact of future crises be cushioned?”, and “What lessons can be learned from the 1997 Asian crisis and the current subprime crisis?” In the remainder of this paper we examine the co-movements and cross-linkages during financial turbulence and exchange rate instability and explore the similarities and differences between the 1997 Asian financial crisis and today’s crisis. More specifically, in order to see what lessons can be learned, we discuss the factors behind Asia’s resilience, thus far, to the current crisis.

Global real and financial linkages

The past few decades can be described as a new era of globalization and liberalization of international capital markets that has brought the world’s real and financial economies closer together. Internationally, capital market liberalization in the industrialized countries facilitated a greater flow of funds to emerging markets around the globe. Trade in goods between countries increased relatively to country GDP’s, however the pace of increase was considerably slower than the corresponding increase in cross-border financial activity. New bond and equity mutual funds, new bank syndicates, increased Eurobond lending, and other innovations allowed capital to flow across borders quickly and easily. The wide-ranging financial deregulation made it much easier for banks and domestic corporations to tap into foreign capital to finance domestic investments. On one hand, such an evolution helps agents to reduce the riskiness of their assets by spreading their portfolios more widely, and creates new markets for domestic investments, which is no more bounded by national saving. Nevertheless, on the other hand, it induces a rapid rise in international financial flows leading to a higher (risk of) financial instability. Moreover, the greater financial interdependence makes countries (or continents) more vulnerable to financial crises via contagion effects. The Asian financial crisis constitutes an accurate example of such negative aspect: after a specific shock in Thailand in 1997, the liberalization of the international capital market have caused a large capital outflow from several Asian countries, leading to a major financial crisis in South East Asia. At the core of the Asian crisis were financial liberalizations resulting in large-scale foreign capital inflows (lending boom) into financial systems that became vulnerable to panic. Then, it has been propagated to the rest of the world (Asia, Russia, South Africa, and Latin America) via a contagion effect. Finally, both the US and European countries have been affected by this crisis which had at the beginning only a local dimension.

It is a common belief that the Asian financial crisis, that begun with the devaluation of the Thai bath in July 1997, is more widespread than previous crises, and hence is exerting a greater effect on commodity prices, financial markets and economic activity throughout the world; the perception has arisen that the crisis has been more virulent in its impact on the affected economies.

In addition, it appears to be the first genuinely global financial crisis to hit the emerging market economies, affecting, as it has, Asia, Russia, South Africa, and Latin America. Furthermore, it appears to be more deeply rooted in financial imbalances in the private sector than in the public sector financial problems that characterized the 1980s debt crisis and the Mexican 1994-1995 crisis. This suggests the fundamental question raised by Kamin (1999), namely, “Have these crises grown increasingly severe in their impact on affected countries, or are we merely more aware of their impact and consequences than was the case in the past?”

Some contagion, some interdependence

Central to the discussion of crisis transmission is the distinction between interdependence and contagion: If crises are transmitted to interdependent countries through real and stable linkages such as export-import relations, then the spread of a crisis can be limited and countries with good economic fundamentals will be protected. On the other hand, if crises are contagious in the sense that speculative attacks, financial panic, or herd behavior are the transmission forces, then crises will spread further and national policy makers will face difficulties in protecting their markets from such a crisis. As is well documented by extensive empirical work on the impact of high international turmoil, the financial contagion literature demonstrated several empirical contradictions with respect to the existence of contagion, the transmission channels of international shocks and causes of financial turmoil. Moreover, the paradoxes in the data have in turn influenced both the development of new theoretical (transmission) models and the current debate on reforming the international financial architecture.

Candelon, Hecq and Verschoor (2005) developed a test of contagion in financial markets by considering a measure of co-movement based on the notion of common cycles to detect short-run co-movements between a set of time series. They find evidence of a high level of market co-movement during all states of the world and, therefore, question the hypothesis of contagion in the international transmission of financial shocks during the 1997 Asian crisis, and to a lesser extent, the 1994 Mexican peso crisis. This is in line with the findings of Forbes and Rigobon (2002), according to which there is “no contagion, only interdependence”; large cross-market linkages after a shock are merely a continuation of strong transmission mechanisms that already existed in more stable periods, suggesting that most shocks are transmitted through non-crisis-contingent channels, such as those based on trade, policy co-ordination and random aggregate shocks.

Kleinmeier, Lehnert and Verschoor (2008) presented a new empirical approach to overcome the problem of time zone alignment in correlation studies of financial contagion. In contrast to existing studies that use synchronized data such as Forbes and Rigobon (2002) and Corsetti, Pericoli, and Sbracia (2005), their method provides an empirical solution based on the true underlying asset return dynamics without potentially introducing the problem of spurious dynamics into the relationship among market returns. Overall, using synchronized rather than time-aligned correlations leads to an under-identification of contagion; the contagion-versus-interdependency conclusions is indeed dependent on the assumed speed of transmission of shocks. In general, it appears that a faster speed of transmission of shocks favors the contagion conclusion, whereas a slower speed of transmission of shocks favors the interdependence conclusion. Given these differences in results, this finding should caution researchers and practitioners alike when drawing conclusion based on synchronized data.

Exchange rate instability

One of the most striking financial developments of recent decades is the tremendous increase in exchange rate instability following the collapse of the Bretton Woods system in 1973.

While exchange rates were fixed at levels determined by governments during the Bretton Woods era from 1946 to 1973, currency movements are determined by people selling and buying currencies in the foreign exchange markets under the floating exchange rates system. A few years after the breakdown of Bretton Woods exchange rate volatility substantially increased throughout the world. However, neither the large cyclical movements nor the extreme short-term instability undergone by floating exchange rates have slowed down the internationalization of trade around the world. The simultaneous increase in exchange rate uncertainty and international trade have generated extremely challenging issues for managers, investors and regulators: managers have to adopt new approaches to cope with the impact of exchange rate movements on both firms' operational cash flows and the discount rate employed to value these cash flows; foreign investment strategies are forcing investors to manage the risk of currency losses on their portfolios as well as to deal with the exchange rate sensitivity of the domestic and foreign shares they are holding; finally, regulators have to implement optimal monetary strategies in order to ensure that currency volatility doesn't hamper the benefits of international trade and finance for the overall economy.

Shareholder wealth

On a corporate level the values – in firms' reference currency – of many cash flows depend on foreign exchange rates. The unpredictability of currency movements has substantial consequences on shareholder wealth. But in reality, firms' cash-flows are not only affected through relative price changes in input and output products and services but also through the relative values of domestic and foreign assets and liabilities. Exchange rate variability influences moreover the competitive positions of firms both in their domestic and foreign input and output markets. In response to the changing market conditions generated by currency movements some firms may consider altering their input sources and the markets in which they sell their products and services, others may relocate their production to other countries, engage in active financial hedging activities or decide to leave their operations, assets and liabilities unhedged. Everything depends on the particular position of these firms. But whatever alternatives chosen, the recent development of foreign exchange risk management departments and the substantial increase in forward exchange rate markets reveal that the significant growth of international trade and foreign direct investment had forced managers as well as investors to pay increasing attention to the impacts of currency movements in firm value and to acknowledge the fact that nowadays exchange rate uncertainty has grown to one of the most important sources of risk companies are facing.

The financial crisis exchange risk exposure of U.S. multinationals

Muller and Verschoor (2008) have examined the relationship between financial crisis exchange rate variability and equity return volatility for U.S. multinationals by focusing on the turmoil periods around the major financial crises of the last decade: Mexico's float of the peso in December 1994, Argentina's financial crisis and its efforts not to devalue the Argentine peso in March 1995¹, Brazil's decision to let the real float in January 1999, and the Asian financial crises in Thailand, Malaysia, Indonesia and Korea in July, August and December 1997.²

¹ The analysis of the Argentinean crisis in March 1995 enables us to explicitly verify the presence of a positive currency premium under currency boards if these currency boards are not fully credible anymore (Edwards, 2000).

² Edwards (1999) identifies these countries as being the economies that had been most affected by the Asian currency and financial crisis in 1997

Empirical analysis of the major financial crises of the last decade reveals that stock return variability increases significantly in the aftermath of a crisis, even relative to the increase in stock return volatility for other firms belonging to the same industry and market capitalization class. In conjunction with this increase in total volatility, there is also an increase in stock market risk (beta) for multinational firms. Correspondingly, in the presence of increased exchange rate variability, these firms are faced with higher equity financing costs. Moreover, trade and service oriented industries appear to be particularly sensitive to these changing exchange rate conditions.

The recent turmoil and the 1997 Asian financial crisis

The recent turmoil in financial markets and the changing market condition generated by the process of securitization suggest the need to adopt new approaches to cope with the consequences of uncertainty and financial instability. In this perspective it is essential, first of all, to identify pre-crisis warning signals and understand the risks in order to cushion the impact of future crisis. At a first glance, pegged exchange rates, excessive corporate financing and foreign debt that has dominated the Asian financial crisis seem radically different from complex structured financial products such as collateralized debt obligations and mortgage-backed securities. However, the subprime and Asian financial crisis exhibited both common symptoms and common problems. First, the problem of agency and moral hazard was apparent in both crises because lenders and borrowers faced little if any risk from their financing activities, while shareholders' interests were ignored by bank managers. Secondly, excessive liquidity and credit expansion were apparent in both crisis; massive flows of capital flows into the Asian region – leading to a sharp rise in bank lending and corporate borrowing - or into the United States to finance its current account deficit. The search for yield triggered foreign investors to bought high-yielding Asian securities and mortgage-backed securities and collateralized debt obligations. In addition, the rapid increase in asset (especially property) prices demonstrated the link to the availability of easy credit in both episodes. The recurring symptoms and problems indicate that the resulted financial instability is systematic. This requires policymakers and regulators to design systems and policies that minimize such risk and mitigate their impact.

Policy responses and remedies

Although the underlying causes of both episodes are similar, it is striking to see how different the policy response is now from the one a decade ago. The major central banks have intervened swiftly to the subprime mortgage crisis by aggressively infusing liquidity to troubled financial institutions and to contain contagion in financial markets. To ease monetary conditions, the Federal Reserve has lowered the cost of inter-bank borrowing by cutting the federal fund rate from 5.25 percent in August 2007, to 3.0 in January 2008, and the U.S. Congress has approved a fiscal stimulus package. In contrast to these actions, monetary and fiscal policies were initially tightened during the Asian financial crisis to support exchange rates because of massive capital outflows and a run on foreign reserve. Only at a latter stage did governments adopt more expansionary fiscal policies to stop the downward spiral in the real economies.

Unfortunately, the dramatic discretionary injection of liquidity that departs from prudent, disciplined policy rules entails a number of dangers that cannot be ignored from the standpoint of long-term stability of the global financial markets. Clearly, the departure from inflation targeting seems to be most prominent in disturbing the monetary policy credibility and strengthen the U.S. currency. It seems that the Federal Reserve has given up its (implicit) inflation target and the future price stability.

Even more importantly, the new bubble embedded in rising assets, such as commodity futures, entails enormous strains on real income of not only private households and business but also of the poorer people all over the globe. There are several remedies to the current crisis - outside key issues such as moderating leverage, increasing liquidity management, promoting due diligence, and increasing transparency – to correct current problems and to deter their recurrence. In order to restore long-term credibility and stability of global financial markets the Federal Reserve should return to a more disciplined policy based on forward-looking inflation targeting and thus treat the “Grand Easing of 2008” as only temporary.

Asia's resilience

Although Asia is not immune to the current crisis, most Asian economies have held up well despite the financial market turbulence. Strong economic fundamentals in 2007-2008 have enabled Asia to remain relatively resilient in the current subprime crisis. Most of the Asian countries have improved their management of capital flows, cut excessive spending on property developments and reformed their economies; they are running current account surpluses and maintaining large foreign reserves. Even so, as reflected in the improved credit ratings of the countries, central banks have mitigated the risk of exchange rate overvaluation, easy credit and excessive upswings in asset prices. Asia's relative resilience has also highlighted the improvement in corporate balance sheets and the progress it has made in reforming the banking sector. In general, the limited exposure of Asian banks to complex, nontransparent structured financial products, together with low loan-to-deposits ratios have helped banks to remain relatively resilient and to avoid liquidity and funding stress in the current turmoil. In the long run, however, Asian policymakers should be aware of the remaining risks from the subprime crisis and watch carefully for the coming early warning signals. Over a longer horizon, capital flows could return into emerging Asia, especially if Asia is perceived as a “safe haven”. The challenge is to ensure that capital flows can make a positive contribution to the economy and that they be carefully managed by building on the lessons of both episodes of financial turmoil.

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