The financial crisis – causes & cures

Sony Kapoor

BertelsmannStiftung

RE-DEFINE

etui.
european trade union institute

FRIEDRICH EBERT STIFTUNG

The financial crisis – causes & cures

Sony Kapoor
Managing Director, Re-Define

ISBN 978-3-86872-458-5

Friedrich-Ebert-Stiftung
EU Office Brussels
Rue du Taciturne 38
1000 Brussels

Editor:
Andreas Botsch, ETUI

Publisher:
FES Brüssel
Bertelsmannstiftung
ETUI

Layout:
Pellens.de, Bonn

Cover Photo:
European Union
Retouching: pellens.de

Printing:
bub Bonner Universitäts-
Buchdruckerei

The ETUI is financially supported by the European Community. The European Community is not responsible for any use made of the information contained in this publication.

Contents

Editorial 6
Acknowledgements 7
Author's foreword 8
In lieu of a summary 9

Introduction 11

Part I
1. Understanding why finance is different 19
2. How banks work and why they are fragile 22
3. The changing nature of finance 26
4. Making sense of what happened 30
5. How misaligned incentives lie at the heart of financial crises 33
6. Some Principles for Financial System Reform 39
7. Mitigating systemic risk 42

Part II
1. Critical financial reforms needed 51
2. Reforming supervisory structures 55
3. Creating systemic risk regulators 60
4. Regulating systemic financial institutions 63
5. Improving crisis handling and resolution 68
6. Strengthening capital and liquidity requirements 71
7. Regulating derivatives 75
8. Regulating securitization 79
9. Regulating alternative investment funds 82
10. Credit rating agency reform 86
11. Using Taxation to Regulate Financial Markets 89
12. Conclusion 98

Annexes
References 102
Glossary 103
Tables 104

Editorial

The financial system is at the heart of the modern market economy. When the system works well, it allocates resources in a way that maximises productivity of the economy. When it falters, the whole economy seizes up. Because finance is so critical, governments have stepped in repeatedly to rescue and support the system when it has a heart attack. This safety net constitutes one side of the social contract that society has with finance. Regulation is the other side of this contract.

In order to ensure that finance continues to oil the wheels of the real economy without taking undue advantage of the safety net it enjoys, it is imperative that other stakeholders in society hold the financial system to account through well-designed regulation. The fundamental role of the financial system must be restored, which consists in intermediation, allocation and transfer of capital to productive, and ultimately, social use.

While the current crisis has been blamed on greedy bankers and captured regulators it can just as easily be attributed to complacent stakeholders who did not bother to understand what was going on in the financial system to hold it to account. It was in the interest of those working in the sector to say that it was too complicated to understand so they would be left alone to do as they please. Outsiders bought this line and assumed that those earning million dollar bonuses knew what they were doing and were doing a good job. Clearly this was not the case. The transfer of credit risk to society at large must stop and the basic banking function must be restored.

The crisis has clearly exposed several flaws in the institutional structures, incentive systems, regulations and supervisory structures of financial markets and shown that the financial sector is far too important to be left alone. Financial system reforms are being discussed not just in the European Union but also in the US and in international bodies such as the G-20, IMF and the Financial Stability Board.

These discussions may appear complex and confusing and there is nothing the financial sector would like better than for social stakeholders such as trade unions, non governmental organizations, consumer groups and other parts of the civil society not to actively engage in the reform effort. We must not let this happen.

That is why the Friedrich-Ebert-Stiftung, Bertelsmann Stiftung and the European Trade Union Institute[1] have teamed up with Re-Define to publish a well-timed book that cuts through the technical jargon using easily understood metaphors and explains the working of the financial system, the causes of the crisis and the concepts and justifications for financial reform.

The book is targeted especially at non specialist stakeholders such as consumer groups, trade unions and NGOs with a strong interest in holding the financial system to account and in ensuring that the reforms being enacted are sufficient and effective in getting the financial system to serve the real economy. The concepts presented in the book are also useful to policy makers who are often so busy making policy that they can lose sight of the big picture. The book provides an easy reference in that it compiles, explains, and analyses the major financial sector reform proposals made thus far. It is up to date until the 31st of May 2010 and though details of proposed reforms might change, the analysis in this book does not have an expiry date.

Andreas Botsch
European Trade Union Institute

Thomas Fischer
Bertelsmann Stiftung

Andrä Gärber
Friedrich-Ebert-Stiftung

1 The ETUI is financially supported by the European Community

Acknowledgements

This publication could not have been written without the help of a number of individuals and institutions. I would like to thank Makaio Witte, Research Associate at Re-Define who helped keep track of regulatory reforms, Jessica Townsend, Matthew Townsend and Meenoo Kapoor who helped enormously with editing and Andreas Botsch and Maria Jepsen at the European Trade Union Institute who were fantastic in their support throughout the process of writing and editing this book.

This publication flows out of a series of lectures I have done in the past two years and I am indebted to the European Commission, European Parliament, the United Nations, the Dutch Finance Ministry, the Norwegian Finance Ministry, the German Finance Ministry, the German Development Ministry, the Bundestag and other finance ministries and central banks that have invited me to speak to them.

I am also indebted to the Bank of England for making data available and many of the numbers used in this book are from the Bank of England.

I am also grateful to the advisory board of Re-Define for having helped me develop some of these thoughts. In particular I would like to thank Avinash Persaud and Rob Johnson.

Author's foreword[2]

Conservative bankers may sound like an oxymoron now, but there was indeed a time and age when bankers were known for their prudence. Within a matter of decades, bankers went from being considered 'pillars of society' to being widely reviled.

'Credit' comes from the word for trust in Latin (accreditivus) so it is scarcely a matter of surprise that this breakdown of trust overlaps with the biggest credit crunch in a generation. Clearly, governments need to continue to make efforts to restore credit flows in the economy in the short term. However, restoring trust in financial services to the extent that credit can again flow without the help of government support will be much harder.

This trust can only be earned through a combination of structural changes to banking, eagle-eyed supervision, tougher regulations, and limiting incentives to take on excessive risks with perhaps a little bit of banker contrition.

The exciting, adrenaline-inducing age of banking that led us into the crisis is a recent phenomenon. Right up to the mid 1970s banking was considered to be a 'boring' profession. The age of gilded mind-boggling bonuses is also new. While banking was relatively well-paid, compensation for bankers was only modestly higher than for other professions such as teaching.

What happened? How did bankers go from being conservative and rather boring to being considered reckless, greedy and mistrusted?

Did this have anything to do with triggering the biggest financial crisis in living memory?

How are policy makers around the world responding to this? And will it be enough to restore the flow of credit and trust in banking? How do we make sure we do not end up here again?

This short book seeks to provide some comprehensible, though not fully comprehensive, answers to these critical questions that are increasingly dominating public debate and of continuing concern to politicians, other policy makers and bankers around the world.

Re-Define, has teamed up with three distinguished public service organizations to bring you the first in the series of Re-Define Books that will seek to provide resources for and stimulate discussions of key public policy challenges facing us in the years ahead.

Like all our other publications, this book is written in simple enough a form to be accessible to the general public and non-specialists while at the same time presenting information and ideas that will be useful for policy makers as well as specialists. We very much hope that this will generate an active debate amongst policymakers and facilitate an informed dialogue between regulators and the general public who have a very high stake in financial reform.

We hope you enjoy reading this, and would like to thank the European Trade Union Institute, the Friedrich-Ebert-Stiftung, and the Bertelsmann Stiftung for making this project possible.

On behalf of the Re-Define team,
Sony Kapoor, Managing Director
www.re-define.org

2 Sony Kapoor, managing director at Re-Define, is currently an expert adviser to the European Parliament and has a background working for investment banks such as Lehman Brothers and ICICI on the one hand and with NGOs such as Christian Aid and Oxfam on the other. He has also been a strategy adviser to the Norwegian government and a consultant to several international agencies such as the World Bank and the UN. Mr Kapoor holds a Chemical Engineering degree from the Indian Institute of Technology, an MBA from the University of Delhi an MSC in International Finance from the London School of Economics.

In lieu of a summary

The financial system, with its many institutions and channels for transfer of money closely resembles a road transport system. Well-managed roads enable people and goods to move where they need to go, quickly and without too many accidents; a good financial system efficiently allocates resources to where they are needed in the real economy without too many crises en route. Clearly we do not have such a system.

Imagine cars cruising down a road on a clear day: the occasional speed bump to slow them down, cameras reminding drivers they are being watched and the odd police patrol just in case. That is how finance in general and banking in particular worked for decades after the reforms triggered by the Great Depression. The world saw substantial economic growth in the decades following World War II and the financial system was fairly stable.

Next think traffic, fuel tankers, racing down the road in thick smog. Sparser police patrols, spray painted cameras and dismantled speed bumps and barriers complete the picture. This was the new face of finance that first started to emerge in the 1980s.

Cars and finance have always crashed. But crashes have become more frequent, more severe and ever harder to clear up. We are still emerging from a financial pile up of unprecedented proportions that brought financial traffic to a near standstill. Even as the rescue operation was in full swing, with governments taking unprecedented action, too many inebriated drivers kept careening down the road out of control. Truck after truck kept crashing into the rescue operation. Bear Sterns, Lehman Brothers, AIG followed in quick succession and the flow of financial traffic is still blocked.

Given hazardous driving conditions, hysterical daily news reports of accidents and poor visibility, most prudent drivers stay at home. They keep their cars in the driveway, their money close to the chest. This is what led the economy to seize up.

Governments, regulators and central banks have been in action clearing up the debris of road accidents but the scale and scope of the accidents was so great that it will take a long time before drivers would venture out again with confidence.

It is clear that going back to the old system is no longer an option. It was far too dangerous and failed to fulfil its purpose of directing funds where they would have best served the real economy.

This book provides some thoughts on how best to redesign the system.

What would such a system look like?

The system would need to be much safer without being inefficient. At 1km/h, there are no accidents but clearly this is bad for the economy. Some risk-taking is essential for the success of capitalism: it drives entrepreneurship and productivity gains. So we need measures that best increase safety and confidence without slowing down traffic to a trickle.

Next we need to tackle smog. Opacity in finance comes from 1) trading poorly understood derivative structures 2) the use secretive tax havens and 3) growth in the shadow banking system which lies outside regulatory reach. This has jeopardized safety and undermined confidence. These three aspects of finance pollute through secrecy and need to be tackled upfront. Furthermore, better road signs in the form of full disclosure will no doubt help increase public safety and restore confidence.

Next we need to limit the size of 'too large to fail' financial institutions by breaking them up. These fuel tankers of the financial system have threatened the safety of whole countries such as Iceland and Switzerland. More speed bumps are also

needed in the form of financial circuit breakers and transaction taxes which slow the speed of finance. Traffic cameras in the form of more regulatory oversight would ensure financial institutions know they are being watched and discourage reckless behaviour. More patrol cars i.e. more regulatory power for greater deterrence, faster rescue services and sharper punishments for offenders will help ensure that the smooth flow of financial traffic is not interrupted by dangerous driving.

Seat belts and airbags for the ordinary driver are also needed. These can come in the form of better deposit insurance and social insurance clearly increase safety in the event of a crash and help restore confidence to drive amongst the prudent. These measures will need to be part-financed by a differentiated road toll scheme with those driving big or dangerous vehicles which endanger financial safety and erode the road being asked to pay higher insurance, tax and capital levies. This could take the form of a levy on the balance sheet of large financial institutions.

Traffic management incentives which ensure that traffic does not 'herd' too much at peak times translate into what are commonly known in finance as 'counter-cyclical' policies. These ensure that regulation and fiscal policy lean against the wind to prevent the build up of bubbles or busts. It was the absence of such policies that inflated the recent asset price bubble in the first place.

No traffic system is complete without public transport which connects areas under-served by private vehicles. Similarly, governments need to support small and medium enterprises, green investments and infrastructure provision critical elements of a sustainable economy that the private financial sector almost always under serves.

Introduction

The world has been rocked by the most major financial and economic crisis in recent history. This exposed several aspects of financial system dysfunction. These not only increased the instability of the financial markets but also impeded their normal functioning as tools to allocate economic resources efficiently throughout the real economy.

The decades before the crisis were characterized by an exponential growth of the financial sector. The size of financial institutions and the number of financial transactions both outgrew levels that could plausibly be considered to be socially or economically optimal. The problems of excessive size are now clear from multi trillion dollar financial system recue bill that taxpayers have been left with.

Finance also became increasingly focussed on the short term; banks relied on ever shorter maturities of borrowings to fund their operations; and markets came to be dominated by hedge funds and high frequency trading firms who counted their investment horizons in milliseconds not years. This form of just-in-time finance proved to be immensely destabilizing increasing both the speed and the scope of contagion in the system.

Even as the internet and information era descended, the financial system itself became less transparent. Complex and unregulated over the counter (OTC) derivative markets combined with the growth of off balance sheet structures and a growing number of subsidiaries in tax havens to introduce several layers of opacity. This opacity allowed actors in the financial market to build up poorly understood but excessive risks in the system hidden from the prying eyes of regulators. In addition, this opacity meant that once the initial shocks hit the system, financial market actors lost confidence in their counterparties since any of them could be carrying toxic assets and there was no way of knowing who was safe and who wasn't. This amplified the crisis and imposed losses that were far greater than originally estimated.

Banks loaded up on borrowed money with several banks reporting a leverage ratio of as high as 60 in the run up to the crisis. While the going was good, this allowed them to inflate profits and cream off hundreds of billions of dollars of profits and bonuses every year. This leverage and the low prevailing interest rates helped inflate the prices of assets such as houses and put them beyond the reach of ordinary people. Stagnating wages in the middle and bottom of income distributions forced people to borrow and the financial system manifestly failed in its task of supporting sustainable growth in the real economy. At the peak of the bubble, financial market actors cornered a full 40% of corporate profits for themselves in the United States.

When the problems inherent in the functioning of the sector did build up to breaking point, governments around the world found themselves held hostage since many of the institutions had become 'too big' or 'too interconnected' to fail and their bankruptcy would have decimated the larger economy.

Trillions of dollars were spent on bailing out the financial sector around the world though the Bank of England estimates that the real costs of the crisis in terms of damage done to economies is of the order of tens if not hundreds of trillions of dollars.

Clearly, the world cannot afford another crisis of a similar magnitude. The financial system needs serious reform and mere cosmetic surgery will not suffice. In this next section we introduce you to some critical lessons that policy makers would do well to keep in mind as they restructure and reregulate finance.

In order to make these lessons more accessible, we continue the traffic system metaphor introduced in the last section.

Lesson 1:

We need to focus on the system, not just individual institutions

Imagine if traffic authorities looked only at the roadworthiness of cars, rail engines or airplanes but did nothing else. This would not ensure a functioning transport system. Having roadworthy cars or airworthy planes is necessary but not sufficient for a well-functioning traffic system. What matters as much if not more is the interactions between the vehicles or planes.

For traffic regulators, rail operators and air traffic controllers this ability to see the system as a whole, find out the points of congestion, the points of breakdown and the points of possible collisions is critical to maintaining both the efficiency as well as the safety of the system.

In finance, the focus of almost all regulation up until now has been to ensure that each individual institution is well-run and safe. Minimum capital requirements, the bedrock of banking regulation, were designed to keep individual banks safe and no more. Supervisors too, with few exceptions, looked merely at compliance and governance within individual institutions. Risk management systems were designed to safeguard banks not banking systems.

No wonder then, that while regulators and supervisors were happily monitoring their wards, whole swathes of the financial system were neglected. Most importantly, no one was watching the flow of traffic and the build up of systemic risk, so the threat of traffic pile ups went unnoticed. Each bank was regulated as if it were the only one on the road. Anyone who drives will know that the real danger while driving on a crowded road comes from other vehicles on the road rather than the risk of one super tanker careening off and hitting a tree by the roadside.

To conclude: as traffic moves faster the system wide view becomes even more important for safety. Real danger in the financial system, which now is bigger and moves faster than ever before, comes increasingly from the possibility of contagion, not an islolated one off collapse of an institution.

This underscores the need for regulators and supervisors to shift their focus from ensuring the safety of individual institutions or mirco-prudential regulation to concentrating on the safety and stability of the financial system as a whole through the use of macro-prudential tools.

Lesson 2:

What you cannot see should concern you most

The value of good visibility whilst driving cannot be overstated. The poorer the visibility, the more cautiously you should drive; ignore this precept and you are likely to meet with an accident. Poor visibility handicaps both the driver of the vehicle as well as the traffic regulator responsible for managing traffic.

For faster moving systems such as rail and air transport, the consequences of having incomplete information are more serious than for relatively slower road transport systems. Missing even one train or plane can result in a disaster. The only time a plane really disappears from the radar and tracking systems of air traffic controllers is when it has crashed.

As our financial system has moved away from the relatively slow days of road traffic towards being ever more interconnected in the manner of railway networks and moving ever faster in the manner of air traffic, it has become ever more critical for regulators as well as financial market actors to keep track of what is going on around them. Any gaps in knowledge and understanding can be potentially fatal.

Yet these gaps have become ever more yawning. There are whole sectors of the financial markets such as hedge funds that are not under any oversight. Products such as “over the counter” derivatives have proliferated exponentially with regulators having little knowledge of the outstanding exposures. Offshore jurisdictions specialized in providing loose regulatory standards with little

oversight and this lead to the number of subsidiaries and special purpose vehicles that banks set up in these jurisdictions multiplying.

The combination of unregulated financial actors, opaque products and non transparent jurisdictions seriously increased the dangers to the financial system and ensured that if and when a serious accident were to happen, the whole financial system would cease to function. Choosing not to drive is the most rational response in the presence of thick smog when visibility is low. The only problem is that in the absence of financial traffic the whole economy grinds to a halt.

Transparency is the bedrock of a well-functioning financial system. Regulators and supervisors need to know what goes on not just within financial institutions but also across the financial system so financial reforms would need to tackle opaque derivatives, abolish off balance sheet operations and penetrate tax haven secrecy. This would need to be accompanied by efforts to improve counterparty disclosure so other financial institutions do not lose confidence in each other at the first hint of trouble.

Lesson 3:

Incentives matter and matter more than you think

If you were paid a lot of money to drive fast; knew that you would not be physically hurt no matter what happened; would not be held personally accountable no matter how many other vehicles you damaged would you not be tempted to be reckless? Many would drive fast all the time.

Something similar happened in the financial system. Traders and bankers loaded up on risk knowing that they could earn enormous bonuses sometimes as much as 100 times their base salary. While they could reap such rewards if their bets paid off the worst outcome if their bets went wrong was that they could get fired. In boom times, such traders have little or no problem finding another job so the personal risk from excessive risk taking was minimal whereas the possibility of gilded rewards was high.

Driven by the incentives of their employees financial institutions became increasingly leveraged and started taking on ever more liquidity risks by borrowing on shrinking horizons and lending long term.

The increasing use of leverage by financial institutions allowed the managers who ran them to garner ever higher rates of return while increasing the risk of a systemic crash. The high payoff from driving a car 'fast' meant that too many drivers drove recklessly and that it was just a matter of time before a serious traffic pile up occurred.

While the incentives faced by employees were no doubt highly skewed, the shareholders too had incentives to take on excessive risk. Limited liability means that while the upside of shareholder returns is at least theoretically unlimited the downside is capped. Rent seeking opportunities in a financial system characterized by high barriers to entry meant that shareholder too 'drove fast' and enjoyed returns of 25%-30% return on equity. However, the systemic risk resulting from their actions blew up in their face in the form of the financial crisis and wiped away large swathes of their wealth.

Problems with incentives leading to inappropriate behaviour were endemic in the run up to the crisis with the originators of subprime loans, the bankers securitizing them and the credit rating agencies rating them all getting paid by the volume of business. They focused on generating volumes and compromised seriously on quality. That is why the US subprime sector was the trigger of the crisis.

It is clear that incentive problems in the financial system would need to be addressed urgently as part of the reform effort. Reducing rewards for reckless drivers and bankers who endanger other institutions and threaten the stability of the system by capping bonuses would make a big difference. This should be accompanied by an active effort to increase the personal risks associated with reckless behaviour for example through a more stringent reading of fiduciary duties, personal liability laws and a greater use of criminal penalties. Reckless drivers should have their licences confiscated.

Lesson 4:

Just-in-time management can be problematic

Imagine you move house and start taking a new commuting route. You leave early the first day so as to make sure you arrive in time and drive slowly so you don't get lost. Next day you drive a little faster and find that you can shave 5 minutes off your commute. The next day you find that the speed limit on the highway you use has been increased so you can drive even faster. If the road is smooth and the traffic predictable you leave less and less of a safety margin and tend to drive fast so you get to work just-in-time.

Something similar happened to the financial system. Thanks to liberalization, deregulation and advances in technology financial flows became faster and transaction times shorter. This shorter time horizon was evident not just in the securities markets where average holding periods for securities shrank across the board but also in banking where institutions started borrowing on ever shorter horizons.

Borrowing for the shorter term is cheaper than borrowing long term. This is simply due to the fact that the risk of loss increases the longer the duration of the loan. So as liquidity increased in the markets for borrowing and lending, banks increasingly switched to shorter term borrowing to increase profits by reducing costs. By 2007, UK banks, for example, were funding as much as 25% of their lending operations from short term borrowing. Northern Rock was using overnight borrowing to fund some of the 30 year mortgage loans it made to customers. This behaviour was premised on the continuing availability of cheap short term borrowing and left little margin for error.

As with just-in-time manufacturing, just-in-time driving, trading portfolios of assets and funding yourself in the short term borrowing markets all work well under good conditions. The risk with all of them however is that even a small problem can cause the process to seize up since there is so little margin for error and very little inventory or holding capacity. It is akin to being stranded at an airport hub or a train interchange point or being stuck in traffic at a highway exit because you left yourself too little time and missed a connection. This is just in finance and the present crisis has only too vividly exposed the vulnerabilities in how it works.

Leaving no margin for error is imprudent whether in finance or in driving. It is clear that driving conditions on a clear day or at the off peak hour will not be the same as driving conditions in bad weather or at office peak times. Similarly, the financial system goes though cycles of liquidity and it is essential in order to reduce systemic fragility that some buffers are kept for when liquidity conditions in the market are not ideal.

Lesson 5:

Whatever can go wrong, almost always will

No matter how well one plans and no matter how smoothly things seem to be running, cars, trains and planes will always crash. That is why it is essential to have emergency plans in place to minimise damage, loss of lives and disruptions to the transport system. Airports all have emergency response teams at hand which can be pressed into service at very short notices. Road and rail transport systems have their own equivalents.

However, despite the fact that the latest banking crisis is far from being the first, financial regulators were largely caught unprepared both by the scope as well as the intensity of the crash. There is an urgent need to learn from the unprecedented action that was needed to provide liquidity support, depositor protection and recapitalization. The size, competence and capacity of the emergency response teams need to be vastly expanded.

Many new and unconventional tools were tried and some were more successful than others. At least some of these should become a permanent part of the armoury of regulators to help minimise the damage that problems in a financial institution can inflict on other institutions. The other lesson learnt was that the mechanisms for dealing with problems at large institutions especially those that have significant cross border operations are completely missing. There is an urgent need to put in place special resolution mechanisms for handling exactly these kinds of emergencies.

Lesson 6:
Co-operation across network boundaries

Imagine a system with two countries that share airspace boundaries (it could be two neighbouring countries sharing rail connections or two municipalities with interconnecting roads) with a high volume of traffic that crosses the boundary. A disaster could quickly result if there was not continuous, ongoing and accurate communication and co-operation between the air traffic controllers in both countries.

This unfortunately is how the financial system worked in the run up to the crisis where communication and information exchange between international regulators simply did not keep up with the reality of vastly higher cross-border financial flows. Regulators in one jurisdiction did not pool or share information with other regulators. To add to the potential problems caused by this, jurisdictions such as tax havens specialized in hiding information from authorities in other countries so the amount of danger in the financial system went unnoticed and when disaster did strike, there was little if any co- ordination capacity or trust.

Imagine another scenario, where the air traffic controllers of the home country, where the airline is registered are solely responsible for tracking and regulating the flight plan. Clearly, the further the plane gets away from the home airspace, the more difficult it become for the home based traffic controllers to regulate and monitor it.

From the host country's perspective (that is the country in whose airspace the plane is flying), three things are matters of serious concern: 1) the loosened home country control 2) the fact that if the plane crashes it would do a lot of damage in the host country and 3) the loss of control over what the plane does in its airspace and the knock-on effect to its own vehicles.

Yet this is how financial institutions have often been regulated where home countries have been assigned the primary responsibility of regulation. Most were concerned first and foremost with what the large cross border institutions they regulated were doing in the home market. Overseas subsidiaries, branches and other aspects of business were at best of only secondary concern. Regulators did not seem to have learnt much from the collapse of BCCI, an international bank that was able to finance criminal activities primarily because the regulators of each of the countries that it operated in assumed that one of the other regulators was watching it.

Clearly, host countries need to play a much stronger role in financial sector supervision both for their own sake as well as to contribute to an overall improvement in the quality of supervision.

Lesson 7:
Trust in God but always wear your seatbelt

Human beings are optimistic by nature. They believe that things will mostly go well. However, this does not mean that they do not take precautions. When you drive out into traffic, the likelihood of having an accident is very low but most people still wear seatbelts. There is also a role for regulation here in the case of cars at two levels. Firstly to ensure that seatbelts are fitted into every seat in every vehicle and secondly to ensure that wearing them is made compulsory.

In fact cars nowadays are being built to increasingly stringent specifications and go through rigorous crash tests before they are put out on the road. Financial institutions too need to be subject to increasingly stringent stress tests now that many have been shown to not have been roadworthy. It turns out that the regular road worthiness checks were not being performed stringently enough.

Regulations in the form of better structures, risk management, governance and safety features such as levels of liquidity and capital will need to be spruced up so each institution in itself is made to run itself to tougher standards that make it more resilient and accident proof. Regular supervisory checks, the equivalent of the annual road worthiness test for cars, will need to be made more frequent, intrusive and benchmarked to tougher requirements.

But there is also the overriding concern of the fitness and safety of the transport system itself. The system of safeguards: traffic signs & lights, speed

bumps, barriers, speed cameras and patrol cars designed to make sure that owners do not drive their vehicles recklessly and endanger the safety of others, was exposed by the crisis as being highly deficient. It needs to be radically updated before it is fit for purpose. We need more traffic signs, bigger speed bumps, better cameras and whole fleets of new patrol cars to make sure that financial traffic keeps running smoothly.

Barriers need to be introduced to ensure that financial institutions of a particular kind only do what they have been authorized to do. A problem in the run up to the crisis was that banks tried to be like hedge funds and hedge funds were stating to behave as banks and in doing so made the system more prone to accidents. More traffic lights backed up by better oversight can help ensure that this does not happen again. Speed bumps and their financial equivalents of countercyclical capital requirements and loan loss reserves should slow institutions down when they are over speeding or if the system is otherwise in a fragile state.

Despite their best intentions, traffic regulators sometimes fall asleep at the job or are otherwise distracted and so cannot prevent all accidents. Sometime they cut corners in order to meet targets. Regulators, especially in the absence of full information sometimes fail to do their jobs properly. They are also susceptible to political pressure not to upset booms which are useful for politicians to get elected.

That is why, planes have inbuilt proximity sensors which issue urgent warnings if another plane comes too close so evasive action can be taken. Railway systems often have inbuilt circuit breakers which trigger alarms and sometimes cut off power to trains if they go through a red or yellow signal. Manufacturers have begun to build cars which automatically cut off speed if the sensors detect that the owner is dangerously over speeding or has fallen asleep at the wheel.

In finance too, we need automatic tools that would kick in so as to minimise damage and reduce risk once critical thresholds such as maximum leverage ratios or minimum capital requirements were breached by a financial institution or at the level of the financial system.

For regulators we need a structured set of responses. Initially for the first occasion of an institution's breach, the regulators should have discretion. The first sign that an institution is over speeding should trigger warnings and an increase in the powers of oversight available to enforce compliance. If the first set of measures don't work and the institution breaches the next set of danger indicators automatic intervention many be triggered in the form of special resolution regimes where institutions are isolated from the rest of the financial system so their failure does not being traffic to a halt. This would be similar to being pulled over by the patrol car.

Although much harder to implement, there is also the need to monitor system level dangers which we know can come about even when no particular institution is being excessively reckless. Warning indicators on system level dangers such as an excessive built up of leverage or maturity mismatches should trigger corrective actions in the form of reduced speed limits that can be enforced for example by increasing capital requirements or liquidity buffers.

Part I

1. Understanding why finance is different

Finance has long term consequences

There is a new cafe in town and you go buy yourself a coffee. If the coffee is good, you are likely to go back but not if it turns out to taste bad. The worst outcome of trying out a new cafe is that you might end up with a bad taste in your mouth having wasted three Euros. The market economy is based on 'caveat emptor' or buyer beware and this principle works well when buyers have repeated transactions with sellers. Good sellers get rewarded and those who do not offer good value go out of business.

Financial markets are different. When you buy saving products such as pensions or other financial products such as an insurance it is not the same as buying a coffee. The first time you find out that the insurance you bought was inappropriate is after your house has burnt down and it is too late.

You cannot road test financial products

Would you buy a car without taking it for a test drive first? Most people would not. When you buy a TV, you have about a month to check that it works well and that you like it. Otherwise you can return it.

You cannot road test financial products. By the time you realize that the pension fund you have been investing in will only provide for half of what you need to survive after retirement; it is likely to already be too late to do much about it.

Trust lies at the heart of the financial system

Buy a chair and you can look at it, feel it, touch it, try it. Such things are of course not possible with financial transactions. To make matters worse, the share certificates, pass books and chequebooks have been replaced by computer entries that exist somewhere in cyberspace. Your personal banker is probably a voice on the phone sitting half a globe away. Under such circumstances, trust is paramount. That is why, bankers were considered to be 'pillars of society'.

Finance is systemic

Imagine there are four grocery stores in a market. If one of them goes out of business, it is good for the three left standing. This same principle does not carry over from the real economy into finance. If one of your three high street banks fails it may trigger a run on the ones left standing. If one bank fails it is not necessarily good for the other banks. This is for two reasons.

Financial institutions have significant cross exposures to each other, for example in the interbank market, even when they are competing. Competing grocery stores do not trade much with each other. This means that the failure of a bank can inflict significant losses on its competitors because they are often also its counterparties.

Because finance is all about trust and confidence, the failure of a bank may erode trust in the system and can lead to contagion when this erosion of trust extends to other institutions running similar business models.

Financial markets are procyclical and subject to herding

Imagine that the price of your favourite cup of coffee increases. The overall demand will shrink as some of those on tight student budgets buy less of it. This inverse relationship between price and demand is central to the way markets in real goods work and drives them towards equilibrium between supply and demand.

This principle does not translate easily into financial markets. As house prices start increasing people don't simply respond by lowering demand. Other phenomenon can dominate the equilibrating effect. If based on your recent observations, you expect house prices to keep rising, you may even bring forward the date you meant to purchase one, since you do not want to risk being priced out of the market simply because you waited too long. Many

other people may be thinking the same way too and you having brought your purchase forward is likely to drive the prices up and might induce even more people to make the decisions you did.

Or, if you notice the prices of houses rising continuously over several periods, you might decide to buy a house even if you otherwise had no intention of doing so. Such a purchase is likely to be speculative, driven by the expectation of further prices rises and the prospect of making some quick money.

While in the real economy, price rises depress demand this does not necessarily hold within financial markets. A price rise might increase demand and hence stimulate a further price rise. This procyclicality is one of the factors that make finance so unstable. Such markets are also subject to herding where seeing that Billy has made a killing on the stock market makes it more likely that you too will end up playing the market.

Finance is inherently unstable and prone to crashes. But these can be mitigated

The reasons people buy shares may be many and varied. But according to economic theory, you only make that purchase after having sat down and made a proper calculation of IBM's potential profit over the next 100 years or so and discounted those profits by the interest rates that are likely to prevail over that time period to calculate the net present value.

Because financial products can have long lives these calculations are very sensitive to assumptions. If you change the discounting rate by 10 per cent it is quite likely that your asset price will change by 20 to 30 per cent. Even very small changes in assumptions or economic circumstances can have quite profound repercussions for the current price of a financial security. It is not possible to know what the 'true' value of such a security is. What is more, such 'true' value is likely to be highly volatile given how sensitive it is to even small changes in economic variables and assumptions.

The facts that finance has 1) long-term consequences, 2) depends on trust, 3) is procyclical and uncertain makes the financial system inherently unstable. That is why although we may talk about stabilizing finance or reducing the frequency of crises, we can never talk about eliminating them. Crises have been with us since the very beginnings of finance and they will continue to haunt us well into the future.

That does not mean that we are completely helpless. Much can be done to mitigate the inherently unstable nature of finance and temper the frequency and severity of financial crises.

Humans have a natural bias towards extrapolating trends and this is procyclical

This inherent instability of finance is amplified by patterns of behaviour that we human beings are prone to. Our proclivity to project the future from recent observations makes us susceptible to procyclical behaviour. When we see a security with a rising price we expect the rise to continue and may decide to buy it in a bid to profit from such a rise. This reinforces the initial price rise and leads to bigger fluctuations in the prices of assets than would otherwise be the case.

We are also susceptible to an attribution bias that induces us to take excessive risks

Human beings are optimistic animals and have a strong tendency to overrate their own ability. That is why in surveys across cultures between 80 to 90 percent of people surveyed rank themselves as above average on a number of positive parameters such as driving skills, intelligence and fitness.

While such a positive outlook is very helpful in helping us cope with the vicissitudes of life, it can be dangerous in financial markets. Traders often attribute successful trades to their own superior ability while bad bets are often explained away as being down to bad market conditions. There is an asymmetric reinforcement of confidence – profits are put down to skill; loses to factors beyond their control. This unjustified faith in their own ability causes a whole range of financial market participants to take on more risk than optimal.

Our tendency to herd amplifies fluctuations in the financial markets

We are social animals and find safety and comfort in numbers. Crowd phenomenon such as mob lynching and panics resulting in stadium stampedes are well documented.

These phenomena are even more prevalent in financial markets where our inherent biological need to belong to the herd can be reinforced by a 'greater fool' second order rationality. This would mean that while we might get attracted to buying a share that everyone else is talking about our rational side might see that it is overvalued and may prevail upon us not to go with the herd. A second order rationality, that recognizes that while a share is indeed overvalued a greater fool is likely to come along and to pay an even higher price for it, can easily take hold.

The financial system has a tendency to make increasingly complex products

Another difference between the financial world and the real economy is that unlike products in industries such as pharmaceuticals, financial products do not have patents. So any products that a bank, investment bank or fund manager starts marketing today could at least in theory be offered by a competitor the very next day.

Margins on products can erode quickly once competition moves in. So financial institutions resort to 'innovating' a stream of new products in a bid to maximise profitability. Making a product more complex makes it harder to reverse engineer and thus somewhat harder to copy. That is why financial products end up becoming more complex with the passage of time. The advent of computers has sped up the pace of innovation and made complexity easier to handle. This has sharply accelerated the drift of the financial system towards increasing complexity.

The more complex a product, the bigger the difference in understanding between the institution that sells it and the non financial sector actor that purchases it. This asymmetry in understanding and information allows financial institutions to extract greater profits and adds to the incentive to make products ever more complex and market them to unsophisticated investors.

A third motivation for product complexity is that such complexity increases the possibility of being able to fool regulators. Tax avoidance products designed to reduce tax payments rely on similar strategies.

The financial system has become increasingly opaque

This trend towards complexity has coincided with a parallel drift towards less transparency. Just before the current crisis hit, the size of the shadow banking system comprising hedge funds, special investment vehicles and off balance sheet 'conduits' sponsored by banks was comparable to the mainstream banking system in the United States. Much of this shadow banking system was poorly regulated and unsupervised. Combined with the tendency of entities such as hedge funds to be very secretive, this lack of oversight resulted in a sharp loss of transparency in the financial system.

Even the financial institutions that were regulated sharply increased their use of off balance sheet vehicles i.e. Enron so investors, analysts, counterparties and regulators all found it increasingly hard to assess their true worth.

Over the counter derivative markets that were neither transparent nor regulated mushroomed in the past two decades. Such derivative exposures came to be an increasingly significant part of the total risk exposure of financial firms.

These trends were accompanied by an increasing internationalization of finance and a proliferating use of tax havens by financial institutions to minimise their tax liabilities. Citicorp reportedly has 427 subsidiaries in tax havens[3].

The combination of opaque products, increased use of off balance sheet entities and proliferation of tax haven subsidiaries reduced the degree of transparency in the financial system.

To sum up, we have a financial system that is inherently unstable with this instability having been amplified by recent changes such as an increase in complexity and opacity. What is remarkable about such a system is not how often it crashes but how little. Clearly this fragility of the financial system needs to be kept in mind while we embark upon our journey of financial reform.

3 New York Times available at http://www.nytimes.com/2009/01/17/business/17tax.html

2. How banks work and why they are fragile

Banks lie at the heart of financial systems. Without banking infrastructure in place capital markets, insurance and asset managers could not function. The rapid growth of the non-bank parts of the financial system including 'shadow banks' had taken attention away from banks but the financial crisis which has affected banking systems the world over had focussed minds once again on the centrality of banks.

The complexity of products such as Collateralized Debt Obligations (CDOs), the opaque nature of derivative securities, the risky nature of the shadow banking system and a host of other problems have been offered as the proximate causes for the financial crisis. Each of these lines of argument is valid to some extent but that must not distract us from the truth that this not the first banking crisis more like the hundredth one. In the days before CDOs, complex derivatives and the shadow banking system existed we still had banking crises. So, while it is important to learn lessons specific to this crisis we must not lose sight of the broader picture which is that banking is a fragile business.

We have already discussed some of the factors that make the financial system unstable. The policy measures we use to improve our banking systems must tackle not just the general instability of the financial system, but also the fragility of banks in particular. The specific causes of the current crisis as well as the general evolution in banking practices over the past decades would also need to be kept in mind.

2.1 What do banks do and why are they so important?

The word 'bank' is used loosely and may include institutions which are very different from each other such as 1) commercial banks 2) investment banks 3) development banks etc. but for the purpose of this book and for most regulators the word 'bank' evokes the image of some special functions. All 'banks' perform the following roles to some extent.

Maturity transformation

Banks accept deposits from savers, guarantee to return these on demand – and use these deposits to make loans for longer durations. In doing so, banks have the potential to transform short term savings into long term investments and thus improve the productivity of the economy. Savers want to be able to access their money at any time and investors want to get funds which are committed for a long term so they can make longer term investments. By placing itself between the savers and investors the bank enables productivity enhancing investments to take place.

Credit creation

Banks use a system of fractional reserves where each $100 deposit they get is split into 2 parts. One part – usually about $10 stays in the bank as reserves in case the depositors want some of their money back at a short notice but $ 90 is lent on to an individual or a business. This person in turn puts the loan money into his bank account where his bank holds on to $9 and lends the $81 residual to another customer and so on... This means that an initial $100 of savings can be converted into a much larger amount of credit. This is crucial for oiling the wheels of the economy in various forms, for example, as trade credit or working capital. While individual banks cannot 'create credit' the banking system as a whole does exactly that.

Credit allocation

Demand for credit is often higher than even the amount that the amounts that this 'magic' of fractional reserve banking can create so banks

have to ration credit. Even in the absence of such rationing banks have to be careful about whom they give credit to since giving loans is inherently risky.

The decision process behind this rationing typically involves asking questions such as

a. What is the client is going to do with the money?
b. What is the risk associated with this project?
c. What is the projected return?
d. What is the likelihood that the client will be able to return the money in full?

This due diligence is central to the long term success of modern day economies where banks and financial markets not governments play the de facto role of 'central planners'. So the quality of this decision on allocating credit is central to the dynamism of the overall economy.

The banking system also fulfils another central role in the economy that of providing the payment and clearing infrastructure that the whole of the financial sector and indeed the rest of the economy depend on.

All of these services can broadly be grouped under the category of 'commercial banking'.

Increasingly banks perform other functions in addition to the 'core' functions discussed here. Some of these additional functions are providing

a. Advisory services for the financial needs of businesses and individuals
b. Transaction advisory services such as on mergers and acquisitions
c. Brokerage services for stock market trading
d. Capital market dealer services such as flotation in the stock market and market making
e. Bank assurance services such as offering insurance and other financial products to customers
f. Asset management services which involves investing client money

More recently, an increasing number of banks have been adding proprietary trading, where they trade in financial markets for profit on their own account, to the list of activities they carry out.

The more of these services banks combine the closer they move to the 'Universal Banking' model that is fairly dominant amongst the big European banks. In the United States the Glass Steagull act had enforced a legal separation between commercial banking and investment banking activities but its repeal in 1999 opened the doors for the growth of the Universal Bank model there.

As we will see in a subsequent chapter banking has changed significantly in the past two decades. The size and scope of banks as well as the way they are run has changed almost beyond recognition.

2.2 The fragility of banks and redrawing the banking social contract

Banks, as several banking crisis throughout history have demonstrated, are fragile institutions. This is to a large extent unavoidable and is the direct result of the core functions they perform in the economy. In exchange for performing these core functions and in order to guard against inherent fragility, society has provided banks with several social insurance mechanisms which are also discussed briefly in this section.

Liquidity and Solvency risks

When banks convert short term deposits into long term loans, they expose themselves to the danger that many of their depositors may want their money back at the same time. But the bank, which is unable to call in loans it has made for long maturities, may not be able to pay. This maturity mismatch between the liabilities and assets of banks has been behind 'bank runs' where depositors panic and try and be the first ones to get their money out knowing the bank will not have sufficient liquid resources to return the money owed to all depositors.

To guard against this risk, banks were traditionally expected to maintain buffers in the form of minimum statutory liquidity and cash reserves though these have been abolished in recent decades. Thirty years ago, UK banks, for example, held as

much as 30% of their assets in a liquid form but that figure had come down to less than 1% by 2007[4].

The second bulwark against this risk is the central bank liquidity window which provides liquidity in the form of loans to solvent banks when they face a temporary shortage of funds.

The current crisis has seen a massive expansion of the size and scope of such liquidity windows as central banks the world over have provided trillions of dollars in liquidity support to their banking systems.

While fractional reserve banking is very effective at creating credit the fact that each bank retains only a fraction of the deposits and lends the rest makes banks very susceptible to the risk that borrowers may not be able to repay the loans they took out. Depositors may want their money back but the borrowers may not be able or willing to repay the money owed to the bank.

Knowing that not all loans will be repaid and that each bank will face idiosyncratic losses on its loans, regulators have expected banks to maintain minimum capital buffers. It is expected that these and the provisions that banks are expected to make against likely losses are sufficient to absorb losses so depositors do not lose money.

Faced with an uncertainty whether a bank will 1) be liquid enough or 2) solvent enough to return their money when they seek it, depositors are susceptible to panic withdrawals at the slightest hint of trouble. These runs have a self fulfilling nature where the run itself can drive even a sound bank into trouble.

It is to guard against this panic that regulators in most countries now provide deposit insurance facilities which guarantee the return of all bank deposits under a ceiling amount. Typically this insurance is funded by a fee on all bank deposits and is guaranteed by the central government.

Systemic risk

Risk taking is central to the modern day economy and without someone willing to take risks there would be no entrepreneurial activity in the economy whatsoever. Risks come in many forms but the three major categories are 1) liquidity risk 2) credit risk and 3) market risk. A financial system which allocates risks to the institutions best equipped to handle them works well.

If the total risk taken is excessive or if it is distributed so financial actors end up with a kind of risk that they have less capacity to bear it poses a threat to the stability of the whole system. When the banking system as a whole is threatened with massive losses, the risk is systemic in nature and must be handled, as in the recent crisis, at the level of the banking system.

Faced with such a systemic risk banking systems see collateral values fall; and diversification is no longer useful since many parts of the economy which are otherwise diversified all suffer at the same time. That is why the banking system in much of the developed world needed large scale capital injections from governments.

Regulators have had few tools to deal with this sort of risk as the current crisis has so clearly demonstrated. That is why central banks and governments of a number of countries needed to step in – in an ad hoc fashion to help protect the banking system from collapse.

This has expanded the safety net offered to the banking industry so that liquidity, depositor and capital insurance are all now de facto part of this safety net.

Traditionally regulation has been the counterpart to the provision of this safety net. The expansion of the safety net came at the same time as deregulation took hold so the case for stronger regulation is crystal clear. Society needs to redraw the social contract with banks on much more stringent terms that entail stronger regulations and a greater contribution towards the costs of insurance.

4 Statistics from the Bank of England

2.3 Why bank collapses have negative spill-overs on other banks

The systemic nature of banks reflects their extreme interconnectedness. Each individual institution can appear to be safe while the links between them mean that the system as a whole is vulnerable. Shocks to any part of the system can propagate speedily across the system and cause a domino like collapse.

Because the sustainability of banks depends crucially on the confidence that depositors have in being able to redeem their funds keeping this confidence high is crucial to keeping individual banks viable and the banking system stable. Unlike other areas of an economy where a failure of a competitor is usually good for business, in banking a failure of one bank can cause a serious crisis of confidence in other banks and have systemic consequences. This can happen for several reasons

- Because banks often have large and significant exposures to other banks, the failure of one bank could inflict large losses on others.
- Because banks often use similar systems and operate in similar markets, the failure of one bank might raise the prospect of the same problem turning up at other banks. Banks have become more like each other than ever before so this similarity can be a major channel of contagion and a source of systemic risk.
- Because banks are increasingly involved in financial markets, the failure of one bank might drive down the markets it operates in due to the forced selling of assets and securities. This happened on a large scale in the present crisis when a drop in the value of real estate mortgage backed securities, that banks the world over had invested in, fell in value triggering off a chain of forced sales and further drops in value.
- Depositors might suspect that the bank has collapsed due to systemic risks which will also affect other banks rather than idiosyncratic risks peculiar to the bank in question.

Public policy thus needs to focus sharply on preventing bank failure because this can impose costs on other banks as well as the broader economy and if failure is unavoidable, minimising systemic effects on other institutions.

The fundamental points that need to be addressed by banking regulation are 1) ensuring the soundness of an individual institution against idiosyncratic risks 2) minimising the spillovers from one bank onto the broader banking system and 3) ensuring the soundness of the banking system against systemic risks.

To date, the focus of regulation has primarily been on point 1 – reducing the risk of institutional failure. The big lesson from this crisis is that regulation need to shift its focus to point 2 – minimising contagion and point 3 – mitigating systemic risk. These issues are tackled in more detail in subsequent chapters.

3. The changing nature of finance

Grandmothers and finance professors both offer the same lesson for prudence, "do not put all your eggs in one basket". Translated to the market this means that diversifying your exposure across different financial markets, helps reduce risk. You are less likely to lose your money if you have bought both Apple and Microsoft stocks than if you have bought only one of them. This simple principle underpins the working of the financial industry, much of which seeks to maximise diversification.

Finance professionals as well as regulators assume that, as the investment portfolios of asset managers and banks become increasingly diversified, their exposure to risks in any one particular sector of the financial market or a particular category of assets is significantly reduced.

This type of risk, which can be interpreted as the risk of loss or disruption if problems emerge in a particular market sector or financial institution, is called idiosyncratic risk. Globalization did indeed reduce idiosyncratic risk. However what policy makers failed to grasp was that the reduction in idiosyncratic risk was accompanied by a concomitant rise in systemic risk – the risk that the whole financial system, not just component parts, breaks down at once just as it did in the ongoing financial crisis.

This happened primarily as a result of two main developments 1) large investors invested in almost all different asset classes and across countries which connected previously distinct markets and increased the risk of shocks being transmitted from one market to the other 2) the fact that most large banks looked increasingly like other large banks and most large investors had similar exposures meant that while the natural diversity of financial institutions was reduced and this made them susceptible to similar risk factors.

In the past capital controls, market segmentation and strict limits on the kind of investments that particular kinds of firms could make meant that there were several distinct markets that were only loosely connected, this changed with the advent of technological and economic globalization. Capital controls were dismantled, market segments were opened to all kinds of investors and deregulation and advances in information technology allowed financial institutions much more freedom of action. These institutions consolidated and grew in size and in the pursuit of diversification ended up having a footprint in almost all different asset classes and financial markets around the world. Previously distinct markets (or egg baskets) were now connected to each other so systemic risk increased drastically.

Instead of several distinct small baskets of eggs we have ended up with a single giant basket.

This deregulation of finance combined with significant advances in communication technology to increase the amount of cross border flows in finance. Cross border loans, foreign direct investment, international portfolio investments and foreign exchange trading all expanded exponentially. This was the advent of the so called financial globalization.

Advances in computing also meant that financial institutions were able to create ever more complex derivatives which started out as tools for hedging risk but soon became the financial instrument of choice for speculators. Derivative markets grew from a relatively small size to being bigger than 50 times the global GDP in a matter of just three decades[5].

At the same time that the size of these cross exposures and the interconnections between previously distinct financial markets expanded, the advent of the internet meant that the speed of financial transactions and financial flows became much faster. The days of the ticker tape and hand held calculators are gone and transactions in stock exchanges are now executed automatically by computers in a manner of nanoseconds.

5 Statistics from the BIS www.bis.org

So, recent changes to the financial system have included a rapid increase in the size of the system, the speed of transactions and the complexity of instruments.

3.1 Individually rational decisions can be collectively disastrous

Current regulation works on the assumption that ensuring the soundness of individual institutions automatically leads to the soundness of the system but this logic is fatally flawed. Such thinking can actually exacerbate systemic risk.

If the market price for an asset is likely to fall, it makes sense for each bank which is worried about its soundness to sell that asset as soon as possible. However in its effort to do so, it will drive the market price lower which would inflict losses on other banks carrying the same asset which in turn will be forced to sell other assets so as to bring their overall risk exposure under control and so on … Decisions which are individually rational for banks can be systemically disastrous so we may need separate institutions and develop public policy tools to ensure institutional and systemic soundness.

3.2 The pursuit of diversification brings uniformity

As we have discussed above, traditionally each bank sought to diversify so as to not to put all its eggs in one basket and thus lent to a diverse group in different sectors of the economy. With the globalization of finance the potential pool of assets has become much larger so banks should have become more diversified than ever before. A cursory look at their books reinforces this perception but this is highly deceptive.

The advent of securitization, cross border movement of financial flows, easing of restrictions on banks and sophisticated IT technology have meant that the access of banks to the pool of assets had grown even faster than the diversity in assets. Combined with access to identical correlation data sets, similar regulatory regimes, market prices and risk management systems more and more banks have 'diversified' across the same set of assets.

This best understood in the extreme version where all banks seeking to individually maximise their diversity have ended up being exposed to all assets and have in the process become identical to each other. The pursuit of diversification has brought uniformity and the banking system finds itself highly fragile since a disturbance in any asset class or problems at any institution can now be transmitted quickly across markets and institutions.

3.3 Market and regulatory incentives make the system procyclical

In boom times banks come under pressure to increase lending because it seems highly profitable since defaults are very low. Rising collateral values mean that banks become even more confident in making risky lending decisions and margins fall. Booming asset prices also mean that the risk capital banks are required to set aside is sharply reduced so banks put more credit into the economy so more and more money is chasing the same assets and the asset price keeps rising until … something inevitably goes wrong and the whole facade comes crashing down.

Banks which decide to be prudent during booms are penalized by the stock markets as banks such as HSBC were in the run up to the current crisis and the pressure to go with the flow is very high. Chuck Prince of Citicorp captured this well when he talked about having to dance as long as the music was playing. This is the individually rational thing to do and every bank intends to be the first one out of the door as soon as the music stops. Some banks make it in time, but by the very nature of the game others will be stuck and the banking system as a whole will suffer large losses due to its systemic nature.

Bank capital under current regulations such as the Basel accord is related to the riskiness of assets as perceived at a particular point of time. So capital requirements fall in boom times when the economic picture looks rosy. This means that when a downturn hits banks are almost always short of capital. Moreover, boom times allow banks to load up on leverage. This amplifies profits in rising

markets but also works the other way amplifying losses when asset prices start falling.

In addition to being highly leveraged banks are exposed to declining collateral values and falling asset prices so depositors can easily lose confidence in the banking system. Banking crises almost always follow booms because it is during these booms that systemic risks are built up.

For competitive reasons it is difficult for banks to avoid falling into this procyclical trap as highlighted by Chuck Prince's music metaphor. Market discipline, the notion that market players monitor and penalize the built of up risk in their counterparties is also procyclical so the only way to reduce the build up of systemic risk and the likelihood of banking crisis is for regulators to impose discipline from outside. The problem is that regulators also tend to be much more lax when the going is good so are prone to the very same procyclical trap.

3.4 Systemic risks have increased in recent years

The changing nature of banking systems discussed above has meant that the banking system is now quite prone to having high levels of systemic risk. Some of the reasons behind this are:

- An increasing number of banks now have similar business models and similar portfolios of assets, are subject to similar regulations and use similar risk management systems so diversity in the system has been reduced. Also, this similarity means that depositors and counterparties might be quicker to interpret the failure of one bank to signal that trouble may be brewing in other banks through similar lapses in risk management.
- The increasing practice of syndicating i. e. sharing out loans amongst several banks reduced the risks faced by each bank but exposed all banks to similar risks. Securitization, wherein loans are pooled together and converted into marketable securities also has a similar effect. This meant that many of the large banks in particular were exposed to similar risks.
- Banks have large and increasing degree of interconnections and cross exposures to each other especially through the interbank market for funds so the failure of one may inflict large losses on other banks. These short term sources of funds became increasingly important in the run up to the crisis funding as much as 25 % of assets in the UK for example[6].
- As information has become cheaper and technology more sophisticated a greater number of banks rely on standardized measures of risk such as credit scores for individuals and credit ratings for corporations. The traditional model of relationship banking where banks had long term personal relationships with their clients declined and was replaced by an impersonal automated and standardized system. This led to a loss of 'client specific' information and reduced the due diligence that banks were able to carry out on their lending operations. Nowadays every bank has access to the same standard credit scores and often makes similar decisions. This too has reduced diversity in the financial system.
- The banking system has become increasingly market oriented where banks no longer just make loans to hold them to maturity but increasingly trade in market instruments and securities and hold active trading books in, for example, securitized loans. They also increasingly use market prices such as credit ratings and credit default swaps not just in making decisions about assets but also in deciding how much capital to hold. This has made the viability of banks far more sensitive to market fluctuations and their behaviour more procyclical increasing both their contribution to systemic risk as well as vulnerability to it.

Furthermore banks now have much larger proprietary trading operations which expose them to market fluctuations. They increasingly fund the purchase of long term assets with cheaper short term liabilities so expose themselves to the risk of liquidity drying up in either the asset or the funding markets. They registered a large rise in leverage which has weakened their resilience to shocks making them vulnerable to even mild downturns and asset price declines.

For all these reasons financial system susceptibility to systemic risk has risen.

6 Statistics from the Bank of England

3.5 The 'evolution' of risk management systems

One of the key reasons why regulators let banks significantly reduce their rainy day buffers was that they had faith in the new fangled 'sophisticated' risk management systems that banks had built up following advances in information technology. A centre piece of these models was the so called Value at Risk (VaR) approach. This approach used historical data to calculate a number which could capture the worst possible loss a bank could face 99 out of 100 days under normal market conditions. This number was then used to calculate the capital that the bank needed to hold against its assets so the bank's solvency would not be threatened. While VaR was used to tackle market risk, similar models were developed for tackling credit risk.

Three big problems have afflicted these models from the start. One, they are unable to say with any reliability how much the bank might lose on the 1 out of 100 days that VaR does not cover. Such a loss could be large enough to wipe out the whole bank. The models treated financial market behaviour in the same way as natural distributions such as the heights or weights of people in a population. This missed out the well known fact that financial market behaviour is not accurately captured by these models and that market prices typically boast larger and more frequent extreme values than natural distributions do.

No wonder then that when the financial crisis first manifested itself in August 2007, the Chief Financial Officer of Goldman Sachs resorted to saying that the market was moving '25 standard' deviations, several days in a row[7]. If the model used in VaR management had indeed been right this would have been a true miracle as a 25 standard deviation event has a near zero likelihood of occurring even once in the lifetime of the universe leave alone several times in a row. The much simpler explanation is that the models used to evaluate VaR are wrong.

The second problem comes from the dependence of these models on historical data. This creates problems at two levels. One, a VaR model based on historical data fails to capture something that has not happened yet which severely limits its use as a tool for risk management. The second is that in the period of a boom, the risk as measured by VaR based on recent historical data falls allowing the bank to build up more leverage. All other firms do the same and in doing so make the financial system more procyclical and increase systemic risk.

The third problem is that VaR applies only to normal market conditions. Even a minute of thought would make it obvious to anyone that the time you want your risk management model to really work well is not under normal market conditions but when the markets are in turmoil. One well known shift that happens when markets turn from normal to abnormal is that the correlations between various asset prices, the degree to which they move up and down together, increases sharply. This can be easily explained.

When a bank experiences losses in one part of its portfolio it seeks to reduce the risk carried on the rest of the balance sheet in order not to fall below minimum capital adequacy requirements. This means that it typically needs to sell some other assets since the assets that have experienced losses would be harder to sell. But the sale of these assets puts pressure on their price and this has two effects. The price movements of the two assets, which have both registered a fall, would now be related even if they were not related before.

This means that the assumptions on which VaR systems are built no longer hold. The second effect would be that the price falls will inflict losses on the portfolio of a third institution which will then be forced to sell yet another asset. If the size of the initial shock is big enough this can soon turn into a vicious cycle. This is exactly what happened in the current crisis. The likelihood of this cycle getting kick started is related to the degree of diversity in the financial system. As we have seen in previous chapters, the financial system has lost much of its natural diversity so systemic risk is much more likely to manifest itself in the form of this vicious cycle.

7 Financial Times http://www.ft.com/cms/s/0/22278cc4-4f7e-11dc-b485-0000779fd2ac.html

4. Making sense of what happened

4.1 The rapid expansion of the financial system

Financial globalization has resulted in a financial system that is larger, faster and more international than ever before. The turnover in financial markets, for example, expanded from about 15 times world GDP In 1990 to almost 70 times world GDP in 2007 just before the crisis hit[8]. This came about through both an increase in the velocity of transactions as well as the overall value outstanding in the market. According to the BIS, derivative transactions in particular expanded from 10 times world GDP in 1990 to more than 55 times world GDP now.

Bank balance sheets also expanded rapidly, though the process of expansion had already started in the 1970s. The Bank of England has shown that UK bank balance sheet to GDP ratio, for example expanded from about 50% of GDP in the 1970s to more than 600% by the time the crisis hit[9]. Before the 1970s the ratio had been nearly constant for almost a century. Banks such as Kaupthing of Iceland and UBS of Switzerland expanded internationally at almost an exponential pace. By the time it collapsed Kaupthing had assets of 623% of the GDP of Iceland and its collapse triggered a collapse of the Icelandic economy. UBS boasted a balance sheet that weighted in at 484% of Swiss GDP[10]. The total assets held by the world's largest banks roughly doubled in the five years up to 2008 and leverage in UK banks rose on average by two thirds over the same period[11].

Another aspect of the growth and internationalization of banks was the rapid growth in their subsidiaries. Citibank operates in more than 100 countries and at last count boasted of 2,435 subsidiaries. Deutsche Bank which is far less international already clocks up 1,954 subsidiaries. Once one takes into account the various other legal entities such as special purpose vehicles that such banks set up, the number of legal entities is a significant multiple of the number of subsidiaries reported with Citibank having close to 10,000 legal entities[12].

This rapid growth in the size of the financial markets and the banking system was accompanied by a very large growth in the scope of their operations. European banks had started expanding their investment banking subsidiaries since the late 1980s and US banks did the same once the legal restrictions imposed by the Glass Steagull act were abolished in 1999.

Capital and liquidity ratios in western banking systems also fell down to historical lows. Since the start of the 20th century capital ratios in the US and UK fell by a factor of 5. According to the Bank of England, while UK banks held 30% of their assets in a liquid form till the late 1960s this number was down to just 1% at the point the crisis hit.

The western banking system that entered the crisis of 2007 was larger in size and scope than ever before, operated on near record low margins of capital and liquidity and was far more international and complex than it had ever been.

It was obvious to several outsiders that the system was ripe for a collapse but insiders, regulators and governments all got seduced by the 'this time it is different' myth believing that new technology, products and risk management systems had dispersed the risks so the banks they oversaw were safer. They neglected to ask simple questions such

8 www.bis.org
9 Bank of England Statistics
10 As reported in the Financial Times
11 Bank of England
12 The Oxford Handbook of Banking, Allen N. Berger, Phillip Molyneux, John Wilson, Ch 8 Pg 209

as where did the risk go? They were focused solely on idiosyncratic risk and were blind to the record built up of systemic risk that had happened right in front of their eyes, partly with their permission.

4.2 What happened?

The rich world banking system, especially in the US and in Europe was saved from certain collapse only through unprecedented government support. According to the IMF, the total support provided to the financial system was worth nearly 25 % of world GDP about $15 trillion. The interventions were not just large in size but were also imaginative in scope and included liquidity and capital injections, debt guarantees, deposit insurance expansion and troubled asset purchases. Many countries afflicted had no previous experience of or legal means for such large scale intervention in the financial sector and made policy on the go, sometimes over the course of a weekend.

The true economic cost in terms of 1) the direct costs of financial sector bailouts 2) the increase in fiscal deficits 3) the loss in economic growth have been estimated by the Bank of England to be an order of magnitude higher[13].

We already know that the banking system was poised on the edge of a large systemic breakdown so it did not take much to send it over the cliff. In pursuit of ever greater profits and in order to benefit from the prevailing low interest environment, US banks sharply ramped up their exposure to risky subprime borrowers. The details have been discussed in several accounts but what is important is that the total losses from this subprime exposure have been a small fraction of the $15 trillion estimated cost of the crisis.

What happened was that the increased interconnectedness of the world financial system transmitted the initial shock around the world and banks as far as Germany which were exposed to the US subprime mortgage market got into trouble. The first round of losses generated further selloffs in the financial markets as banks and other financial institutions sought to reduce their exposure as per the risk management mechanisms discussed in the previous chapter. This in turn depressed asset prices in other markets and added to the contagion and amplification of losses in the financial system.

Since banks were carrying the thinnest reserves of capital of anytime in their recent history, the safety and soundness of some of the weakest ones soon became suspect. This led their counterparties, both banks and money market funds, to stop lending to these banks thus choking of the short term funds they were highly dependent on.

Banks were also carrying little or no liquidity buffers so had almost no safety margin when their sources of funds dried up. Some of them sought central bank liquidity support which reinforced the market opinion that these banks were facing problems.

This in turn made counterparties demand higher collaterals which these banks could not provide so they sought to sell more assets and amplified the first round of market losses.

Since a significant proportion of the counterparty exposure was in the opaque over the counter derivative markets no one knew which other bank was exposed to losses from the banks that were by now well known to be in trouble. Other forms of opacity such as the off balance sheet exposures of banks further fuelled this uncertianity. So, all banks started hoarding liquid funds, demanding higher collateral from counterparties and tried to offload some assets into the financial markets. This fed the vicious circle of falling asset values, liquidity freezes, higher margining requirements, forced asset sales, further losses … By now the financial crisis was in full swing.

As banks tried to raise funds they also started cutting back on lending to the real economy which turned what had been until then a financial crisis into a credit crunch that eventually led to a full blown economic crisis.

In the previous chapter we have discussed how important diversity is to the stability of the financial system. We had also noted that the financial system had become less and less diverse and hence

13 "The $100 billion question", Andrew Haldane, Bank of England 2010

more fragile. The Bank of England found that the average correlations between different parts of the financial sector exceeded 0.9 in the period 2004-2007 (in which the number one represents complete correlation i.e. identity). This means that sectors as supposedly diverse as hedge funds, investment banks and commercial banks were all acting alike. For example, the correlations between the return of two supposedly distinct hedge fund strategies "convertible arbitrage" and "dedicated short bias" rose from zero in 2000 to around 0.35 in 2008.

Banks were acting like investment banks, investment banks like hedge funds and hedge funds like banks. AIG, it is now widely believed, was at once an insurance firm, a bank and a hedge fund.

The financial system was set up for a fall so while the subprime sector in the US was the trigger in our particular version of history, it could have been another shock that led us down the same path of a systemic breakdown.

Hence, it is important that we learn the right lessons from this crisis. The main lesson in not reforming US subprime lending though that is important in the local context. The main lessons are instead 1) the need to shift our focus to systemic risk 2) the need to redesign the financial system in a way that it maintains its natural diversity 3) the need to tackle procyclicality and 4) the need to make sure that incentives in the financial system are aligned with those of the real economy.

5. How misaligned incentives lie at the heart of financial crises

Remuneration in the financial sector is a hot button issue. At a time when millions of workers have lost their jobs in an economic meltdown induced by the failings of the financial sector, and millions others have lost large chunks of their savings in the accompanying asset price decline, bankers continue to earn multiples of what most ordinary people would earn even in boom times.

The so called 'bonus culture' among bankers and other finance sector professionals had become apparent as employees appeared to compete publicly to outdo each other with increasingly visible lavish consumption in the run up to the crisis. Public anger was heightened by events such as the running up a £43,000 drinks bill at a London club by a banker during a period of three hours in September 2009, just a year after the collapse of Lehman Brothers sent the world economy in a tailspin[14].

5.1 Bank profits and banker bonuses

The present financial and economic crisis was caused by excessive risk taking by a very wide variety of firms in the financial sector. Investment banks, banks, hedge funds were all involved not just in building up excessive risks at the level of individual firms but even more so in the aggregate build up of systemic risk.

The decisions to take on these risks were driven by the boards and CEOs who ran these firms and the employees who worked for them. Their motivation for doing this was simple:

- The higher the risks a firm takes, the greater the profitability is likely to be
- The greater the profitability of a firm, the greater the compensation paid

That is why, any discussion of the reform of the financial system targeted at avoiding a repeat of the crisis, has to confront the incentives of individual employees including the CEOs of these firms to take on excessive risks as well as the fact that shareholders did not check the excesses.

Much of the excessive risk taking by financial firms was driven by the desire of its management and employees to maximise their personal wealth.

For partly historical reasons to do with investment banks having had partnership structures until recently, employees at major investment banks typically distribute more than 50% of the revenues of the firm amongst themselves so the link from higher profitability of the firm to higher bonuses for employees is very direct.

5.2 How finance firms generated their returns

In order to maximise bonuses, it is not sufficient of course for employees to simply want this to happen. The employees need to run the financial firms they work for in a way that would generate very high profits that will in turn enable them to take home 50% of these profits as bonus and compensation.

So it is important to look at what sort of strategies financial firms followed to earn the very high profits that were reported.

Before we do that it is interesting to note that up until the 1970s–80s banks in the UK, for example, on average earned only about 10% return on equity which was in line with how much firms in the real economy were earning[15]. This makes economic sense too since finance does not add

14 http://www.dailymail.co.uk/news/article-1150973/43-000-drinks-City-banker-clearly-feeling-credit-crunch.html
15 Bank of England

production value directly but depends on allocating resources efficiently to the real sector of the economy for adding value. So a long term return on equity in line with what was being generated in the real economy is to be expected.

However, from the 1980s bank return on equity in the UK climbed up to 20% and was as high as 30% just before the crisis hit[16]. This high rate of reported profitability amongst not just banks but across the financial sector was what enabled bankers to take home the now famous multi-million dollar bonuses.

Most of the strategies of earning excessive profits followed in the financial sector flowed from excessive risk taking as we demonstrate below.

Taking on excessive leverage

Imagine that you are able to borrow at an interest rate of 5%. You have the possibility to invest $100 in a project that will generate $10 in profit annually. One option for doing this is to not borrow at all but invest $100 of your own money (zero leverage). You will generate a 10% return on your 'equity'. Now consider that you borrowed half of the $100 so you put in $50 of your own money and $50 borrowed at 5% (leverage ratio 1). You will still earn $10 but will have to pay $50 x 5% = $2.5 in interest. So you will earn a profit of $7.5 on your $50 investment, a return of 15%. If you borrow $90 (leverage 9). Now your interest payment would be $90 x 5% = $4.5. Your profit would then be $5.5 giving you a return of 55% on the $10 invested.

As long as the rate of interest payable is lower than the intrinsic rate of return on your investment, you can potentially earn ever higher rates of return. If you had borrowed $99 of the $100 investment required your return on equity would have been a full 505 %.

Banks across the world loaded up on leverage. In fact, immediately before the crisis hit, leverage ratios for banks such as UBS and Deutsche Bank exceeded 60 with other banks such as Barclays, SocGen, RBS and Credit Suisse all coming in over 30[17]. Higher leverage more or less fully accounts for the rise in UK banks' returns on equity up until 2007 with average leverage doubling in the decade in the run up to the crisis.

Derivatives, financial instruments that derive their value from another underlying security are inherently leveraged products. Typically, a derivative can be bought or sold using only a fraction of its total profit (or loss) potential. This means that one can generate 'leveraged returns' through loading up on derivatives. This was another strategy that firms used with the volume of outstanding derivative products exploding from the early 1990s onwards.

Business line diversification

Another strategy used by banks was to diversify into an ever expanding line of businesses. Ostensibly, this was done with a view to reduce the risks of the firm by diversifying the sources of revenue. However, the direction of diversification was often towards adding on increasingly risky business lines. Commercial banks started doing investment banking. Investment banks expanded into proprietary trading, normally a preserve of hedge funds. While it allowed the individual firms to increase return on equity, it also meant that the financial system as a whole became less diverse and more risky.

The motivation for business line diversification was to use relatively cheap sources of funds available in one part of the business to invest in other riskier parts of the business to generate as high a return as possible. Typically commercial banks have a lower cost of funds (because of deposit insurance) than investment banks which in turn can borrow at lower rates than hedge funds. So commercial banks increasingly used depositor funds for investment bank like activity. Investment banks borrowed heavily to fund their internal hedge funds.

Expansion of trading books

One of the consequences of business line diversification was that most banks had at least two distinct operations – traditional loan making and trading. Due to ill thought out capital requirements

16 Bank of England
17 Bank of England, BIS and IMF Statistics

specified by the Basel accord, it transpired that the capital banks were supposed to hold against assets held for sale in the trading book was lower than the capital they needed to hold against the same assets when they were held to maturity in the loan book. This meant that banks had an incentive to shift assets to the trading book which allowed them to inflate the return on equity by holding lower capital. This shift was difficult for traditional loans so banks started pooling groups of loans and 'securitizing' them to make them tradable.

The exponential growth of securitization owes its origins to this capital arbitrage trick that banks engaged in to increase their reported profitability. Conflicts of interest at credit rating agencies meant banks were able to put pressure on them to issue inflated ratings for complex securitizations. This further reduced the capital that was required to be held against these securities. Both of these aspects increased the aggregate riskiness of the financial system as well as its reported profitability.

There was another motivation for shifting assets to trading books. Securities held for trading have their price 'marked to market'. In the rising asset price conditions in the run up to the crisis, banks increasingly resorted to marking huge profits on their trading books as the market price of these securities rose. Once the profits were booked the bonuses were paid irrespective of whether the prices of these securities fell at a subsequent date and translated into losses.

Taking on excessive maturity mismatch risk

Borrowing short term is cheaper than borrowing long term because there is less time for something to go wrong. Lending long term on the other hand, generates a higher return. Borrowing short term to lend longer term is one of the critical functions of banking. However, it is now clear that banks went overboard on this 'maturity-transformation' in a bid to maximise profits earned.

Historically, banks in the UK, for example, funded most of the loans they made through customer deposits but increasingly in the run up to the crisis, more and more of these loans were financed by short term borrowing. Just before the crisis hit, more than 25 % of customer loans made in the UK were funded by short term borrowing[18]. This model works well as long as banks can roll over their borrowing regularly but collapses when the liquidity in the market dries up as it did in the crisis. This led to the collapse of Northern Rock. So while banks earned some excess spread and hence a higher profits through this strategy, it came at the cost of making the institution as well as the system much more risky.

The other way to earn a high spread is to increase the duration of the loans the institution makes. Banks also engaged in this on a large scale. In the UK, for example, the major clearing banks held around 30 % of their assets in short-term liquid instruments in the 1970s. This has fallen to about 1 % now according to Bank of England data. This too generates excess profits for the bank and bonuses for its employees but at the cost of much greater risk to the institution as well as to the real economy.

Investing in riskier assets

Another way of increasing profits (and risks) was for banks to make increasingly risky loans since riskier loans and assets generate greater returns. This led to the serious deterioration in the asset quality of bank balance sheets. Banks in the US in particular, which faced restrictions on leverage ratios, started investing in sub-prime securities and making risky leveraged loans to fund leveraged buy outs.

Writing options

While other parts of the financial sector watched banks made enviable returns on equity they responded in two ways. One was to copy the banks which lead to an increasing similarity in business models and a serious reduction in the diversity of the financial sector. The other was for these firms to invent their own equivalent of bank strategy.

Insurance firms such as AIG found that they could sell options and other derivatives to other

18 Bank of England

financial sector actors and generate significant upfront fees that would translate into higher bonuses. So they started selling these en masse and by the time AIG imploded they had sold over $1 trillion worth of protection against credit risk. AIG earned profits and its employees earned bonuses while they loaded the firm up with risk that it simply did not have the capacity to bear.

5.3 But why would bankers want to risk everything?

The excessive risk taking bonus maximising behaviour that those working in the financial sector engaged in can be easily explained. Bankers kept a significant proportion of the upside that came from such actions while not being exposed to much of the downside risk.

Many have asked the question that if bankers were indeed loading the institutions they ran with excessive risk, why were they not stopped by shareholders? This is because shareholders too only bore a part of the downside risk while sharing the upside with the employees of the firms they owned.

We explain both of these below.

In a typical investment bank, base salaries have been high but 'only' 1.5–3 times the amount earned in the rest of the private sector in a comparable position. However, compensation structures in banks allow for a very high variable 'bonus' component which can be a significant multiple (anywhere from 2–10 but even as high as 100 times) of the base salary. This is much higher than in any other industry where bonuses are seldom higher than a fraction of the base salary.

One of the reasons for this variable to fixed component ratio in banking is that banking is a cyclical industry where the volatility of profits is high. A higher flexible component of the compensation, at least in theory, makes banks more robust since they are able to significantly decrease their wage bill, one of their largest expenses, if the business is not doing well. This justification, which is often used by bankers themselves has turned out to be false.

Bonus payments continued unabated in the face of record losses. Andrew Cuomo, the Attorney General for the State of New York summed up the situation succinctly when he said in his report *"…when the banks did well, their employees were paid well. When the banks did poorly, their employees were paid well. And when the banks did very poorly, they were bailed out by taxpayers and their employees were still paid well. Bonuses and overall compensation did not vary significantly as profits diminished"*.

The statistics bear this out: For example, in 2008 Citicorp and Merrill Lynch lost $54 billion. In the same year they received tax payer funds in the form of TARP bailouts of $55 billon and paid out nearly $9 billion in 'discretionary' bonuses. Clearly, the main argument for structuring compensation in the form of discretionary bonuses did not hold.

Now think that a trader faces the following decision. He can make one of two trading choices. Either invest in

Deal A: 80% chance of $50 million profit & 20% chance of $100 million loss Deal B: 80% chance of $100 million profit & 20% chance of $300 million loss The expected value of deal A and deal B both is $20 million but they have a very different risk profile. Deal B poses a much greater risk for the bank.

Now imagine that the trader was entitled to 25% of the profit he generated (a smaller percentage is more likely but 10%–20% is not uncommon for star traders).

Let us further assume that he would get fired in case the bank lost money on the deal – usually the worst outcome that can befall a trader.

So from the traders point of view Deal A = 80% chance of $12.5 million bonus (25% of $50 million profit) and a 20% chance of zero compensation. Deal B = 80% chance of $25 million bonus and 20% chance of getting fired and hence zero compensation.

For the trader, Deal A has an expected value of $10 million and Deal B has an expected value of $20 million. He will almost always choose Deal B.

Because, part of the downside risk of the trader's decisions is borne not by him personally

but by the firm, he will almost always choose to load the firm up on risk so as to maximize his personal bonus payment.

The closer the links of the bonuses to profit generated, the less the risk adjustment, the lower the base salary as a component of the total compensation the more excessive risk the trader has an incentive to take compared to what might be optimal for the firm.

Now let us look at the shareholder perspective. Let us assume that a bank has a share capita of $100 million. Let us say it faces the same decisions as the trader

Deal A: 80% chance of $50 million profit & 20% chance of $100 million loss

Deal B: 80% chance of $100 million profit & 20% chance of $300 million loss

Typically, investment bank shareholders get about 50% revenue earned in the form of dividends with the rest distributed amongst employees.

The pay off for Deal A = 0.5* (0.8*$50 million – 0.2*$100 million) = $10 million.

For deal B, it is important to consider that because of limited liability bank shareholders are only liable for the amount their shareholder capital which is $100 million. So the most they can lose is $100 million not $300 million. The calculation will then take the form Deal B = 0.5* (0.8*$100 million – 0.2*$100 million) = $30 million.

Thus bank shareholders would prefer to do Deal B despite the fact that the deal is much more risky for the firm. Crucially, the $200 million of excess losses will be borne by the financial sector outside the firm.

Employees were behaving like our trader and shareholders allowed them to take on too much risk because of their own skewed incentive structures.

When push came to shove and the crisis hit, the risks were eventually borne by tax payers whose money was used by governments to bail out these very same traders and financial institutions.

The asymmetry between rewards and risk does not end here but extends beyond this as highlighted in the section below.

5.4 Financial Risk Taking has Systemic Consequences

Within the financial industry

When one of the grocery stores in a market shuts down, it is good for business for the other grocery stores, but when a bank fails, it can drag down other banks with it. This was clearly illustrated by the effect that the failure of Lehman Bothers had on the rest of the financial system.

This as we have discussed earlier happens because of three reasons 1) financial institutions have a much greater degree of interconnectedness with their competitors through the inter bank market, repos (repurchase options) and derivatives than say firms such as GM and Ford have with each other. So the failure of one financial institution can inflict sharp losses on its counterparties in the financial sector 2) distress at a financial institution might force it to unload securities in the market at fire sale prices which depress the market and inflict losses on a whole range of financial institutions who are invested in those markets 3) the collapse of a financial institution might lead to a loss of confidence in institutions with a similar business model

Hence, while the benefits of excessive risk taking at a financial institution are reaped primarily by those who control it i.e. its employees and shareholders, the downside of this risk taking imposes costs across the whole of the financial sector.

So, there is an asymmetry between the interests of a single financial institution and the whole of the financial sector where each institution has an incentive to take on more risks than would be optimal for the sector as a whole.

And on the real economy

The ongoing crisis has also clearly highlighted the potential consequences of problems in the financial sector for the rest of the economy. This is because the financial sector acts as the 'brain' of the economy allocating credit across the real economy. The financial sector also provides crucial payment and exchange services that are critical to oiling the wheels of thee economy so disturbances in the

financial sector can freeze credit and bring the real economy off its wheels.

It is with a view to preventing this meltdown of the real economy from happening that the financial sector is often rescued with tax payer money as has been the case in the ongoing crisis.

So, excessive risk taking in the financial sector imposes risks and costs far beyond the sector into the real economy. While the upside of excessive risk taking stays within the sector, the downside costs spill over into the real economy.

So there is an asymmetry in the interests of the financial sector and the real economy. That is why, the financial sector as a whole also has an incentive to take more risks than would be optimal for the real economy as a whole.

This asymmetry is further exacerbated by the repeated tax payer funded rescue of the financial sector. Let us say that the financial sector takes on a 100 units of extra risks. Because of the asymmetry highlighted above, only some of these risks, say 50 units will fall inside the financial sector. Now, when taxpayers bail out financial institutions, they reduce the down side faced by the financial sector even more by taking on part of the risks that fell within the sector.

So the financial sector had benefited from 100% of the upside while being exposed to only 50% of the risk. After tax payer bailouts, its share of the downside shrinks to say only 25% with the real economy and tax payers shouldering 75% of the burden.

Under these circumstances where 100% of the benefits accrue to the sector and it only has to bear 25% of the cost, it is not surprising that it repeatedly loads up on excessive risks.

5.5 Taxpayers pay and bankers sashay

The crisis has cost taxpayers trillions of dollars not just the direct costs of the bailouts but also for the large stimulus money that had to be injected by governments in order to prevent economic meltdown. This does not yet account for the total costs to the economy through lost growth. Added up, all of these direct and indirect costs imposed by the financial crisis on the real economy well exceed $15 trillion, a sum far greater than any contribution from the financial sector to the real economy which in no year has exceeded a small fraction of that amount.

Many of the bank CEOs did not get fired and shareholders, bondholders and employees were all bailed out. The combination of less competition, the economic volatility that has resulted from the crisis and record low interest rates has allowed surviving banks to make record profits and their employees are once again taking home pre crisis levels of bonuses.

Once again, profits have been privatized and risks socialized.

6. Some Principles for Financial System Reform

Given the number of financial sector regulation proposals on the agenda, it might be useful to discuss the need to reshape regulation through a lens of some broad principles. Unless the reform agenda is guided by a set of fundamental principles it is more than likely that it would lose its way and end up not achieving what it is meant to do – create a financial system that supports the real economy and does so without posing a burden on tax payers. In this section we highlight the most important principles and discuss what they imply for regulatory reform discussions.

6.1 Competitiveness

The 20%–25% return on equity for banks, 2/20% hedge fund fee structures and more than $100 billion in annual bonus payouts, all salient features of the pre-crisis financial landscape were symptoms of too little competition and excessive leverage. Things came to ahead in the United States when the financial sector, which is supposed to merely facilitate the real economy, accounted for as much as 40% of all corporate profits in the run up to the crash. This profit came at the cost of customers, tax payers and actors in the real economy.

Consolidation in the financial sector was driven by public subsidies meted out to institutions considered 'too big or too complex to fail'. An important corollary of this subsidy is that itconfers on them a significant advantage over smaller rivals, increases barrier to entry and distorts competition. Employees and shareholders are able to garner excessive rewards in the non-competitive system and this together with the protection against failure combined to skew incentives and encourage speculative and destabilizing behaviour.

Barriers to entry need to be lowered and financial institutions need to be broken up so their failure no longer poses a threat to the system. This would not only deliver a much better deal for both customers and investors but also for taxpayers since such a system would also be less likely to crash.

6.2 Diversity

Soldiers crossing a bridge are asked to break step else the bridge would become unstable and collapse. Likewise, financial stability comes from diversity of behaviour. When everyone wants to buy or sell at the same time, we get asset price bubbles and collapses. As we have seen in the earlier chapters, this unfortunately has been the trend in recent years.

What we need is the whole range of financial institutions – savings banks, insurance firms, merchant banks, pension funds and development banks doing what they are supposed to do. In the run up to the crisis banks behaved increasingly like hedge funds through their proprietary trading operations, and hedge funds became shadow banks. Some insurance firms such as AIG tried to be both.

Current regulation allows market prices and institutions' own judgement of risk to influence how much capital they hold. Since this capital is held to guard against market and institutional failures in the first place, there is a big contradiction here. This, together with the use of similar risk management and bonus incentive systems drove everyone to invest in the same assets at the same time and reduced diversity. It made the financial system more pro-cyclical, unstable and prone to systemic collapse.

As discussed in previous chapters, portfolio diversification worked well only as long as access to asset markets, geographic reach and the infor-

mation available to different investors all differed since the various buckets of investments were genuinely distinct.

Advances in information technology has meant that nearly everyone now has access to the same asset price data more or less at the same time; capital account liberalization has meant that for all practical purposes all large and significant financial markets are now open to overseas investors; regulation has driven more and more financial actors to use similar market price linked risk management systems; and the growth of the bonus culture and annual shareholder maximising objectives has made more and more financial actors behave identically in a bid to maximise their income.

The pursuit of diversification against this background predictably led to an increased degree of uniformity in the financial system which increased systemic risk and made it fragile to external and internal shocks.

That is why financial institutions need to be regulated by what they do not what they say they do. Capital requirements need to be mandated by regulators not markets or own judgement. Diversity can come from different investment horizons, incentive systems, risk appetites or regulatory requirements and should to be actively encouraged in the new regulatory regime.

Regulators around the world led by the G-20 are pushing for the adoption of high and common standards but this push needs to be thought through. The adoption of similar VaR based risk management systems and similar capital adequacy requirements across credit institutions is likely to have contributed to the ongoing crisis. If the same standards are universally adopted then this in itself increases the homogeneity of the system and reduces diversity.

6.3 Simplicity

Because financial regulation lacked broad principles, reactive efforts to 'fine tune' and adjust it have left us with tens of thousands of pages of laws and guidelines which are full of loopholes but act as a barrier to entry nonetheless. Moreover, because these differ across jurisdictions and legal form financial institutions set up a complex network of hundreds of subsidiaries to game the system. This has made them not only too complex to fail but also in the case of behemoths such as Citicorp which has close to 2,500 subsidiaries (427 in tax havens), too complex to manage.

What we need is to hardwire simple and blunt regulations such as caps on leverage, country by country reporting and prohibitions of off balance sheet exposures. This would be more effective if co-ordinated internationally but this is not a prerequisite for making progress.

There has been a parallel rise of the complexity of financial products driven by the fact that complexity increases profit margins and opportunities for tax and regulatory arbitrage. It does so by increasing information asymmetry between the financial institutions on the one hand and its customers and regulators on the other.

Complexity in legal structures and products also increases opacity, reduces supervisory effectiveness, and thus increases systemic risk. Regulation needs to push for simplicity in legal structures and in financial products.

Regulation itself should aim to be simple and robust. Excessively complex measures of risk and capital adequacy, for example, lose their usefulness in the face of developments that are not easy to anticipate or calibrate. These are exactly the sort of developments that risk management systems and capital cushions are designed for protection against. So for a rule to be effective, would need to be simple or supervisors and regulators can get lost in detail. Complex rulebooks are also easy for banks to game whereas simpler rules such as leverage ratios are more robust.

6.4 Fairness

Large banks excel in reducing the tax burden on themselves, as well as on their employees and large customers through the use of complex products and legal structures often involving tax havens. In good times, they did not pay their fair share of taxes and in bad times those who do pay their taxes have

bailed them out. This is not only unfair but even more important destabilizing since it encourages excessive risk taking.

Polluters must be made to pay so there is an urgent need to crack down on tax avoidance by banks, bankers and their clients. While that can help reduce future abuse, the costs of ongoing and future bailouts must also be recovered from the financial sector through levying financial transaction taxes and levies on bank balance sheets. These are easy to collect, hard to avoid, have a very progressive incidence, have the potential to increase stability and can be implemented unilaterally.

Compensation in the financial sector needs to be regulated sharply downwards to reduce the rewards from excessive risk taking. The best way to make the upside and downside faced by bankers more symmetric would be to cap bonuses to 50% (or less) of salary. Current annual bonus structures of multiples of base salary drive short-termism, speculation and irresponsible behaviour because such behaviour can be highly rewarding especially since eventually it is the tax payers who foot the bill.

More broadly the social contract between banks and the society needs to be revised with terms favouring society over banks. This would need a bevy of new taxes on financial transactions and banks short term funding, strict compensation controls and caps on leverage and liquidity mismatches. No financial system would be fair without removing the subsidy that too big to fail or too interconnected to fail institutions enjoy. This needs to be tackled preferably through radical surgery on the banking system. If this proves to be too contentious then a combination of credible resolution mechanisms and high systemic risk penalties might offer a second best solution.

6.5 Alignment with the real economy

While there are some investments that earn genuine short-term rewards, most productivity enhancing investments in the real economy need to have a medium or long-term horizon. That long term horizon is also a way of ensuring that the returns are sustainable and do not come at the cost of long term growth.

The financial system, which drives investment flows, has unfortunately become increasingly short term oriented with the average holding period for stocks for example, having decreased sharply to less than a year now. This means that investments of the kind which have high upfront costs but deliver high productivity and profits over the long term are undervalued by the market.

A widely quoted study by Thompson Reuters of companies listed on the Dow Jones Industrial Average (DJIA) found that between 1999 and 2004, nearly half the companies in the index met consensus forecasts or exceeded them by just a penny. Such forecast hugging is simply not possible in the real complex world of large corporations and is a clear sign of widespread earnings manipulation. Exceeding consensus forecast generates a share price spike which is very profitable for CEOs who often get paid in stock. Even more shocking, 78% of executives interviewed in a survey said that they would sacrifice an initiative they expected would create economic value, if it negatively impacted their ability to smooth earnings[19].

The short term orientation thus not only increases the volatility in the economy but also means that investments that are profitable in the short term but which ultimately destroy value are encouraged and that investments which create value in the long term are priced out of the market. This has serious implications not just for the productivity of the economy but for tackling climate change. Green investments that are clearly profitable in the long term are often underfunded by the market because they entail high upfront costs.

This short term orientation can be addressed through a combination of measures which include an introduction of financial transaction taxes that penalize excessive short termism and speculation, compensation controls that remove the incentive for short termism and differentiated voting rights for long term shareholders.

19 Payout policy in the 21st Century, Duke University 2004

7. Mitigating systemic risk

As has become clear from the discussion thus far, one of the biggest challenges before policy makers today is reforming the financial system in a way that effectively mitigates systemic risk. Three routes are possible here. We could choose to directly alter the structure of the banking system. We could engage in a complete overhaul of financial regulation. Or we could do a bit of both. The choice is between strictly regulating what banks and other financial firms can do or leaving open the scope of what they may do but strictly supervising how they do it.

Keeping the current structure of banking, for example, would mean that we need much higher levels of liquidity and capital buffers and highly intrusive supervision to help mitigate systemic risk. On the other hand, reducing the size, interconnectedness and contagion in the financial system might entail some structural surgery but would need lower capital and liquidity buffers and less intensive supervision.

The one thing that is clear is that the instability of the global financial system needs to be tackled urgently. The world clearly cannot afford another crisis of the kind we have just had. Ideally, given the global nature of finance, the regulatory reforms would be carried out at the global level. However, there is no global finance regulator or supervisor to take this forward.

The current global financial governance structure comprises institutions such as the International Monetary Fund, the newly reconstituted Financial Stability Board, associations of bank, securities and insurance regulators and most recently the G-20 lacks the legitimacy, competence, capacity and willingness to play this role. Moreover, countries with large financial systems, such as the US and the UK are reluctant to cede sovereignty to any global regulator.

In the absence of a proper global governance mechanism, there is a need to make sure that the financial sector is governed and reformed appropriately at the country and regional level.

Since the European Union, the largest economy in the world, also operates as a highly interconnected single market, the rest of the chapter uses this single market as an example of what needs to be done to tackle systemic risk. The same lessons can be applied to national and global levels.

Tackling systemic risk in the single market area is important for three reasons.

- The failure of cross border banks demonstrated the yawning gaps in cross border financial co-operation within the EU. These need to be filled.
- The single market has a highly integrated financial system which makes the need for integrated supervision and regulation ever more urgent
- As the largest economy in the world, the EU, acting together can influence the shape and form of the global discussion on regulatory reform and the global governance of the financial system

7.1 Establishing a system-wide watchdog

The supervision and regulation of the financial sector thus far has been bottom up oriented, focussing on ensuring that individual institutions and market actors were sound and did not violate regulatory requirements. This was appropriate in a world where markets were fragmented and financial institutions primarily faced institution specific idiosyncratic risk. This old fashioned approach to supervision and regulation failed to keep up with the changing nature of finance and the growth in systemic risk.

That is why the European Union urgently needs to establish a supervisory body that has an eagle eye system-wide view of the financial system at least within the single market. The ongoing discussions on setting up a European Systemic Risk Board go in the right direction.

However they simply do not go far enough. Under the current proposals, the real powers would still lie with national level regulators whose primary interest is ensuring the safety of institutions not the financial system. That is why the European Union needs to act on three levels here:

- Given how much more important systemic risk has become vis-à-vis idiosyncratic risk, it is necessary to significantly strengthen the European System Risk Board by giving it wide-ranging statutory powers.
- The European Union should mandate the introduction of national level systemic risk regulators across the Member States.
- Because the single market is highly connected to international markets, the EU should put forward a bold proposal for setting up a global systemic risk regulator either as a new dedicated institution or under the aegis of an existing institution such as the IMF.

This system wide watchdog should have access to all relevant financial information across the whole financial system and wide ranging capacity and powers to monitor and control systemic risk. It should be able to act against a build up of systemic risk for example through imposing counter cyclical capital or reserve requirements and an increased use of prudential tools such as variable loan to value ratios, liquidity buffers, bank levies and transaction taxes.

What we need is a system that effectively marries a top down assessment of systemic risks to the bottom up supervision of individual firms.

7.2 Establishing a system of powerful pan European Supervisors

The single market financial system is characterized by the presence of several large cross border financial institutions. Large investors operate at a pan European level and financial markets such as stock exchanges are increasingly pan European in nature. That is why the national level supervisory approach seems increasingly outdated. The EU is in the process of setting up a set of three pan European level supervisors (the so called European System of Financial Supervisors) overseeing the banking, securities and insurance markets.

While these bodies are vested with statutory powers, the current level of authority granted to them is insufficient given the highly integrated nature of the financial markets they oversee. That is why the proposal by the European Parliament to for example make the proposed European banking authority the supervisor for large cross border banks is a step in the right direction that needs to be strengthened further. The other agencies also need to have their powers beefed up.

7.3 Reducing excessive size

As we saw in earlier chapters, financial institutions have consolidated at an increasing pace. The market share (amongst the top 1000 banks) of the ten largest financial institutions has increased from 14 % to 26 % just in the past decade[20]. Banks from countries such as Iceland, the UK and Switzerland have had balance sheets that were a multiple of the home country GDP. When a small or mid-sized institution gets into trouble, the effect is likely to be localized, not lead to contagion and the fiscal costs are likely to be affordable. However, when institutions that operate across all markets get into trouble, they are likely to pose significant systemic risks and the fiscal costs of this for the home country are likely to be tens of percent of GDP if not more.

While bankers like to make a strong case for efficiency gains that come from size, the evidence of any additional efficiency gains above a balance sheet size of about $100 billion is non-existent according to the Bank of England[21]. The United States, for example, plans to introduce restrictions on the maximum size of any particular bank. While these do not quite go far enough, they provide a good model for the EU to replicate at a European level.

20 IFSL Research
21 The $100 billion question, Andrew Haldane, Bank of England

The Bank of England too has come out strongly in favour of reducing the size of the largest banks. Ideally, financial institutions would be given a period of say 3–5 years within which to reduce their size below an absolute or percentage of GDP cap.

Not only would this reduce systemic risk, but it would also have the beneficial side effect of stimulating competition in the financial sector so customers, investors and tax payers are all likely to get a better deal.

7.4 Reducing excessive interconnectedness

The level of interconnectedness in finance has grown exponentially in recent decades. This is mainly down to two main developments

- An exponential growth in the size of derivative security markets
- A growth in the scope of bank business models

Regulating derivatives

The over the counter (OTC) derivative market is bilateral in nature and the trillions of dollars of outstanding contracts contributes to a very high degree of interconnectedness through a series of interlocking assets, liabilities and margining requirements. This interconnectedness can be reduced significantly by bringing most of this OTC market on to exchanges and through the mandated use of centralized counterparty (CCP) clearing. As a way of allowing the systemic risk regulator to monitor the build up of risk, information on all derivative transactions should be recorded at a central repository to which the regulators have access. While the EU is taking the right steps in this direction, the approach to the regulation needs to be strengthened further. Transparency is a paramount consideration since complex derivatives have been highly opaque.

Derivatives are often also used as tools for arbitraging tax and regulation and this needs to be tackled upfront. The big question of the effect at both the social and economic levels of the volumes of derivatives trades that are several times larger than the GDP needs to be addressed before allowing large derivative exposures to continue. One way of shrinking the market would be to levy additional capital, margining and transaction tax requirements on derivative products.

Centralized clearing would drive the simplification and standardization of derivative security contractual terms. However, we need to be careful that we do not substitute one source of systemic risk for another. Because the failure of a CCP would pose serious systemic risk, the standards of resilience required should be comparable with other public utilities such as gas, water and electricity.

By drastically cutting down the number of interconnections in the financial system, CCPs can cut down systemic risk. The uncertainty associated with bilateral OTC counterparties as well as the high complexity of outstanding derivative exposures were key contributors to the crisis.

Reinforcing payment and settlement systems

The basic plumbing of the financial system in the form of payment and settlement systems has been one of the unsung heroes of the crisis. Despite enormous stress to the financial system and banks payment systems continued to function remarkably well throughout the crisis. They play an important public utility role so their strength should be reinforced as a bulwark against future systemic events.

Moreover, lessons learnt from the design of, for example, the continuous linked settlement bank and real time gross settlement systems can be applied to other sectors of the financial system.

Separating retail and investment banking

By using publicly insured (and cheap) deposits to fund highly risky investments, several European banks increased the interconnections between the relatively safe old fashioned world of retail banking and highly risky, opaque and volatile segments of financial markets. Not only did this increase systemic risk but it also came at the cost of increased tax payer exposure to potential financial industry bailouts while the financial sector employees took home excessive bonuses. The system crashed and tax payers across Europe were left to foot the bill.

That is why it would be prudent for the EU authorities to seriously consider the merits of separating at least the most risky and volatile parts of the financial business of banks from retail banking. The US discussion on separating hedge fund and proprietary trading offers a good starting point.

7.5 Reducing contagion

Even when interconnections exist, shocks to one part of the system need not infect other parts to cause systemic risk. A greater amount of

- shock absorbing capital,
- more liquidity buffers,
- a more manageable speed of financial transactions, and
- greater counterparty transparency

can all help limit contagion in the system.

Only a few highly infectious banks are responsible for posing the bulk of systemic risk. These highly interconnected or large systemic institutions should be singled out for special treatment in the same way that those who are likely to most spread infections are the first people who get vaccinated in the event of an epidemic.

As things stand now, larger more systemic institutions actually enjoy subsidies in the form of higher credit ratings and lower borrowing costs from their too- systemic-to-fail status which is an invitation for them to spread even more risk. This is perverse and needs to be tackled immediately. The best way to do this would be to take away that status. A second best solution would be to make them pay.

Reducing leverage

The level of debt in the financial system has increased substantially since the 1970s but especially in the past decade. The average leverage (ratio of debt to equity) for UK banks, for example, has increased from 20 to 30 in the past decade. This has inflated returns on equity for banks but at the same time significantly increased systemic risk. The banking industry in the UK has gone from returns on equity of 5%-10% before the 1970s (similar to those in the rest of the economy) to returns of around 25% in the last decade. This is possible because leverage can amplify profits (and losses).

If you buy a house for $100,000 with $ 20,000 of equity and an $ 80,000 mortgage at 5% interest and the price of the house climbs to $110,00 next year, you get a profit of $10,000 – 5%*$80,000 = $6,000. This is a return of 30 % on your initial investment of $20,000 and your leverage ratio (debt/equity) is 4. Consider an alternative scenario where you put in only $ 5,000 of equity and took a loan of $95,000. Then your profit would be $10,000 – 5%*$95,000 = $5,250. Your new leverage ratio is 19 but your rate of return is 105%. This same process of profit amplification works in reverse with losses and is one of the main reasons why the scale of losses in the UK banking system has been so large in this crisis.

Bankers were rewarded on the basis of the rate of return they generate, so the inflation of earnings and the increase in leverage in the banking system can be explained by the desire to earn ever higher bonuses. But we know now that these were not economically justified but came at a very heavy cost to taxpayers. Profits were privatized and losses were socialized. This is neither efficient nor equitable or sustainable and increases systemic risk.

The current discussions on reforms to capital adequacy and limits to leverage are not going to go far enough. There is no social or investor or public use of having banks try and generate returns on equity far in excess of the rest of the economy by taking on more leverage and risk. So the 7 %– 11 % range of new tier 1 capital requirements being factored in by the market needs to be extended at least to the range of 15 %– 20 %. This has to be accompanied by strict compensation (incentive) controls for example in the form of relative and absolute bonus caps.

There is a need to place much stricter system wide leverage limits. These should serve to prevent overleveraging by firms in the financial sector responding to competitive pressure.

Tackling 'Just-in-time' Finance

Another development in recent years has been the growth of what is best called 'Just-in-time' (JIT) finance. This borrows the idea of just-in-time

supply chains from manufacturing and applies it to finance. It has meant that more and more of the warehoused risk that banks carried on their books as loans has been converted into marketable securities that banks assume they can sell to other financial market actors at a very short notice. It has also meant that rather than relying on stable forms of funding such as long term debt and retail deposits, banks increasingly relied on cheaper short term funding that they then had to roll over every week or so. Banks such as Northern Rock were using overnight borrowing to fund 30 year mortgage risks which worked fine as long as the overnight borrowing market – the liquidity supply chain – did not get interrupted. When it did, the bank collapsed.

UK banks used to hold as much as 30% of their assets in highly liquid form till the 1970s but the advent of just-in-time philosophy in finance meant that this had shrunk to less than 1% by the time the crisis hit. JIT finance leaves no margin for error and can result in a very speedy contagion of problems from one market segment or financial institution to others through interruptions to liquidity chains.

That is why the European Union needs to act to introduce liquidity buffers into the EU financial markets so as to increase the resilience of the system to liquidity shocks. Securitization too needs to be made less attractive vis a vis traditional loans since the crisis has highlighted that banks are unable to offload securitized risk exactly when they most need to.

The introduction of levies on bank balance sheets so they penalize excessive reliance on short term funding would also help increase the resilience of bank liquidity positions and has the potential to generate significant revenues of more than Euro 50bn in the European Union that can be put to good use[22].

Slowing Down Financial Transactions

Financial markets are best thought of as markets for information which process huge amounts of information for example from macroeconomic data reports, company balance sheets etc and translate them into prices for securities such as shares. Market movements of share prices are thus supposed to provide guidance to firm managers as well as other economic actors as to the long term future prospects for the firm.

However, the number and speed of transactions as well as volatility of prices has increased way beyond what is justifiable on the basis of changes to economic fundamentals alone. This is because the market is increasingly dominated by 'technical traders' who chase trends buying when the market is going up and selling when the prices are falling. Through these actions, they amplify the amplitude of price movements in the market and can trigger systemic risk.

More recently, groups of investors called 'high frequency traders' have begun to dominate certain financial markets. These investors, who trade over time horizons of seconds (sometimes microseconds) using automated computer programs now account for more than 60% of all trading in US equity markets[23]. While some attest to the increased financial market liquidity that this high frequency trading can bring, its dominance serves to distort market signals, thus posing significant systemic risk. The August 2007 breakdown of some of these automated traded models caused widespread dislocation of the financial markets and was the first sign of the financial crisis. The crash of the 6th of May 2010 when the US stock market index fell nearly 2000 points in less than 20 minutes was also driven by machine trading.

That is why there is a need to introduce taxes on financial transactions. These would slow down the speed of markets and shift the balance of power towards those who trade on the basis of economic

22 "Bank Levies AND Financial Transaction Taxes NOT Bank Levies OR Financial Transaction Taxes", a Re-Define Policy Brief by Sony Kapoor, 2010: http://www.re-define.org/publications (forthcoming)

23 Financial Times

fundamentals and have a longer term investment horizon. Financial transaction volumes are likely to fall somewhat but despite dire predictions of financial insiders this will not result in a fall in liquidity. True liquidity in financial markets comes from a diversity of opinion. Much of the apparent liquidity in financial markets nowadays is illusionary and as we saw in the ongoing financial crisis disappears exactly when it is most needed. FTTs might help increase true liquidity by increasing diversity through reducing the dominance of short term oriented technical investors.

Moreover financial transaction taxes can be a very useful prudential tool if different rates are applied to more opaque and complex markets and can be varied to tackle overheating markets.

Introduction of such a financial transaction tax regime will not only make financial sector more amenable towards longer tem sustainable 'green' investments but also help substantially reduce systemic risk. Applied across the European Union, financial transaction taxes are expected to generate as much as Euro 100bn of revenue which can be put towards tackling fiscal challenges, for green investments and to help finance development[24].

Greater transparency through tackling off balance sheet vehicles and tax havens

One of the problems that made the crisis spread like wildfire was the very high degree of opacity in the financial markets. All major banks had an extensive network of hundreds and sometimes thousands of subsidiaries and legal structures in many jurisdictions – often in secretive tax havens. Lehman Brothers alone had more than 300 subsidiaries and almost 3000 legal entities[25]. This meant that no one bank was in a position to know exactly how risky its counterparties were, so given this high degree of uncertainty it made sense for each individual bank to hoard cash at the first sign of trouble and minimise trades with potentially risky counterparties. This made individual sense but was collectively disastrous and led to systemic breakdown.

In order to prevent this from recurring, it is essential that bank corporate structures, derivative exposures and overall riskiness be transparent and tractable. Only then can the idea of market discipline work. Abolishing the high degree of uncertainty that currently exists in the financial system would significantly reduce the risk of contagion in the event of a disturbance to the system.

A greater transparency and simplification of bank legal structures would also lead to lower levels of tax and regulatory arbitrage which would make the system safer and fairer. It would also help significantly reduce tax flight, which needs to be mitigated especially at a time of an emerging fiscal crisis.

7.6 Contingency Planning

The lack of crisis handling mechanisms in the single market was exposed when cross border banks such as Kaupthing and Dexia got into trouble. No matter how much effort is put into monitoring or minimising systemic risk, banks will continue to fail. Sometimes this failure will pose a risk of systemic breakdown. That is why it is essential that EU authorities be prepared for a good crisis resolution mechanism.

The European System of Financial Supervisors, the European Banking Authority in particular, should be given resolution powers over cross border banks (and other financial institution) operating in the EU. This would allow them to get their wards to make realistic 'living wills' detailed plans for a quick neat failure to minimise the risk of contagion. The resolution framework would need to be supported by a pan EU resolution fund that can be financed through a charge on the cross border operations of large EU banks. Alternatively portions of revenues mobilized through bank levies and financial transaction taxes can be pooled into

24 See Sony Kapoor's testimony to the ECON committee at the European Parliament and go to www. re-define,org for several other publications on the subject.

25 The Oxford Handbook of Banking, Allen N. Berger, Phillip Molyneux, John Wilson, Ch 8 Pg 209

the EU fund. In order to make credible living wills, banks will need to drastically simplify their current complex legal structures, which will increase systemic transparency.

The proceeds of the ex ante fund could be invested in a portfolio of safe government bonds or could, for example, be used to fund pan EU green friendly investments. While these investments would lock in funds and make them unavailable at a short term, the 'green' securities could be used as collateral for short term access to finance from the ECB or a pool of EU states.

Part II

1. Critical financial reforms needed

1.1 Introduction to Part II

Part I of the book helped us understand how the financial system works, how it has changed and what factors led to the financial crisis. It also ended on a note of caution that while the ongoing financial crisis is big and reforms should target what went wrong this time the scope of financial reform needs to be much broader. Finance is inherently unstable and the financial system has evolved in a direction that has made it even more so. This meta-level instability of finance and fragility of banking systems needs to be addressed.

Part II is a discussion about the reforms that have been put on the table. Without going into too much detail of what remains an uncertain proposals, we try and discuss the salient features of the reform proposals particularly in the United States and the European Union. These discussions can then be benchmarked against the need for reforms as discussed in Part I and evaluated according to the principles we ended Part I on.

At the end of Part II we have tried to tabulate the major reform discussions to serve as a quick reference guide. The depth and scope of the discussion in this section is limited by constraints of time and space but most of the topics listed here as well as critical issues such as compensation reform, financial transaction taxes and bank levies that are not covered in this section comprehensively are covered in much greater depth in other Re-Define publications.

1.2 Background

We are still in the middle of the most serious financial crisis at least since the Great Depression. Just as in the 1930s a meltdown in the financial system starting in 2007 has pulled the real economy into a recession. While things may look slightly less bad than they have been over the past two years both the financial sector as well as the real economy remain highly vulnerable to the possibility of a second dip. The ongoing sovereign debt market dislocation in Europe reminds one of the scale of the challenges facing our governments.

The inadequately regulated global financial market has for many years dominated the real economy. Restoring and reforming the broken down system is crucial for a quick, robust and lasting economic recovery. This has needed two major sets of interventions 1) continuing capital injections and financial sector restructuring 2) a fundamental rethink of the regulatory and supervisory infrastructure that dictates the shape of the financial system and oversees its operation.

While governments have already been injecting trillions of dollars of support funds in the financial system the discussion on regulatory reform is yet to start yielding effective outcomes. As we demonstrated in Part I of this book, the crisis has exposed a number of fundamental flaws in the structure of the financial system and the regulatory regime and it is clear to all observers now that going back to business as usual would not be possible. Indeed it would be impossible to restore confidence in a deeply flawed financial system that looks pretty much like yesterday's and foolish to even try.

This has not stopped the financial sector from lobbying hard for a return to yesterday. They are investing enormous resources to avoid new regulation. Prime amongst their objectives is to water down the regulatory proposals that are currently being put forward by several governments. This has meant that the reforms being put forward by authorities in the US, EU and countries such as the UK are already weaker than what would be ideal.

That is why citizen groups such as trade unions, non-governmental organizations, consumer groups and associations representing the interests of businesses operating in the real economy all need

to follow the reform process closely and lend their strong voice to ensuring that appropriate reforms are carried out.

Part II of this book provides a preliminary analysis of the major reform discussions currently underway.

1.3 Key shortcomings that need to be addressed by regulatory reforms

The ongoing crisis has highlighted several key deficiencies in the current financial system, which would need to be addressed. Some of these are

1. There was an excessive focus on the stability of individual institutions and too little focus on the stability of the system as a whole.
- *The issue of systemic stability needs to be at the heart of the regulatory agenda.*
2. The scope of regulation was too narrow with several institutions such as hedge funds, private equity firms and special investment vehicles falling outside the scope of most bank regulation even as they performed bank like functions. Others such as investment banks and money market funds were too lightly regulated. Markets such as those in derivatives and securitized bonds were also left largely unregulated. In a number of jurisdictions, especially tax havens, the overall regulatory regime ranged from non-existent to unsatisfactory.
- *The scope of regulation needs to be comprehensive and it should extend to all jurisdictions, all institutions, all markets and all instruments.*
3. The regulatory regime was too procyclical with capital adequacy, loan loss reserve rules, credit ratings, marked to market accounting rules all adding to the already inherently procyclical nature of financial markets and thus amplifying business cycles.
- *The new regulatory regime needs to be explicitly counter cyclical.*
4. Many financial institutions were allowed to become too big, too complex or too interconnected to fail where their failure would have had catastrophic consequences on financial markets as was highlighted after the collapse of Lehman Brothers. Far from such institutions having to have an extra safety margin of capital and liquidity protections as would have made sense, many had less than for comparable smaller, simpler and less connected institutions partly as a result of arbitrage opportunities and the flexibility provided to them under the Basel II capital accord.
- *The moral hazard problem where these institutions enjoy an implicit subsidy from the possibility of public rescue made matters worse. That is why the new regulatory regime has to find a satisfactory way to deal with such systemically significant institutions either by downsizing them or by introducing extra safety margins that makes them internalize the systemic risks they pose.*
5. The long bull market and low interest environment led to regulatory complacence where the availability of liquidity across several markets was taken as a given and the 'just in time' liquidity regime where short term borrowing was used increasingly to fund longer term assets contributed in a large way to the vulnerability of the financial system.
- *The new regulatory regime must put the need to maintain adequate and robust liquidity, which has been long ignored in regulation, at the heart of regulation this point forward.*
6. The fact that there were no proper and sufficient legal and financial mechanisms to allow an orderly winding down of financial institutions added significantly to the uncertainty that surrounded the viability of financial institutions. While mechanisms were designed on the go in most major OECD economies, these were ad hoc and inefficient from the perspective of both the taxpayer and market confidence.
- *That is why one of the priorities for the new regulatory regime needs to be to formulate a legal and fiscal regime that allows the orderly, flexible and quick winding down or takeover of large, complex and interconnected financial institutions both at a national as well as an international level.*
7. The lack of proper international supervisory and regulatory oversight stood out in the crisis where regulatory and oversight gaps in the supervision of internationally active financial

institutions helped cause the crisis and the lack of proper co-ordination or supranational authority helped prolong it.

- *One of the key requirements for regulatory and supervisory reforms is to introduce mechanisms and institutions that facilitate an effective international supervision program, help co-ordinate regulatory regimes and enable internationally co-coordinated crisis management.*

8. The pre crisis financial system was characterized by 1) too little capital 2) of insufficient quality and 3) excessive borrowing and embedded leverage. This low quantity and quality of capital eroded the shock absorption capacity of the system and the leverage helped amplify losses and contagion.

- *The new financial regulatory regime needs to have much stricter provisions for the quality and quantity of capital as well as limit total leverage in the system.*

9. The financial system is rife with misaligned incentives and conflicts of interest in the compensation of financial market participants which encourage short-termism, excessive risk taking and allow them to ignore due diligence all of which compromise systemic stability and market integrity. This was particularly evident in the case of the origination of securitization, trading by investment banks and the issue of credit ratings.

- *A proper alignment of incentives needs to be at the heart of the new financial regulatory system. At a minimum, the lack of due diligence in the origination and issue of securitized bonds, the conflicts of interests that prevail in credit rating agencies and the risk enhancing bonus schemes that are widespread in the financial sector all need to be addressed urgently.*

10. The crisis also highlighted the inadequacies of consumer and investor protection in current regulations which were highlighted by the Madoff scandal, the lack of transparency of financial institution exposures and losses and the sale of complex ill suited securities such as certificates to retail customers.

- *The ongoing regulatory reform needs to increase transparency in the system, improve investor protection and institute enhanced consumer safeguards.*

1.4 Key pieces of financial reform legislation

Several financial regulatory reform processes are underway in parallel at different levels and in different places around the world. At the international level, the three most important bodies are the Financial Stability Board (FSB), the Basel Committee for Banking Standards (BCBS) and the International Accounting Standards Board (IASB). The FSB[26] has been tasked by the G-20 with co-ordinating the reform effort especially regulatory changes and coming up with key suggestions for example principles for sound remuneration practices. The BCBS[27] has a mandate to co-ordinate bank supervisory processes and suggesting new standards on bank capital and liquidity. The IASB[28] is working on revising accounting standards in light of the lessons learnt from the crisis.

While the international discussions and the reform effort are proceeding apace, the most new reforms are still being enacted at the national (regional) level. The two largest economic areas and financial markets in the world are those of the United States and the European Union. New regulations are being enacted in both areas with the debate in the United States having started slower but moved at a much faster pace than the legislative agenda in the EU. While some of these new legislations are influenced by international discussions on capital adequacy, for example, others have been driven primarily by domestic forces.

In the US, the lower house of the parliament, the House, passed its version of a comprehensive financial reform package in December 2009 in the form of the Wall Street Reform and Consumer Protection Act[29]. More recently, after a somewhat

26 http://www.financialstabilityboard.org/index.htm
27 http://www.bis.org/bcbs/
28 http://www.iasb.org/Home.htm
29 http://financialservices.house.gov/Key_Issues/Financial_Regulatory_Reform/FinancialRegulatoryReform/hr4173eh.pdf

protracted and unpredictable debate, the upper house of the parliament, the Senate, finally passed its reform package in the form of the Wall Street Reform bill in May 2010[30]. As part of the US legislative process, the two bills which are broadly similar but with differences on key issues are in the process of being reconciled at the time of this book going to print. This is happening through a conference process which is expected to be over by the end of June 2010 so while the broad shape of the US regulations is clear the exact nature is not yet known.

The European Union follows a different process where the Commission proposes the text of legislation and the parliament and council both have co-decision powers to amend this. Here two the amendments then need to be reconciled. The EU debate is a few months behind the US legislative agenda with the Directorate General on Internal Markets only recently having issued a plan for putting new legislation on the table for the council and parliament to debate, discuss and amend[31]. Some pieces of legislation such as the directive on alternative investment managers and the proposals on changing supervisory structures are in more advanced stages of reconciliation between the commission and the parliament.

30 http://banking.senate.gov/public/_files/HR_4173_Senate_passed_as_amended.pdf
31 http://ec.europa.eu/internal_market/consultations/docs/2010/planned_en.pdf

2. Reforming supervisory structures

As we have seen in Part I of the book, the financial system has changed almost beyond recognition in the past few decades. Markets and institutions have become larger, new products have appeared and the distinction between different product markets has broken down. Add to this the vastly greater complexity seen across finance and the ever increasing speed of financial flows across borders, institutions and counterparties and we have ended up with a system is at once larger, more international and faster.

The national and international level supervisory structure has lagged behind these developments in finance and in countries such as the United States still dates back to the post war period. The increasingly international nature of banks, asset managers and other financial institutions and the growing interconnections across all major financial markets underscores the urgent need for a more comprehensive global supervisory authority. Entities such as the Financial Stability Forum and IOSCO played a useful coordinating role bringing supervisors from major financial centres together on a regular basis. But they do not have any statutory powers.

Co-ordination between supervisors has in the past been accomplished through informal meetings and Memorandums of Understanding which proved less than useful when the crisis actually hit.

The IMF tried to play a surveillance role through its Financial Sector Assessment Program (FSAP) and Reports on the Observance of Standards and Codes (ROSCs) but it is no international supervisor. The Basel Committee on Banking Standards (BCBS) produced standards on capital adequacy but does not have the authority to oversee their implementation.

There was no single body around the world which had the capacity, ability or authority to properly supervise cross border finance in general and entities such as large international investment and commercial banks in particular. The concept of 'home country supervision' still prevailed irrespective of the ability or the proclivity of supervisors in countries such as Iceland to supervise their internationally active banks.

Prior to the crisis, there were many diverse national level supervisory structures in place. Countries such as the US had a very fragmented supervisory system that was not particularly good at sharing information or coordinating even within the country. The UK removed the fragmentation from its supervisory structures but ended up with a weak Financial Services Authority that believed in 'light touch supervision'. Countries such as Italy hung on to their somewhat old fashioned but apparently effective intrusive 'bank inspector' model. At the European level, the Committee of European Banking Supervisors (CEBS), the Committee of European Insurance and Occupational Pensions Committee (CEIOPS) and the Committee of European Securities Regulators (CESR) were set up but only had advisory powers.

The many gaps that existed in national and international level supervisory structures, together with the somewhat 'light touch' supervision in some countries, combined with poor co-ordination to give financial market actors carte blanche' to engage in large scale regulatory arbitrage and build up excessive financial risks.

One of the lessons of the crisis is the important need to reform national and international level supervision. The process for reform however should bear in mind that no particular model of supervision came out unscathed through this crisis.

2.1 Proposed Reforms

The establishment of the Financial Stability Board

The high profile G-20 meeting in London in April 2009, decided to upgrade the existing Financial Stability Forum into a Financial Stability Board that was given more powers and had an expanded membership that also included all the G-20 members. However, even with this strengthened framework the FSB continues to have very limited capacity and is expected to play only an advisory and coordinating role.

The establishment of international Colleges of Supervisors

Following a decision by the G-7 in 2008, colleges of supervisors have been set up for a set of 30 internationally active financial institutions that were deemed to be systemically significant for the stability of the global financial system. It is hoped that these colleges, meeting regularly will establish a good rapport & trust and put in place mechanisms to share information and intelligence about the institutions that they are overseeing. Once again, these bodies do not have statutory powers and provide more of an informal setting for what is hoped will be frank and substantial discussions.

United States

The United States is notorious for having a patchwork of regulators and supervisors whose jurisdictions and functions sometimes overlap. At the same time, the supervision of certain market actors and products has fallen between through the cracks. These regulators were also known to have competed with each other.

In 2009, the Obama Administration put forward proposals to reduce some of the fragmentation and delineate responsibility between the supervisors more clearly. They put forward proposals to 1) create a new Consumer Financial Protection Agency 2) create a new National Bank Supervisor as an agency in the Treasury and 3) and set up an office of National Insurance within the Treasury.

The administration also proposed to eliminate the Thrift charter and with that the Office of Thrift Supervision (OTS) and have all federally charted deposit institutions and branches of foreign banks supervised by the new banking supervisor. Furthermore the administration has just sent in proposals to the US congress on the so called 'Volcker rules' under which banks will be forbidden from engaging in proprietary trading and owning hedge funds or private equity firms. Under the proposal the only trading banks will be allowed to do will need to be linked to market making, hedging or be done on behalf of a customer.

In December 2009, the US House passed its financial reform legislation which merges the OTS with the Office of the Comptroller of the Currency (OCC) but does little else to resolve the fragmented US supervisory landscape. The bill contains provisions for the creation of a new independent federal agency dedicated solely to consumer protection, the Consumer Financial Protection Agency or CFPA.

The just passed version of the Senate bill retains the administration's and the House bill's proposal to merge OTS and OCC. However a last minute amendment retains the thrift charter which the House bill proposes to eliminate. The Senate bill provides for the Fed to regulate all bank and thrift holding companies with assets greater than $50bn and makes the Vice Chair of the Federal Reserve responsible for this supervision. While in the House bill and the original version of the Senate bill the responsibility to regulate entities with less than $50bn in assets is split between the Federal Deposit Insurance Corporation (state banks) and OCC (national banks), the amended version of the Senate bill retains the Fed's supervision over state banks and smaller holding companies. The bill also creates a new body for Consumer Protection but has moved the function into a new independent agency within the Federal Reserve.

The House bill significantly strengthens the hand of the Securities Exchange Commission, the SEC by doubling its budget and granting it new powers in the areas of 1) regulating the municipal bond market 2) limiting mutual fund ability to invest in illiquid investments 3) regulating securities lending 4) imposing tougher anti-fraud rules 5) information collection. 6) overseeing credit rating

agencies. An amendment to the original house bill now provides for a decision on a Volcker like rule to be taken by regulators.

The Senate bill similarly makes provisions for strengthening the SEC in several ways. It proposes setting up a special whistleblowers program within the SEC to encourage people to report securities violations, creates an investor advisory committee and removes the annual appropriation requirement for the SEC budget. It also makes significant provisions for the SEC to strengthen the oversight of the municipal securities market.

The House bill grants additional authority to the Federal Reserve at the same time as seeking to increase its accountability. The Federal Reserve would serve as the agent of the new Financial Stability Oversight Council (FSOC) in regulating systemically risky financial firms regardless of their institutional structure. The bill strengthens the Government Accountability Office (GAO) authority to examine the Board of Governors of the Federal Reserve and the Federal Reserve Banks to improve transparency of Fed actions.

The Senate bill also grants additional authority to the Fed at the same time as seeking to increase its accountability. It proposes introducing a formal financial stability mandate into the Fed's charter and creates a new position of Vice Chairman for supervision. It seeks to significantly reduce the influence of the private sector in the election of US fed officials and makes provisions for the president of the New York Fed to be appointed by the President. It also vests in the GAO the authority to audit any emergency lending facility set up by the Fed but as part of a last minute compromise this audit authority is limited to loans already made since 2007 and does not cover future operations. Under this, the Fed will need to disclose the beneficiaries of these loans latest by December 2010.

The Senate bill contains the Volcker rule on restrictions on proprietary trading and an additional amendment provides for banks having to spin off their swap operations into separate companies.

The European Union

The European Commission put forward a proposal to create three new pan European supervisory agencies collectively known as the European System of Financial Supervisors (ESFS). Their purpose is to address current deficiencies in micro-prudential supervision, such as insufficient co-operation and information exchange on cross border issues and institutions, the difficulty of joint action across borders and different interpretation and application of rules. The new agencies are intended as a replacement for and an upgrade to the three existing agencies, also known as the Lamfalussy level 3 committees.

The plan is not to replace the national supervisors but for the ESFS to become an operational European network with shared and mutually reinforcing responsibilities. The three new agencies will be 1) the European Banking Authority 2) European Insurance and Occupational Pensions Authority and the 3) European Securities Authority. The new authorities will take over all of the functions of the existing committees, and in addition have certain extra competencies.

The agencies are to have defined legal powers and greater authority. Chief amongst their functions would be to 1) develop a single set of harmonized rules 2) improve the supervision of cross border institutions 3) help settle disputes between national supervisors 4) have full supervisory power over certain entities such as credit rating agencies and pan European clearing systems 5) collect relevant micro prudential information from national authorities and 6) improve co-ordination in a crisis. Each of the agencies is expected to have a board of supervisors comprised of the highest level representatives of the relevant national authorities and chaired by the head of the respective European supervisory agency.

In addition, a representative from the commission, from the ESRC and supervisors from EFTA-EEA countries are expected to be observers. There will also be a steering committee overseeing the whole of the ESFS comprising of the heads of the three agencies and a representative from the commission.

The proposal from the Commission says nothing about how to resolve the issue of burden-sharing for bail-out plans should a cross-border institution fail, something that many experts believe is essential. The already weak powers of the ESFS over national supervisors, as set out in the Commission's proposals were watered down even more by the Council. It agreed to amend the proposals by introducing a safeguard whereby a member state can appeal a decision made by the new authorities or try to clinch a majority vote to overturn a decision. If that fails, governments could take their case to the European Court of Justice.

However, the statutory powers of the ESFS have been significantly strengthened as the proposals made their way through the European Parliament under its co-decision authority. The draft of the parliament's proposals, now already voted through by the ECON committee, for example, provide for large cross border banks to be supervised directly by the European Banking Authority acting through national supervisors. It also gives the pan EU supervisors the mandate to directly approach banks in case national authorities fail to implement recommendations.

The parliament's vision is not that of the rather loose network envisaged by the Council but a integrated group of true European supervisory authorities that can draw up draft regulatory standards, make decisions that are legally binding on national authorities, will be able to temporarily ban products and activities such as short selling, and makes a provision for a future review that could potentially strengthen the supervisors even more. Under the parliament's proposals all three institutions would be located in Frankfurt.

There is also a proposal to create a pan European fund to guarantee bank deposits and rescue banks if necessary. This fund, a European Parliament report suggests, will be financed, in advance, by the banks, and have powers to raise capital in the markets. It is envisaged that national governments will have to contribute only as a last resort.

United Kingdom

The UK has decided not to introduce any major changes to its supervisory structure at this time and the FSA is to remain the consolidated supervisor. However, under the UK's new Financial Services Bill[32] the authority of the Financial Supervisory Agency (FSA) has been significantly enhanced through 1) giving it an explicit mandate for financial stability 2) enhanced supervisory powers 3) increased information gathering power including from non- regulated firms 4) stronger tools for taking action against misconduct and 5) stand alone power to impose restrictions on short selling and 6) broad rule making authority in pursuit of any of it's objectives.

At the same time, the Bill removes the FSA's regulatory objective of promoting public understanding of the financial system and requires the agency to establish a new consumer financial education body. It also imposes on the FSA a duty to make rules requiring the production of recovery and resolution plans by financial institutions and contains provisions on bankers' pay.

However, the new government has come in after the recent election with a promise to dismantle the current structures of financial regulation, and transfer banking supervision to the Bank of England. The most likely scenario is that the institutional structure would be kept more or less intact but that the FSA would be made to report to the Bank of England which will have final responsibility for supervision.

2.2 Discussion

The fraught but urgent question of the need for a global supervisory authority remains fundamentally unaddressed.

Neither the US nor the EU proposals go far enough. The US has chosen to retain its fragmented (across functions and between the federal and state

32 http://www.opsi.gov.uk/acts/acts2010/pdf/ukpga_20100028_en.pdf

level) supervisory regime more or less intact primarily to minimise the risk of turf warfare breaking out between the various agencies and the relevant congressional committees that oversee them. Despite this, the very modest proposal to abolish the thrift charter and combine the work of the OCC and the OTS under a new national bank supervisor has already come under severe attack from the OCC as well as the OTS and their relevant constituencies. On many of the derivative markets the SEC and the Commodities Finance Trading Commission will continue to hold joint responsibility, which led to several problems in the past.

The EU, despite paying lip service to the increased need for financial integration and the principles of a single market has put forward relatively modest proposals where the national supervisors retain most of their functions and power. Also while it is not clear that the separation of supervisors along functional lines is the best model, the EU has kept that model without a proper debate. As a result the EU supervisory landscape, like the US one, remains fragmented across member states and the EU as well as across functions. But unlike the US there are fewer functional overlaps at the EU level so there is a reduced possibility of arbitrage and conflict. Also, while the parliament has significantly strengthened the authority of the supervisors it remains to be seen how much this will need to be watered down in negotiations with the council.

It make sense for some issues such as derivatives trading and resolution regimes of financial regulation to be organised on an international basis while others such as taxation and bank structures can continue to diverge at national levels.

3. Creating systemic risk regulators

It became clear in the course of this crisis that the bottom up micro-prudential focus that supervisors have had thus far does not work in a world where the financial system is highly integrated and systemic not idiosyncratic risk is the main threat. Ensuring the soundness of individual institutions does not ensure the soundness of the financial system because such a bottom up approach fails to see the interconnections between institutions that are the primary channel of propagation of systemic risk.

In order to have a complete system-wide view the existing micro-prudential bottom up set of financial supervisors need to be supplemented with the creation of new top down oriented macro-prudential regulators.

These regulators would need to be vested with a broad range of powers in order to act to mitigate systemic risk. Because systemic risk does not respect national boundaries, it is essential that there be some global regulator to monitor and mitigate such risks.

The Bank for International Settlements, the International Monetary Fund or the newly created Financial Stability Board would be the three natural candidates for a global systemic risk regulator but none of them are wholly appropriate and would need substantial new powers to be effective. More alarmingly, the US and the EU do not seem to have made any serious effort thinking about how best to tackle global systemic risk choosing instead to look inwards and propose national/regional bodies to tackle systemic risk within their territories.

3.1 Proposed reforms

United States

The Obama administration has proposed the creation of a Financial Services Oversight Council (FOSC) to 1) facilitate information sharing and co-ordination 2) highlight emerging risks 3) identify firms with a systemic relevance 4) help resolve jurisdictional disputes between regulators 5) provide a forum for discussion of critical matters

In the proposal from the administration which has been adopted almost unchanged by both the House and the Senate bills, the council is to be comprised of 1) The Secretary of the Treasury who will also serve as Chairman 2) Chairman of the Board of Governors of the US Federal Reserve System 3) the Director of the soon to be formed National Bank Supervisor (OCC under the Congressional bills) 4) the Director of the soon to be constituted Consumer Financial Protection Agency 5) Chairman of the SEC 6) Chairman of the CFTC 7) Chairman of the FDIC 8) Director of the FHFA (Federal Housing Finance Agency). The plan is for the council to be supported by a dedicated secretariat. There are some minor differences between the House bill and the Senate bill.

It is proposed that the FOSC will have power to gather information from any financial firm on financial stability and will work through referring emerging risks to relevant regulators, who have the authority to respond. The council is also to advice the Fed Reserve which has been designated to be the regulatory authority for systemically significant firms on the identification of systemically significant institutions and infrastructure. This will be based on size, leverage and interconnectedness as well as of critical systemically important infrastructure such as payment, clearing and settlement systems.

European Union

The European Commission had proposed the creation of a European Systemic Risk Council (ESRC) the principle of which the European Council has agreed to though the name of the body has been changed to European Systemic Risk Board (ESRB). This will have a mandate to 1) monitor and

2) assess and 3) issue warnings and 4) recommendations about potential threats to financial stability that arise from macro-economic developments and from developments within the financial system as a whole in the EU. It is also meant to 5) monitor the follow up to its warnings and 6) liaise with the IMF, FSB and third country counterparties

It is proposed that the Council will be comprised of 1) President of the ECB as Chairperson (or alternatively a Governor elected by ESRB members) 2) A Vice Chairperson to be elected by the ESRB members 3) Governors of the 27 member state central banks 4) Vice President of the ECB if the ECB President is Chair of the ESRB 5) Chairpersons of the three new proposed pan European Supervisory Agencies 6) a Member of the European Commission 7) EFC President 8) A representative of the national supervisory authorities.

The European Parliament in its revision to the original proposal from the Commission has suggested some changes to this structure and in addition has recommended that staff be hired from several different sectors to ensure that there is a diversity of opinions so groupthink does not render the ESRB ineffective.

Given the large membership size, it has been proposed that the ESRB will have a smaller steering committee comprising 1) the Chair 2) the Vice Chair 3) 2 additional Central Bank members of the ESRB (one from a euro area Member State and one from a non-euro area Member State 4) the Chairs of the three proposed supervisory agencies 5) the EC member, and 6) the EFC President.

It has been proposed that the ESRB will be set up as a body without legal personality under article 95 of the EC treaty and it will have a mandate to cover the whole financial sector without exception. While the ESRB will not have any legally binding powers, it is expected to exert influence through the quality of its analysis and by the virtue of its high-powered membership. But the fact that this Board will not have any legally binding powers or powers of enforcement poses a real structural problem. The ESRB will be accountable to the European Parliament and the European Council.

Under the parliament's proposals, the ESRB will have greater powers amongst them the ability to declare an emergency, develop a common set of indictors to permit ratings of the riskiness of cross-border institutions, establish colour coded grades for different risk levels and will be chaired by the president of the ECB. The final shape of the ESRB will be decided by compromise between the council and the parliament.

United Kingdom

The UK has created a Council for Financial Stability (CFS) for the purpose of 1) increasing the co-ordination between all financial authorities 2) formally evaluating risks identified by the Bank of England in its Financial Stability Report and an 3) assessment of the necessary actions that need to be taken to counter the risks.

The membership of the council consists of 1) the Treasury 2) the FSA 3) The Bank of England with the Chancellor of the Exchequer as the Chair.

The council is to operate according to its published terms of reference, will meet regularly and have a high degree of public transparency and accountability with quarterly published minutes. It will have regular standing meetings to discuss the authorities' assessment of systemic risk. It is also required to meet as when particular risks to financial stability arise and actions to resolve these risks need to be considered. While the regulatory bodies will retain all of their existing responsibility, the CFS is to serve more as a means of co-coordinating action both nationally as well as internationally.

3.2 Discussion

It is encouraging that all three of the jurisdictions have agreed to set up independent bodies to identify systemic risk as well as increase co-ordination across supervisors including central banks. The size of the bodies varies hugely between the EU on the one hand (more than 30 though there is a smaller 'steering committee') and the UK (just 3). Both are risky. Where too many members can lead to total indecision and too many perspectives on the one hand and too few members bring too little diversity of opinion and are susceptible to groupthink. On this aspect the US model seems best.

In all three cases the systemic risk bodies don't have executive powers (the US body can seek information pertaining to systemic risk) but can only urge the regulators with the executive powers to act. While it is helpful that all the major regulators are members it is possible that problems might arise say when a majority of the non central bank members identify a risk, the central bank disagrees but is asked by the systemic risk body to take corrective action.

It might have been better to give these bodies more teeth to act. The weakest of the three is the EU body which primarily has central bank members and no representation of any fiscal authority which is a serious drawback especially as a fiscal authority (ministry of finance) is more likely to be react to the likelihood of systemic risk build up since it will have to foot the rescue bill. The US body seems to be the strongest and is also likely to play a significant co-ordination role in the fragmented regulatory landscape that prevails there.

4. Regulating systemic financial institutions

The crisis has clearly highlighted that financial institutions need to be regulated not just on the basis of how sound they are on a standalone basis but also on the basis of their interaction with other financial institutions, the broader financial system and the real economy.

As highlighted in Part I of this book, there has been a tendency for financial institutions to consolidate and become bigger and increasingly international. This has been accompanied by an exponentially increased degree of interconnections between various institutions primarily through derivative markets and inter-bank borrowing and lending. Financial institutions, including those in the United States have also expanded into new functions with the boundary between investment banks and commercial banks having become increasingly blurred after the abolition of the Glass Steagull Act in the late 1990s.

All of these developments – an increasing size, an ever more international presence, expanding activity across several functional areas and a growing interconnectedness increase the potentially disruptive effect that the failure of such an institution can have on other institutions as well as on the whole financial system.

While the concept of a systemically significant institution might be easy to grasp, in reality it is messy to define which institutions are systemic and which ones are not. It is not obvious where the boundary should lie, what criteria this should be based on or that if a fixed boundary is appropriate. Another problem is that defining an institution as systemic might give rise to a serious moral hazard problem where rating agencies, counterparties, depositors and creditors might treat the institution as if it was safer because a government rescue would be more likely because of its systemic nature. This would push more business towards such an institution, allow it to borrow at more favourable terms and in all likelihood increase the risk it posed to the system in the first place.

Moreover, there is a serious risk of getting things wrong. No one would probably have included Northern Rock, the Icelandic banks or even Lehman Brothers in the list of systemically significant institutions if such a list had been drawn up before the crisis hit.

There are other ways of addressing this problem and reducing the risk that individual firms pose to the system. Some of these are:

Regulators could restrict the kind of behaviour that increases the systemic risk posed by the firm. This could for example include limits on size, limits on counterparty exposure, restrictions on what a certain type of institution can or cannot do and limits on asset liability mismatch.

Another more graduated way of reducing systemic risk is by making firms pay for the kind of actions that lead to higher systemic risk. So graduated capital charges or levies that increase with as the size, interconnectedness or the scope of a firms operations increase might serve a dual purpose of both discouraging such behaviour and in the case of a levy, financing a pre funded crisis fund that would help minimise tax payer contributions if another financial crisis were to hit.

The discussion up until now has focused on how the behaviour of institutions can be changed so their contribution to systemic risk is minimised. Another way of tacking the systemic risk problem is to contain the spill over effects of institutional failure. A good way of doing this is to have a fast track, clearly articulated resolution regime which is transparent to counterparties and easy for regulators to implement. A combination of credible self-formulated failure plans from financial institutions and proper legal, fiscal and financial tools

that enable regulators to act quickly and decisively before contagion takes hold is the right way forward on this.

4.1Proposals for reform

IMF, BIS and FSB

The IMF, BIS and FSB[33] have submitted a joint paper to the G20 Finance Ministers discussing the formulation of guidelines on how national authorities can assess the systemic importance of financial institutions, markets, or instruments. This paper outlines conceptual and analytical approaches to the assessment of systemic importance and discusses a possible form for general guidelines. The paper concludes that assessments would necessarily involve a high degree of judgment, and that guidelines would need to be sufficiently flexible to apply to a broad range of countries and circumstances. Since increased attention to identifying systemically important entities will require enhanced data availability, the FSB has also published proposals for strengthening data collection.

Basel Committee on Bank Supervision

The Basel Committee has published a consultation paper[34] setting out recommendations to improve the resolution of a failing financial institution that has cross-border activities. The recommendations fall into three categories 1) strengthening national resolution powers and their cross-border implementation 2) firm-specific contingency planning and 3) reducing contagion.

The BCBS recommends that contingency planning in the form of living wills should become part of the supervisory process to facilitate a rapid winding up of large and complex cross-border institutions if necessary. For this purpose, the BCBS suggests that firm-wide information systems should provide regulators with critical information for risk assessment and management in case of a resolution. This information should include organization structures, counterparty exposures, payments and exchange systems on which the firm operates etc. and should be updated regularly.

In January 2010, the Basel Committee established a new macro prudential group to "develop a list of approaches using continuous measures of systemic importance to address the risk for the financial system and the broader economy." The group's mandate is to evaluate the pros and cons of 1) regulatory changes such as introducing capital and liquidity surcharges 2) supervisory tools and 3) additional possible policy options such as resolution mechanisms and structural adjustments. It is expected to issue its report after mid 2010.

United States

The Obama administration has proposed that any systemically significant financial firm would be subject to consolidated supervision and regulation irrespective of its legal form. The US Federal Reserve Board is to identify these firms and will be accountable for their consolidated supervision and regulation as 'Tier 1 Financial Holding Companies' (FHC). The Financial Services Oversight Council is expected to help identify these firms on the basis of the 1) potential impact of their failure 2) their size, leverage, interconnectedness and funding mismatch and 3) their importance as a source of credit and liquidity to the economy.

Importantly, the proposal for consolidated supervision covers the parent and all its subsidiaries whether regulated or not, whether US or foreign. The Fed has been given the authority to collect information (pertaining to their systemic significance) from bank holding companies (BHC) above a certain size no matter who their primary regulator is which will require a repeal of the Gramm-Leach-Bliley Act that restricts the Fed's authority. The definition of BHCs has been widened in the latest US Treasury white paper on financial regulatory reform.

The administration plans to help internalize some of the systemic risk that these firms pose to the financial system by applying stricter and more conservative prudential standards – on liquidity,

33 http://www.imf.org/external/np/g20/pdf/100109.pdf
34 http://www.bis.org/publ/bcbs169.pdf

capital and risk management to the Tier 1 FHCs. Moreover these firms will also be subject to higher disclosure standards.

In January 2010, the administration unveiled two new proposals widely dubbed as the 'Volcker rules'. Under these proposals the administration has proposed a cap on the size of the largest banks wherein no bank should be allowed to have a share of more than 10% of the liabilities of the US banking system. The size of the largest few US banks has effectively been frozen.

The second rule proposes forbidding any bank to own or operate hedge funds and private equity operations and also introduces strict limits on proprietary trading. This rule seems to pursue the narrow objective of 'preventing Wall Street from gambling in capital markets with subsidized deposits'. The idea is to erect barriers between different divisions of financial firms to prevent them from indirectly subsidizing speculative trading through other subsidiaries that hold federally insured deposits.

The administration plans to continue to allow financial holding companies to engage in the whole range of financial activities means that it has rejected a separation of investment and commercial banking. The proposals the administration sent to the Congress in March 2010 contain an exemption for trading for market making or hedging purposes.

According to the bills proposed by House and Senate, an institution's systemic risk is some measure of its operational or organizational complexity, its interconnectedness, and size. Measures set out to price in systemic risk imposed by financial firms include: 1) higher and risk-based capital requirements 2) leverage limits 3) a contingent capital requirement 4) limits on concentrations of risks 5) overall risk management requirements 6) resolution plans 7) credit exposure report requirements 8) and prompt corrective action requirements. While the original versions of both bills provided for the creation of a bailout fund (Systemic Dissolution Fund) financed by financial institutions based on their contribution to systemic risk, the just passed Senate bill no longer has this provision.

The House bill specifies that only institutions managing assets worth more than $50 billion (hedge funds: $10 billion) would be subject to systemic assessment and that systemic risk charges need to be countercyclical. The exact levy to be paid by such firms would depend on the scope of a firm's systemic risk. Another difference is that whereas the House proposal calls for a special assessment if the Systemic Dissolution Fund fails to cover the losses in a financial crisis, i.e. an ex-post beefing up of the bailout fund the Senate bill had proposed setting up a $50bn fund financed by a levy on the largest banks but this provision has been removed.

The House and the Senate bills are somewhat different but both broadly give the government the power to seize and wind up a failing company given the permission of the Federal Reserve Board and FDIC. This "resolution authority" would allow the Treasury to 1) fire directors, 2) wipe out shareholders and 3) force creditors to take big discounts on their debt. These measures are intended to prevent long bankruptcy proceedings or expensive taxpayer-funded bail-outs of large and complex financial institutions.

European Union

Although there is no common definition of systemically important financial institutions, there is agreement at European level on the need to improve cooperation and supervision while dealing with large cross-border financial institutions. The likely scenario is that the 40 or so financial groups which have a significant cross border presence in the EU (and hold 70% of bank deposits in the EU) will be treated as the de facto systemically significant institutions.

All of these will have colleges of supervisors overseeing them though their supervision remains primarily a national responsibility. The colleges of supervisors are expected to help co-ordinate supervision for these entities. The three proposed pan European supervisors are also meant to help ensure better co-ordination across borders and are likely to become increasingly important in the supervision of systemically important institutions.

They are likely to play a particular role with regards to resolution of disputes between national supervisors where there decisions will be binding unless there is fiscal dimension involved. The European Parliament's amendments to the proposed powers for the European Banking Authority give it direct supervisory power over large cross border banking groups but it is unclear whether the European Council will agree to this.

It is likely that following international discussions at the FSB and the G-20 larger European financial institutions would be held to tougher prudential standards.

The European Commission has issued proposals on an EU framework for cross-border crisis management in the banking sector. The guidelines cover measures needed at all stages of a banking crisis: early intervention, resolution and insolvency. Two key questions concern the creation of an EU insolvency regime and of a framework to enable asset transfers between group entities as a means of financial or liquidity support before the problems of particular group entities become critical.

The EC has also proposed firm-specific contingency and resolution plans (living wills) for an orderly dismantling and winding up of cross-border institutions, recognizing that using public funds may be unavoidable at some stage of a bank resolution. However, so far there is no proposal on how burden-sharing between involved EU countries could work in practice and ceding fiscal responsibility is a highly sensitive issue of national sovereignty.

Moreover the EU seems not to have any intentions of pushing for regulations limiting bank size or indeed the scope of their operations. This is down to the existence of large universal banks which are politically powerful in many member states.

United Kingdom

The UK government under the Labour party had explicitly rejected mandating restrictions such as the separation of investment and commercial banking and limits on the size of activities of financial firms through legislation. However the new conservative led government has just set up a banking commission to study exactly these proposals and is expected to report by mid-year 2011 on this very important issue.

The UK does believe that systemically significant firms ought to be more stringently regulated and that this may require mandating these firms to have higher capital and liquidity requirements. However, fearing a potential loss of its competitive position as a financial centre it has suggested that such an approach should be co-coordinated globally. It will wait for the results of ongoing discussions within the FSA, the Treasury and internationally at the FSB for criteria to identify systemic significance and plans on how to tackle such institutions including non bank financial institutions.

The FSA issued a discussion paper in October 2009[35] outlining its position on regulating systemically important institutions. The British regulator advocates an international capital (and perhaps liquidity) surcharge, which is not levied based on a threshold level but in proportion to an institution's systemic importance. As a complementary measure, the FSA recommends placing greater emphasis on the standalone sustainability of national subsidiaries of global banking groups, which in turn could reduce the required surcharge. According to this proposal, each country should be responsible for resolving problems in the local operations of a global group, rather than responsibility resting solely with the home nation of the group's headquarters, host countries would impose stronger local capital and liquidity standards, creating standalone national subsidiaries.

Finally, the FSA wants systemically important banks to produce recovery and resolution plans (living wills), giving regulators the power to require restructuring of the institutions in case the plans reveal serious obstacles to their resolution.

35 http://www.fsa.gov.uk/

4.2 Discussion

None of the three jurisdictions has gone for a forced reduction in the 1) size 2) complexity or 3) functionality of systemically significant institutions though this is a step that many commentators feel is necessary. The recently proposed Volker rule on the separation of hedge funds and private equity is a small step in the direction of reducing the scope of operations and the new restrictions on the size of liabilities only limits the expansion of institutions but does not propose to shrink them.

The UK in the past had explicitly rejected restrictions on the size or scope of banks. The UK focus then is not on preventing institutions from becoming systemically significant but on ensuring that they have a higher risk absorption cushion, more rigorous supervision and quick resolution mechanisms.

The non-separation of investment and commercial banking and the non- restriction of size through the use of anti-trust or competition legislation are both victories for the financial sector lobby and a serious set-back for proponents of financial sector reform. However, it is best to withhold judgement till the banking commission issues it report.

That having been said the US proposal is interesting because it breaks new ground in several aspects.

These are: 1) It is not restricted to banks and gives the Fed the flexibility and the authority to deem any institution, including hedge funds and non bank finance companies such as GE capital as being systemically significant which automatically brings the institution within the purview of a strict regulatory regime whether it is otherwise regulated or not 2) it allows the Fed and the FSOC great scope to collect relevant information 3) It applies regulatory restrictions across the corporate structure including the holding company and not just the relevant subsidiary. 4) It applies across borders to non-US firms with a US presence.

According to EU's internal markets commissioner Michel Barnier[36], the EU is studying the Obama plan on restricting the size and scope of banks but isn't sure it is right for the bloc's financial system. Individual EU countries, including Britain and France, have said the idea has no application in their banking systems. The FSB said the proposal is (only) one among a range of options it is looking at to tackle the moral hazard risks posed by banks deemed to be 'too big to fail'.

36 www.euractiv.com

5. Improving crisis handling and resolution

It became clear with the failure of Lehman Brothers in the US and Icelandic banks in Europe that the world did not know what to do when large or cross border financial institutions got into trouble. Particularly after the failure of Lehman and the shocks this set off all over the world, governments around the world adopted the default position that they should rescue failing financial institutions no matter what the cost.

While this was an appropriate decision at the time, governments ended up spending trillions of dollars rescuing banks. Clearly there is an urgent need for suitable crisis handling mechanisms that do not involve a wholesale bailout of the financial sector.

Large banks have long enjoyed an implicit state subsidy. In the credit ratings they have been assigned there has usually been a difference of one whole notch of rating between the two scenarios of no bailout and government bailout that rating agencies typically look at. In the financial markets the bonds of large institutions traded at levels consistent with the assumption that governments would bail them out.

Now that we have seen a whole scale bailout of the financial sector and especially large financial institutions this implicit subsidy has become explicit and clearly these large institutions will have even stronger incentives to take excessive risks.

That is why governments around the world are scrambling to come up with suitable crisis management responses that will not have to involve bailing out institutions that are considered too large or too interconnected to fail.

As things stand now, no proposals have been put forward on how to do this at a global level though national levels proposals are indeed being taken forward.

5.1 Reform proposals

United States

The Obama administration has recommended the creation of a special Bank resolution regime for emergencies where the conventional failure of a Bank may have systemic consequences. Tier 1 Finance Holding Companies will be subject to prompt corrective action under the planned special resolution regime where the Fed, acting in consultation with the FSOC will be able to act decisively to close down, arrange a rescue or salvage a troubled firm so as to minimise potentially damaging systemic impacts.

The Fed will have the authority to put institutions into 'conservatorship', receivership, to stabilize them through other means or even be able to transfer their derivatives portfolios to a bridge bank. Actions can be initiated by the Treasury or the Fed or in the case of SEC or FDIC regulated entities by these institutions.

These Tier 1 FHCs will be required to submit and update detailed plans for their winding up also called living wills which will need to be approved by the Fed. The administration hopes that the more stringent regulation combined with the need to present credible wind down plans will incentivize institutions to reduce their systemic significance and simplify their legal structures. The administration also plans to strengthen the firewalls between banks and their affiliates especially at the Tier 1 FHC firms.

The House proposals closely follow the original administration draft but have added a provision to set up a systemic dissolution fund that will be used to recover the costs of any restructuring from the financial institutions themselves through the imposition of an ex post levy on large institutions with a balance sheet size in excess of $50bn.

The Senate proposal is different in the respect that once the Treasury, Fed and FDIC have agreed to put an institution into the orderly liquidation process, the decision must be approved by a panel of bankruptcy judges within 24 hours.

The original Senate proposal called for building up a $50bn resolution fund which would be used to provide funds for any such liquidation so taxpayers are insulated. Under Senate proposals, this fund will be financed through the imposition

of an ex ante levy on the largest and most interconnected institutions. However, this fund has now been dropped from the final version of the Senate bill passed in May 2010.

The Fed played an important part in crisis handling by having made emergency funds available not just to banks that were eligible but also to several legal entities such as investment banks which had not been eligible under its program. The administration has recognized that this may need to happen again in a crisis so it has decided to formalize the ability of the Fed to provide emergency credit to individuals, corporations or partnerships. However, in the interest of making the Fed more accountable, this will require prior written approval of the Secretary of the Treasury.

European Union

EU Finance Ministers agreed a set of common principles for crisis action regarding systemically important financial institutions in October 2008 and pledged to cooperate on the basis of their Memorandum of Understanding of June 2008 on cooperation between the financial supervisory authorities, central banks and financial ministries of the European Union. The principles for crisis interventions that they agreed to are:

- interventions should be timely and the support should in principle be temporary;
- finance ministers will be watchful regarding the interests of taxpayers;
- existing shareholders should bear the due consequences of the intervention;
- the government should be in a position to bring about a change of management;
- the management should not retain undue benefits – governments may have the power to intervene in remuneration;
- legitimate interest of competitors must be protected, in particular through the state aids rules;
- negative spill over effects should be avoided.

The momentum for putting in place an effective framework for the management of cross border bank failures in the European Union is building up. In October 2009, the European Commission released a communication on the topic and Commissioner Barnier is in favour of setting up some form of a European emergency fund for the purpose. The IMF has recommended that the EU set up a European Resolution Authority[37] with the mandate to manage cross border bank failures. The commission is expected to put forward a proposal in autumn 2010. The commissioner has made clear his own preference for setting up a rescue fund that would pay only for the restructuring costs for troubles banks and would be funded up front by payments from the financial sector.

Meanwhile the communication states that there is a need for a framework that would enable authorities to stabilise and control the systemic impact of failing cross-border financial institutions. Such a framework would need to cover three areas namely early intervention, resolution and insolvency.

Early intervention would cover actions by supervisors aimed at restoring the stability and financial soundness of an institution when problems are developing, together with intra-group asset transfer between solvent entities for the purposes of financial support. The Commission sees an important role for the European Banking Authority in co-ordinating such actions.

If such early intervention does not work, the Commission has suggested the introduction of resolution mechanisms that would cover measures taken by national authorities to manage a crisis in a banking institution, to contain its impact on financial stability and, where appropriate, to facilitate an orderly winding up of the whole or parts of the institution.

The third step, needed in case measures under one and two fail would be insolvency. Here the Commission has recognized the need for setting up a special pan EU financial institution insolvency regime and has appointed a group of experts to advise it on the subject.

The expectation is that the Commission will put forward a list of measures that would include 1) setting up an EU fund financed by the financial sector 2) harmonizing early intervention and resolution regimes in Member States and 3) suggestions for the introduction of a EU special Insolvency regime for cross border banks.

37 IMF Speech at the Commission conference on Cross border crisis management available on the website of the DG internal market

United Kingdom

The UK has already legislated to provide the government the power to nationalize bank holding companies where the failure of a deposit taking institution within the group would pose a threat to financial stability[38]. It is now considering a resolution regime for investment banks. It plans to require all significant firms to have detailed wind up plans which will, for example, mean that their legal structures need to be simplified to facilitate quick and orderly resolution. This would help reduce the systemic risk posed by their failure. The Bank of England is to evaluate these plans. The government will also require the Financial Services Authority (FSA) to take into account the potential impact of the failure of the firm while conducting supervision and regulation.

The government has also proposed that the Financial Services Compensation Scheme (FSCS), which is used to meet the costs of paying out depositors and financing resolution costs, should be fully funded by the financial services sector itself so taxpayers are not liable. Because intervention in the financial sector can be expensive, the government believes that pre-funding the FSCS is a better approach than trying to recover the costs of the bailouts from the financial sector.

5.2 Discussion

The US proposals draw on the already operational UK proposals, which in turn drew on the prompt corrective action regime that the US Federal Deposit Insurance Corporation has used successfully for several years. Both the US and UK proposals provide enormous flexibility and significant powers to the regulators and would allow the authorities to systematically take the kinds of ad hoc measures that they have had to take to help stabilize failing financial institutions and protect against systemic risk.

While the US proposal is fairly flexible American aversion to anything that might reek of nationalization means that the UK proposal is broader in scope in terms of what it enables the government to do to save banks. However the US proposal has a much broader institutional scope in the sense that it allows the government to protect all systemically significant entities not just banks. A combination of a broader legal definition with more scope for depth of action including nationalization may be ideal.

The UK suggestion that allows for a possible pre-funding of a rescue and compensation fund is clearly superior to the recovery of funds model that the US has put forward. The original Senate proposal that had provisions for being pre funded has been dropped from the final version of the bill.

The financial institutions‘ living will aspect of the resolution mechanisms in the US and the UK is very important and if stringent standards are applied this can be used to significantly reduce institutional legal complexity (Lehman had more than 330 subsidiaries and Citicorp has more than 2400) which is a looming threat to effective regulation and financial stability.

There is an urgent need for a resolution mechanism that can operate at the EU level. This can happen 1) either through an institution of member state level UK like resolution regimes across all member states that are then co-coordinated or 2) by instituting a EU legal tool that would be best handled by the EBA or the ESRB.

A first step towards this (to help address the burden sharing issue) would be to impose a pan EU systemic risk levy on large cross border institutions that can be used to pre fund a EU financial stability and rescue fund. A pan EU deposit insurance levy would work well with this where all members states can be required to part contribute deposit insurance levies imposed on cross border insurance into the pan EU fund.

A critical shortcoming of the whole discussion is the complete absence of a global mechanism for crisis resolution and burden sharing.

38 UK Financial Services Act 2010

6. Strengthening capital and liquidity requirements

Part I of this book demonstrated that in a bid to maximize profits banks and the bankers who ran them drove down capital levels and liquidity buffers to record lows. The flipside of this was that leverage and maturity mismatches in the financial system shot up to record highs. Capital levels in the UK fell by 80% over the course of the last century and liquidity buffers fell from about 30% of assets in the 1960s to 1% just before the crisis hit. Leverage levels in some large banks were close to 60 and other banks were funding 30 year mortgages with overnight loans, both recipes for disaster[39].

Even the capital that did exist in the system saw an erosion of quality with pure equity being replaced by a whole range of hybrid securities that provided little real protection against losses.

There is a global consensus that the quality and quantity of capital needs to be increased. There is also a consensus on the need to impose some forms of regulations for minimum liquidity requirements. Such higher standards for liquidity and capital are likely to improve both firm level resilience as well as the capacity of the financial system as a whole to withstand shocks.

Given the cross border nature of many financial institutions and the competition that exists between various financial centres is it likely that strengthening capital requirements will need to be co-coordinated internationally. The most important body here is the Basel Committee on Bank Supervision that is responsible for the Basel accord. The FSB is also expected to play a central role.

The discussion on improving the resilience has four main elements 1) the amount of capital 2) the form of capital 3) the variation of capital so as to reduce procyclicality 4) the quantity and quality of liquidity buffers.

The discussion on capital rules also includes increasing capital requirements for 1) trading books 2) securitizations and structured products 3) off balance sheet exposures 4) risk enhancing compensation policies and 5) exposure to OTC derivatives that are not cleared through a Central Counter Party.

6.1 Proposed reforms

Basel Committee on Bank Supervision

In July 2009, the Basel Committee approved a package of measures to strengthen the existing Basel II rules capital adequacy. The new rules strengthened capital requirements for trading activities and securitizations. They also introduced higher risk weights for re-securitization exposures and raised the credit conversion factor for the provision of certain short-term liquidity facilities. According to an impact study concluded in October 2009, the changes to the market risk framework are expected to increase average trading book capital requirements by two to three times their current levels.

In December 2009, the BCBS issued for consultation a package of proposals to strengthen global capital and liquidity regulation[40]. The first consultative document intends to raise the resilience of banking sectors to both internal and external shocks. For that purpose, the BCBS proposes to:

Increase the quality, consistency, and transparency of the capital base. The BCBS wants common equity and retained earnings to be the predominant form of primary capital (also called Tier 1). BCBS plans to phase out hybrid capital instruments and consolidate secondary capital (also called Tier 2) so as to improve its quality and reliability. The so

39 All figures provided by the Bank of England
40 http://www.bis.org/press/p091217.htm

called Tier 3 category of low quality capital will be abolished altogether. The transparency of capital is also expected to be improved by requiring disclosure of all elements of capital along with a detailed reconciliation to the reported accounts.

Strengthen the risk coverage of the capital framework. On top of the trading book and securitization reforms mentioned above, the Committee wants to toughen up the capital requirements for counterparty credit risk exposures arising from derivatives, repos (repurchase options), and securities financing activities. The goal is to make individual banking institutions more resilient and reduce contagion through the derivatives and financing channel. Increasing counterparty capital requirements would also create incentives to move OTC derivative exposures on to central counterparties and exchanges.

Introduce a leverage ratio as a supplementary measure to the Basel II risk-based framework. This will help to prevent the build-up of excessive leverage in the banking system, introduce additional safeguards against banks manipulating the current risk-based requirements and deal with model risk. The ratio will also cover all off balance sheet exposures.

Make the capital framework countercyclical by promoting the build-up of capital buffers in good times that can be utilized in periods of financial stress. Further, the BCBS is encouraging more forward looking provisioning based on expected losses, which captures actual losses more transparently and is also less procyclical than the current 'incurred loss' provisioning model.

There is as yet no mention of how large the revised minimum capital requirements are likely to be.

The second BCBS consultative document sets out proposals to introduce a global minimum liquidity standard for internationally active banks.

The Committee has developed two regulatory standards for liquidity risk. The first standard called the Liquidity Coverage Ratio is targeted at increasing the short-term resilience to liquidity risks by ensuring that they have sufficient high quality liquid resources to survive an acute stress scenario lasting for one month.

The second standard called the Net Stable Funding (NSF) Ratio has been developed to capture structural issues related to funding choices. Its purpose is to promote resilience in the longer-term by creating additional incentives for banks to fund their activities with more stable sources of funding as a permanent feature.

However, the composition of the regulatory liquid asset buffer is highly controversial and the parameters for the ratios are yet to be defined. The BCBS is currently undertaking a comprehensive quantitative impact study of its December reform package. The production of final, fully calibrated regulations is planned for the end of 2010.

United States

In addition to following the international guidelines the US government is seeking to tighten capital requirements and is looking into a reassessment of existing capital adequacy requirements. It intends to apply capital adequacy requirements not just to banking subsidiaries but also at the holding company level. The US will of course also be influenced by the changes suggested at the international level by the Basel committee to increase the quality and quantity of capital and reduce its procyclicality.

The administration plans for all finance holding companies to be "well capitalized". The administration is also highly supportive of the ongoing BCBS work on looking at a mandated maximum leverage ratio.

Both House and Senate proposals advocate stricter prudential standards for systemically important institutions, including risk-based capital requirements, leverage limits and liquidity requirements. The US bills specify that off-balance sheet activities should be taken into account when determining capital requirements. According to the Treasury, a comprehensive international agreement should be reached by end of 2010 and implemented in national jurisdictions by end of 2012. Systemically important institutions may be required to issue contingent capital, i.e. hybrid securities that convert from debt to common equity at times of financial stress.

European Union

The European Commission has been working on revising the Capital Requirement Directive (CRD) which very much remains a work in progress. CRD III is currently making its way through the parliament and the process on CRD IV is still very much in its infsncy. However, in line with the BCBS recommendations issued in Jan 2009 some of the initiatives which have already been agreed at the EU are 1) an increase (near doubling) of the amount of capital held against the trading book 2) higher capital (almost trebling) to be held against re-securitizations and 3) a more rigorous capital adequacy regime for off-balance sheet exposures. Under the CRD the EU has also already agreed to establish colleges of supervisors for (initially 44 now 40 after mergers) the largest cross border institutions operating in the EU.

Under the ongoing review of the CRD the Commission, Parliament and Council are discussing

1. remuneration policies and practices within banks
2. higher capital adequacy requirements in boom time
3. higher liquidity buffers.

It is also intended that banks will have to stick to levels of leverage specified in a simple leverage ratio prescribed by the regulator.

In February 2010, the European Commission launched a new public consultation on further possible changes to the Capital Requirements Directive[41]. The changes address seven policy areas most of which reflect commitments made by G20 leaders: Liquidity standards, definition of capital, leverage ratio, counterparty credit risk, countercyclical measures, systemically important financial institutions and creating a single rule book in banking for Europe on all of the above. The results of the consultation will be fed into a legislative proposal in the second half of 2010.

United Kingdom

While the UK will be bound by all decisions on the Capital Requirement Directive it has been taking unilateral action and is putting steps agreed at the EU level into action. The UK has already taken far-reaching decisions to improve liquidity standards where it has proposed the introduction of institution specific liquidity buffers. It has also decided to introduce far more stringent stress tests for judging the adequacy of both capital as well as liquidity.

The FSA has issued a policy statement in early October 2009 setting out the framework for a tough liquidity regime which the UK has already started to implement.

The FSA has introduced a liquidity regime that also applies to foreign banks that operate in the UK and expects them to hold standalone buffers within the UK. It expects liquidity buffers to be composed of high quality government bonds, central bank reserves and supranational debt.

The exact level of system-wide liquidity buffers is in the process of being calibrated and will take into consideration the potential effects of higher capital requirements. The buffer level will be tailored for every firm's specific risks, including the kind of business it does and the quality of its risk management, the individual and the system-wide buffer level may well diverge. According to FSA simulations, big British banks will need to "liquefy" about 10% of their balance-sheets. So as not to endanger economic recovery, the new liquidity rules will be phased in gradually over the course of several years. The FSA also emphasizes the flexibility of its liquidity regime and that it will be able to adjust according to new international standards set by the BCBS.

41 CRD consultation available on the website of DG internal market

6.2 Discussion

As a point of comparison it is interesting to note that Switzerland, which like the UK and Iceland has had a banking system where the assets are of a multiple of the GDP, has moved fast on the issue of capital adequacy. For its largest banks, it has doubled capital requirements to 16% in boom times and has also decided to introduce countercyclical provisions in its capital adequacy regime [42]. This 16% figure is likely to provide an interesting benchmark for the international discussion. The EU's increase of trading book capital (doubling) and capital to be held against re-securitizations (trebling) as well as restrictions of exposure to a single institution (25% of capital) are also likely to provide international benchmarks.

The UK has been the first to act on the issue increasing liquidity buffers especially for international financial institutions operating in the UK which will be required to hold more 'domestic liquidity'. This too is expected to provide a benchmark though the step has attracted criticism from some circles claiming it could trigger a fragmentation of the market.

On the whole, trends in minimum capital requirements are moving in the right direction, but the discussion on procyclicality is making slow progress and the discussion on enhanced liquidity requirements lags far behind. This is in part because the focus of the BCBS as well as regulators has so far been on capital not liquidity. A longer-term cause may be the failure of the BCBS to agree on an accord for liquidity during the 1980s.

The discussion on the quality of capital also seems to be inching forward with restrictions expected on the use of many of the 'hybrid' capital instruments that were allowed over the past decade. One problem with this is that many of the capital injections by governments used to prop up financial institutions across world over are themselves 'hybrid' in nature so requirements on beefing up the quality of tier 1 capital are likely to be introduced over the medium to long term.

It became clear during the crisis that the capital that institutions were required to hold against trading books, re-securitizations (so called CDOs and CDO Squared etc) and off balance sheet exposures to such as to SIVs (Special Investment Vehicles) was highly inadequate and allowed both a large build up of risk as well as large scale regulatory arbitrage. So there is a clear consensus emerging (as highlighted in the recently issued FSB guidelines on capital) that all of these need higher risk weighting for capital adequacy.

The discussion on mandating a maximum leverage ratio as a backstop measure is also progressing although there remain significant problems with the definition and measurement of leverage as well as the lack of an agreement thus far on what the cap should be.

42 http://www.finma.ch/archiv/ebk/e/archiv/2005/referate2005.html

7. Regulating derivatives

A derivative is simply a security that derives its value from another underlying security. The simplest is a future where two parties agree to exchange a security such as a share for a set price on a set date. Others such as interest rate swaps where parties agree to exchange fixed and floating interest payment streams are more complex. They can be based on pretty much anything and structured in many different ways, as long as two parties are willing to trade risks and can agree on a price. Derivatives cam derive their value from reference to any index, including for example prices of commodities, stock market indices and weather variables.

It is believed that derivatives of some kind have been around since the time of King Hamurabi 4,000 years ago and the Japanese have been trading rice futures since the 17th century[43]. They can be very useful for hedging various risks but are also easy to use to speculate. The scale of derivative markets, which had been relatively small until the last century, is now so large so as to justify a serious examination of the market. Between 1990 and 2008 alone, for example, derivative markets expanded from about 10 times world GDP to about 55 times world GDP[44].

For the purpose of this discussion, it is useful to classify derivatives into 'exchange traded' and 'over the counter'. About 40 times world GDP worth of exchange traded derivatives were traded on exchange in 2008 and most of these markets continues to operate smoothly during the crisis. Such derivatives are usually more standardized, have the exchange as the only counterparty, are transparent and have strict margining and collateral requirements. This means that the number of interconnections between firms is limited, the net risk exposure outstanding at any point in time is contained and there is no uncertainty about the exposures of the firms involved.

The size of the OTC derivatives market exploded from about $ 91 trillion in 1998 to $ 592 trillion in 2008[45]. These derivatives are mostly traded bilaterally so create a complex network of exposures in contrast to exchange traded derivatives. They dramatically increase the interconnectedness of the financial system which as we have seen earlier contributes to increased systemic risk. Since they are not traded on exchange, the margining and collateral requirements are usually much lower. Before the crisis hit, as many as a third of OTC derivatives required no margining at all so one could create leverage for free. Another problem with the OTC derivative market is that it is opaque with no one, not even the regulator, is in a position to know what the risk exposure of financial institutions is. The last point of concern is that some of the derivatives transacted can be very complex and such transactions have been used to cloak undesirable activities and extract higher margins from unsophisticated customers.

We know from Part I of this book that 1) interconnectedness 2) leverage and 3) lack of transparency all contribute to systemic risk.

That is why regulatory attention has been rightly focused on the OTC derivative markets.

7.1 Proposed Reforms

United States

The Obama administration indicated that it wanted all derivative markets to be subject to comprehensive regulation. The objectives of the legislation suggested by them are 1) to prevent systemic risk build up; 2) to promote efficiency and transparency; 3) to prevent market abuses; 4) to ensure that derivatives are not marketed to unsophisticated parties.

43 www.economist.com
44 www.bis.org
45 www.bis.org

Towards this purpose it proposed to 1) impose record keeping and mandate reporting requirements on all OTC derivatives 2) strengthen the regulation of derivative dealers all of whom will now be subject to federal supervision;3) require all standardized OTC derivatives to be traded in regulated and transparent venues such as exchanges 4) mandate that all derivatives be cleared through regulated central counterparties.

The proposal also imposes higher margin and capital requirements for non- standardized OTC derivatives in order to encourage standardization. The administration has given the SEC and the CFTC the joint authority to regulate the derivative markets and has given them power to set position limits on derivative exposures especially in markets such as commodities where they can play a significant price discovery role. Finally the legislation also suggests tightening up the definition of eligible investors, which is expected to better protect individuals and small municipalities.

In its December 2009 bill, the House used the same broad framework for legislation that the US proposed but diluted key aspects of the proposal. Under the House proposal fewer firms would be covered by margining and capital requirements, and fewer derivatives would be cleared by a central counterparty or traded on exchanges. It also waters down the concept of standardized OTC derivatives. While the administration wanted central counterparties to clear as many OTC derivatives as they could, the House proposals give the regulators more discretion to decide what gets cleared. Under the proposal clearing house transactions will be reported to a registry, and aggregated versions of this data will be made public.

Under the House proposal dealers will be allocated mandatory margins; non-cleared contracts will be reported to the registry providing regulators with the means to monitor systemic risk; and capital requirements will be higher for these positions in comparison to cleared transactions in order to reflect the increased risk they pose to the financial system and counter- parties.

The final Senate bill that was passed in May 2010 is unexpectedly significantly tougher on derivative reform than the House bill. Unlike the house bill, it does not have any exemptions for forex swaps and has fewer exemptions for end users. The most important difference, however, is that the Senate bill asks banks to spin off their swap desks into separately capitalized entities.

European Union

The European Commission, in its communication on derivatives has highlighted four main steps to bring them under greater scrutiny and regulation. The EC wants to: 1) see more standardized contracts; 2) mandate the establishment of electronic systems of confirmation of derivative transactions 3) require that all settlement takes place through regulated central counterparties and 4) create a central data bank to collect comprehensive information on transactions and amounts outstanding.

The EC ideas on regulating derivatives issued in 2009 are very similar to the US legislation. The Commission wants to harmonize the legislation governing clearing houses across Europe, in order to allow them to operate at a European level. Their supervision and authorization will be dealt with by the proposed European Securities and Markets Authority (ESMA). For standardized derivatives, the Commission envisages mandatory central clearing.

The EC plans to reduce risks by requiring central counterparties to be used for standardized contracts, and by imposing higher capital and margin requirements for the remaining bilaterally-cleared contracts than for those conducted through central counterparties. It will seek to reduce operational risks, by promoting standardization of the legal terms of contracts; improve transparency, through the use of trade repositories and by mandating trading of standardized derivatives on exchanges or other organized venues and enhance oversight. The EC also plans to include the authority for regulators to set position limits to counter disproportionate price movements or concentrations of speculative positions. In a recent discussion paper, the European Commission seems to be willing to grant exemptions to non financial participants in the derivative markets. At the time of going to press the commission had not yet issues its legislative proposals on derivate reform.

United Kingdom

While the UK authorities agree on most elements of derivative reforms put forward by the Commission, a paper produced by the FSA on the subject[46] does challenge some of the proposals. It argues, for example, that standardization should not be seen as the sole criterion for deciding the eligibility of contracts for CCP clearing as other factors, such as regular availability of prices and market liquidity, should also be taken into account. The paper warns that CCPs are themselves systemically significant so should not be forced to clear products for which they are unable to manage risk. The paper also questions the need for pan EU supervision of CCPs and argues that Pan EU standards are enough. Finally, the paper argues against the penal use of capital charges to force firms to use CCPs.

7.2 Discussion

Over the Counter (OTC) Derivatives played a significant role in triggering and amplifying the current financial crisis. The case of AIG, which wrote hundreds of billions of dollar of opaque OTC contracts and had to be bailed out by the US government, is illustrative. Municipalities and local authorities around the world are grappling with large losses faced as a result of derivative transactions that they seem not have fully understood. Alabama is on the verge of bankruptcy and in Europe the cities of Liepzig and Milan face the prospects of large losses they can ill afford[47].

The original US administration proposal on OTC derivative reform was the most comprehensive set of ideas on the table and was watered down to various degrees in subsequent House, Senate and European Commission drafts by loosening the provisions for allowing OTC derivative trading to continue. Exchange traded derivatives markets functioned smoothly during the crisis so the original idea was to push as many OTC derivatives on to exchanges as possible. While the central idea persists, the House weakened the definition of an exchange by proposing alternative 'Swap execution facilities' which are not yet clearly defined. The EC proposal is also weaker on how hard it pushes for OTC derivatives to be pushed on to exchanges. Bank lobbyists, who fear that exchange based trading will erode their significant profit margins have been up in arms against this provision.

The second flagship idea of the US administration was to force almost all derivatives to be cleared through a central counter party (CCP). This not only helps reduce the interconnectedness of the financial systems but also increases derivatives transparency and safety through the use of margining and collateral requirements. While the basic idea has been retained in all proposals, it is being weakened. The original US proposal had suggested the use of penal capital requirements for derivatives that were not cleared but the 'penal' element of these have been watered down. The criterion for CCP clearing has also been loosened. While the original proposal had suggested that all counterparties be subject to margining requirements, an all important non financial user exemption has crept into both the US congress as well as the European Commission proposals due to strong lobbying by large corporations.

The final requirements for the maintenance of information repositories and the reporting of transaction details are still being discussed globally. The state of the discussion on position limits first suggested by the US administration is also somewhat unclear.

It is clear that the regulators are facing a concerted lobbying effort to water down proposed derivative regulations. Banks have a strong incentive to oppose exchange trading since they earn large margins on OTC transactions and non financial firms have been successful in getting exemptions from margining requirements for cleared transactions. Many of them do far too many derivative transactions than can be justified by economic exposure alone and such speculation is likely to

46 www.fsa.gov.uk
47 http://www.ft.com/cms/s/0/6fabfb98-32f6-11df-bf5f-00144feabdc0.html

increase as a result of this exemption. None of the jurisdictions have imposed any pre-approval requirements on derivatives, something that would have helped improve the understanding of derivatives and ensured that 'toxic' products were not allowed to trade.

The capital charge proposed for users of OTC derivatives that did not clear through CCPs is probably being watered down to simply an additional bilateral margining requirement. Discussions on position limits have become less stringent as are those on protection unsophisticated counterparties.

On the other hand, there is a good possibility that naked Credit Default Swaps would be prohibited at least in the EU or at least penalized through additional charges. The unexpectedly strong provisions of spinning off swap facilities in the US Senate bill also makes the derivative reform process stronger. There is a possibility that if this becomes law in the US, the idea might be replicated in the EU. Following the senate bill's removal of the House bill exemption on forex swaps, the Commission has made the right noises about following suit when it puts is proposals forward.

8. Regulating securitization

Risks were spread – only in the sense that they have become more contagious, not in the sense that they were reduced.

Securitization is the process by which loans, which are normally not traded in the markets, can be converted into tradable securities. A typical securitization involves four steps 1) the pooling of loans 2) the re-organization of these pooled loans into waterfall like tranches where a lower tranche gets paid only after the tranche above it has been fully paid 3) the rating of these tranches and finally 4) the sale of securities which are claims on each of these tranches to market participants.

The securitization of loans had seen a massive growth in the run up to the crisis. This was driven by a number of factors some of which are discussed below.

Banks used securitization to increase the volume of their business. For every loan they gave, banks earnt a fee and securitization, which allowed banks to remove loans from their balance sheets, enabled them to make more loans and earn a higher fee income. Since they passed on much of the risk exposure to other investors their lending standards and due diligence slipped significantly.

Under the Basel capital adequacy accords, market risk in general had lower capital requirements than credit risk. Securitization allowed banks to move loans from their banking books, which were subject to capital requirements for credit risk to their trading books where lower maket risk capital charges applied. So even though the financial system as a whole held exactly the same set of loans as before they were securitized, it now carried a much lower amount of capital which increased aggregate systemic risk.

Securitizations became increasingly complex. While investors would have been able to understand a simple real estate backed mortgage security (RMBS) by reading about 200 pages of documentation, the Bank of England has suggested that fully comprehending a CDO Squared which was a securitization of securitized assets, required going through a whole 1 billion pages, something that clearly no one was capable of doing. This complexity hid serious risks which were manifested when problems first hit the financial sector in 2007–2008.

The credit ratings assigned to securitized assets by conflict ridden credit rating agencies were in retrospect clearly too high. Under pressure from originators and in order to maximise juicy fees they assigned inappropriate ratings without proper due diligence.

The key problems faced by the securitization industry were 1) banks had no risk exposure to the loans they were originated solely for the purpose of selling them off through securitization and this led to eroding lending standards 2) loophole ridden Basel capital rules were widely gamed and led to an increase in systemic risk 3) conflict ridden credit rating agencies gave overoptimistic ratings and 4) complexity grew to ridiculous levels. These are the issues that regulation would need to address.

8.1 Proposed reforms

United States

On securitization, the US authorities have introduced flexible legislation that mandates that the originator of a securitized loan or the sponsor of securitization will need to retain a significant economic interest in a material portion of the credit risk of securitized products which has been initially set at 5%. They also intend to introduce other regulations to align the compensation of market participants with long term performance of the loans underlying the securitizations.

The administration has also given the SEC the power to increase the transparency and standardization of securitization markets and the authority to require rigorous reporting by the issuers of securitizations. It has also suggested ways to better align the incentives of brokers/originators/ sponsors/ underwriters and others involved in the securitization process with long term performance of the securitized assets by suggesting changes to their compensation models. The originators would no longer be allowed to instantly book profits on the sale of securities but will have to recognize these gains over time. Also, it has been suggested that fees and commissions received by loan brokers and loan officers should be disbursed over time conditional on the performance of the securities.

The legislation also makes it mandatory for rating agencies to use and make available loan level data on the assets that underlie securitized products and encourages regulators and supervisors to reduce their reliance on credit ratings.

In order to boost confidence in securitization markets through greater transparency, US mortgages will be assigned permanent codes that investors can use to track payments and other credit-sensitive information.

The House and Senate committees have adopted largely similar approaches. First, both proposals require companies that sell securitized products to retain part of the credit risk. The Senate and the House proposals both specify a 5% risk retention requirement that can be increased by regulators. Both the bills also demand improved disclosure rules to increase transparency of securitized products. They want to require issuers of asset-backed securities to disclose asset-level or loan-level data to allow investors to independently perform due diligence.

According to the House bill the data shall include "unique identifiers relating to loan brokers or originators, the nature and extent of the compensation of the broker or originator of the assets backing the security, and the amount of risk retention of the originator or the securitizer of such assets." Both bills also call for a clear definition of accounting and regulatory standards for disclosure.

European Union

The European Commission has introduced requirements for banks retain at least five percent of the products they originate and sell on their balance sheets as a way of ensuring that they have an incentive for better due diligence and that they retain an interest in the long term performance of these products.

The EC has also proposed to regulate re-securitizations, which are known to be more complex than simple securitizations, more strictly through restrictions and through higher capital requirements where the capital needed to be held against re-securitizations will nearly treble.

The commission proposal is similar to the US proposal in also requiring much greater disclosure including that of transaction level data.

8.2 Discussion

The 5% risk retention being discussed in the US and the EU is the same which reduces arbitrage opportunities between the two locations. While there is no agreement on what an ideal ratio is and the US has given the regulators the power to tweak this and the EC will be looking into seeing whether the ratio can be increased.

The US proposal allows for the risk to be retained at either the originators of the loan level (giving them an incentive to do proper due diligence) or the sponsors of the securitization level (which gives them an incentive to make sure that the originators have done proper due diligence). The EU proposal applies only to the banks which securitize the loans.

One of the disappointments is that none of the discussions makes a provision for restricting the issue of re-securitized products such as the now notorious CDO squared and CDO cubed which have played a central role in the ongoing crisis though the EU proposal does significantly increase the capital that needs to be held against such assets. In the absence of outright restrictions on the issue of certain kinds of securities it might make sense to link the amount of risk retention to how

complex and potentially dangerous the securitized products are.

A good thing about the US proposal is how broad some of its provisions are in the sense that they are applicable across the range of actors active in the securitization chain where regulators can provide for the compensation of actors to be linked to long term performance of the underlying loans. This provision should be taken on board by the EU.

While the requirement for skin in the game addresses the incentives for due diligence the other concerns flagged in the introduction to this section are being addressed by separate pieces of legislation. The problem of overtly positive ratings is being addressed by requiring credit rating agencies to set up a separate rating scale for structured products and through the disclosure of transaction level data. Excessive complexity has only been partly tackled through penal capital requirements. The problem of arbitrage between the market and bank books has been addressed by a near doubling of capital required for trading books.

9. Regulating alternative investment funds

While banks have been widely implicated in the ongoing financial crisis, the shadow banking system comprising institutions such as hedge funds, conduits and money market funds that perform bank like functions was equally complicit in triggering and amplifying the crisis. This shadow system is not just a small sideshow but has grown in size in the last decade to almost rival the banking system. According to the Financial Times the shadow banking system in the US was worth $5,900bn not significantly smaller than the banking system which registered a size of $9,400bn.

Beyond this shadow banking system other forms of alternative investment funds such as private equity contributed to the excessive leverage in the financial system. While most of the focus of the ongoing regulatory discussions is on increasing banking regulation, policy makers would be well advised to also bring the shadow banking system into the regulatory perimeter. Otherwise, as more stringent regulation is introduced in the banking system, the risks that regulators are trying to contain are likely to simply migrate just beyond the regulatory perimeter to the shadow banking system. This will be especially so if it gains a competitive edge by not being regulated just as bank regulation becomes more stringent.

That is why the G-20 has asked for all financial institutions, instruments and jurisdictions to be brought into the regulatory perimeter.

This section deals in particular with the regulation of hedge funds and private equity which have thus far been largely unregulated.

9.1 Proposed reforms

United States

Under current practice some advisers to private pools of capital in the US are registered with the CFTC and others register voluntarily with the SEC. Under the Obama administration's proposals however registration with the SEC will be mandatory for all investment advisers who have more than $30 million assets under management. These advisers will be required to report information on the: 1) assets; 2) leverage; 3) off balance sheet exposure; 4) counterparty credit risk exposure; 5) trading; and 6) investment positions of the funds under their management so: 1) regulators can judge whether any funds pose a systemic threat; and 2) are aware of all major exposures and risks in the financial system.

While in theory the provisions apply only to 'US based' fund managers, the proposals use a broad definition of what such a 'base' might be and in practice, this is likely to capture most fund managers with even a small presence in the US market. For example if a fund services 15 or more US clients or if it manages more than $25 million in assets attributable to US clients or has a US place of business or presents itself as an investment adviser in the US. In other words most fund managers that take money from US institutional investors would be covered by the provisions.

The SEC is expected to perform regular checks to ascertain an operator's compliance and also to forward the confidential information to the Fed and the FSOC to allow them to judge whether a fund or family of funds is so large, interconnected or complex so as to pose systemic risk. If this is judged to be the case then the fund will be regulated as a Tier 1 FHC by the Fed under a tough supervisory regime.

In addition to these confidential disclosures the administration's proposals impose record-keeping requirements and increased disclosures for: 1) investors; 2) creditors; and 3) counterparties on the funds advised by the SEC registered fund managers.

According to the legislation approved by the House in December 2009 hedge fund and other

investment advisers overseeing private pools of capital would have to register with the SEC within a transitional period of one-year. Those entities advising hedge funds worth over $ 100 million will have to register with the SEC as investment advisers.

The Senate bill would also imposes new record-keeping and disclosure requirements for private advisors with the object of enabling the regulators to assess systemic risk. The information hedge funds would have to report includes; 1)assets under management; 2) leverage; 3) counterparty credit risk exposure; 4)trading and investment positions; 5) valuation methodologies; 6) types of assets held; 7) side arrangements; 8) trading practices; and 9) other information necessary to ensure investor protection or systemic stability. The SEC would have the right to conduct periodic inspections and share relevant data with the new systemic risk regulator.

Moreover, the SEC would report to Congress annually on how it uses this data to protect investors and market integrity. The Senate bill contains a limited exemption for foreign advisors that have no place of business in the US, have fewer than 15 US clients, have assets under management attributable to US clients of less than $ 25 million, and do not hold themselves out as advisers in the US. Investment advisers would have to use independent custodians for client assets to prevent Madoff-type frauds.

In case hedge funds became too large or interconnected as judged by the Fed, they could be subject to stiffer capital requirements in order to penalize their contribution to systemic risk.

European Union

The European Commission has proposed to regulate alternative investment fund managers rather than the funds themselves. The EC has proposed a draft directive which will require fund managers located in the EU to register in return for being allowed to operate throughout the EU. The Directive is intended to impose regulation on hitherto unregulated entities and imposes reporting requirements as well as conduct of business rules although entities below a threshold (Euro 100 million for Hedge Funds and Euro 500 million for Private Equity Funds) will be exempt. Different limits have been suggested in subsequent council and parliament revisions so it is not clear yet where the final agreement in the European Union will lie.

Non EU-based fund managers will have to obtain approval from each country where they market their products but may apply for a pan-EU passport three years after the directive is adopted provided they are shown to "comply with stringent requirements on regulation, supervision and co-operation including on tax matters".

The fund managers will have to satisfy a competent authority of the robustness of its internal arrangements with respect to risk management and the security of depository arrangements. The directive intends to restrict the marketing of these funds to sophisticated investors only and intends to introduce minimum investor disclosure requirements. The directive also imposes requirements on disclosure to competent authorities regarding: 1) the principal markets of operation; 2) trading instruments used; 3) principal exposures; 4) performance data; 5) concentrations of risk; and 6) other details such as organizational and risk management arrangements which will allow the authority to conduct effective macro prudential oversight.

There are special requirements stipulating an operator's reporting requirements where it is leveraged above a certain threshold. The legislation also provides that the supervisory authority may intervene in the event of perceived threats to financial stability including through mandating limits on leverage. There is also a provision for better disclosure of information by investment funds which acquire a controlling stake in a public company above thresholds of 10% and then 20%. The draft directive also provides for a 0.02% minimum capital requirement and introduces restrictions on the ability of fund managers to appoint administrators or valuers of fund assets outside of the EU.

The European Parliament has significantly strengthened the AIFM and the parliamentary draft as it currently stands and it now includes provisions on remuneration, and leverage and relatively strict criteria for allowing third country funds to access EU markets. The draft was approved by the ECON committee but the process of reconciling the differ-

ences between the positions of the council which wants to water several of the provisions down and the parliament which is adamant on the additional aspects it has introduced through amendments could possibly drag on. There is a small likelihood that an agreement might be reached before the summer break.

United Kingdom

Under current practice Hedge Fund managers based in the UK are required to register and disclose minimum information. The FSA has said that it is working with the industry to improve the disclosure regime and ensure it obtains timely and relevant information including information regarding the funding, leverage and investment strategy of funds. It is planned that the authorities will be able to request further information on a case by case basis and may also require funds to reduce leverage or unwind exposure to a particular sector if the FSA feels that it is increasing systemic risk.

The FSA has committed to coordinate closely with the SEC to harmonize the collection and sharing of "systemically important" data concerning hedge funds advisers and managers located in UK and US. This coordination between US and EU regulators is expected to reduce the compliance burden on fund managers while allowing the SEC and FSA to better identify risks to their regulatory objectives and mandates.

However the UK labour government had publicly rejected large swathes of the proposed EC draft directive especially where it deals with private equity firms. It had suggested that the directive should differentiate between types of alternative investment fund management. The UK wanted a risk-based approach to be adopted. And it believed that the thresholds specified are too broad and too low to adequately focus on those alternative funds and managers which pose significant risks to financial stability and market efficiency. The FSA has also strongly argued that a global approach is needed to avoid imposing "unjustified geographical distinctions that cut across legitimate and necessary business models" thereby restricting investor choice.

The new UK governments seems to share many of the same provisions but has signalled that it is not spoiling for a fight with its EU partners and that it is willing to compromise.

9.2 Discussion

Both the US and EU have made some progress towards the goal of bringing Alternative investment funds under regulatory purview. While entities such as SIVs will be covered by new restrictions on off balance sheet exposures, the legislations proposed both in the US as well as in the EU are broad enough in scope to cover most private pools of capital including hedge funds, private equity firms, family offices, and venture capital funds.

Both proposals take the approach of regulating fund managers not funds. This may not be ideal but, nevertheless could work reasonably well providing other requirements are satisfied. The EU directive, unlike the US proposal, requires all fund managers to register with the regulator although the details required are minimal. Above a certain size limit ($100 million assets under management in the US and Euro 100 million for leveraged funds and Euro 500 million for unleveraged funds) there are fairly substantial registration requirements for fund managers both in the US and the EU proposals.

The information that is to be collected under both proposals should, at least in theory at least be enough to be able to make a judgment on the systemic risk posed by the fund.

The minimum capital requirement proposed in the EU is an interesting idea although it is simply not clear what a 0.02% requirement achieves. The US approach of allowing the regulator to being able to designate systemically significant institutions including private pools of capital as being Tier 1 FHCs and hence to subject them to prudential supervision and regulation by the Fed is clear cut and pragmatic at least on paper.

The EU directive also on paper makes provisions for regulators being able to apply prudential standards and restrictions to alternative invest-

ment fund managers whose activities are seen to be posing systemic risk. But the directive provides no detail on how this might be done or who might do it.

The suggested EU passport is very good for funds, which have long been clamouring for something like this for a long time. The scheme will move the EU in the direction of a more integrated financial market but it is not clear that all designated national competent authorities that will regulate the alternative investment funds will possess the requisite skills and there could be regulatory arbitrage where funds attempt to find the most pliant regulator.

The EU requirement on needing to show robust business procedures and independent valuers is a good step but the requirement to use EU-based depositories could attract retaliatory measures especially from the US which does not make a similar proposition. It might be better to specify and "equivalent regulatory regime".

The EU does stipulate that private equity funds adhere to (rather weak) reporting obligations on private equity funds. This compares however, to a US proposal which is completely silent on the subject.

Neither of the two proposals makes any reference to the market footprint of alternative investment fund managers. Even non-domiciled and unregistered managers could pose systemic risk through their ability to conduct activities in the local markets even when they have no local offices or clients. Presumably the intention of regulators is to cover such risks under the regulation of financial markets.

All the proposals currently on the table are quite inadequate and don't have the best design so the shadow banking system continues to escape serious and effective oversight.

10. Credit rating agency reform

Credit rating agencies (CRAs) have for many years assigned lettered ratings to bonds in accordance with their likely risk of default. These ratings have been relatively uncontroversial and have performed satisfactorily through time. However, over the past few years, ratings agencies started rating securitized bonds in a big way. The agencies applied the same lettered scale of ratings to these securities as they used for simple bonds.

That led regulators and investors alike to believe that an AAA rated Collateralized Debt Obligation (CDO) was similar to an AAA rated corporate bond. This enabled banks and investors to hoard large amounts of CDOs which offered a somewhat higher rate of return than equivalent corporate bond for the same amount of capital.

The assumption of the similarity between the two bonds, as the crisis has shown, was not true. The underlying nature of risks on the two securities is very different and it turned out that the CDOs rated by the agencies were much riskier than the equivalent bonds and inflicting large losses on investors and helping trigger the financial crisis.

The activities of the CRAs clearly highlighted the conflicts of interests they faced earning large consulting fees from the very same banks they were rating CDOs for. It also showed how such conflicts led them to cut corners on due diligence.

Another problem that was highlighted by the crisis was that of the crucial role that credit ratings have begun to play in regulation where their role has been hardwired in capital adequacy accords.

In order to address these problems regulatory action is required on three fronts 1) tackling the conflicts of interests faced by CRAs 2) redesigning their ratings methodology for securitized products and 3) rethinking the role of credit ratings in regulation.

10.1 Proposed reforms

United States

The US authorities, having recognized the role that Credit Rating Agencies played in the crisis, have made detailed proposals that focus primarily on more stringent regulation tackling conflicts of interest and increasing openness. The administration's proposals have introduced a compulsory registration requirement for CRAs and a dedicated office at the SEC for supervision as well as oversight of ratings methodology.

The proposals: 1) bar firms from providing consulting services to any firms they also rate; 2) prohibit or at least mandate disclosure of conflicts of interests arising from a wide array of relationships 3) mandate disclosure of fees paid for each rating as well as fees paid by the client in question over the past 2 years; 4) require look-back due diligence in case an employee is hired by a client in order to make sure that there had been no improper conduct; 5) make disclosure of 'ratings shopping' compulsory; 6) require a separate ratings scale for structured products; 7) mandate detailed qualitative and quantitative disclosures to accompany all ratings; 8) make compulsory the disclosure of detailed information on structured products to all agencies so they can provide unsolicited 'independent and unsolicited' opinions.

In addition to these proposals the administration has initiated two reviews by the President's working group on financial markets and the Government Accountability Office on how to reduce the use of credit ratings in regulation. The administration has also launched a public consultation on the subject.

The House 2009 bill on financial reform aims to reduce conflicts of interest, stem market reliance on credit rating agencies, and impose a liability standard on the agencies. The proposals

of the House are similar to the ideas set forth in the original proposals by the administration. The most recent version of the Senate bill is also very similar in nature.

The bills create a new Office of Credit Ratings at the SEC to oversee implementation of the regulations, assure high quality ratings and ensure that such ratings are not unduly influenced by conflicts of interest.

Both bills seek to improve the internal control structure and introduce an annual ratings review process. The SEC would be required to examine Nationally Recognized Statistical Ratings Organizations (NRSROs) at least once a year and publish key findings. In addition, the SEC has the authority to suspend temporarily or even deregister an agency for providing inaccurate ratings over a sustained period of time.

Both proposals seek to increase transparency by requiring rating agencies to disclose information about the procedures and methodologies used for their ratings, about the NRSRO's ratings track record and how the agency gets paid.

The bills also introduce liability standards for knowingly or recklessly failing to investigate or obtain analysis from independent sources. Individuals will also be able to take legal action against rating agencies.

In addition, the House bill demands that the incentives for high-quality ratings have to be put in place, suggesting, for example, a system with random assignment of NRSROs to issuers seeking credit rating.

The proposals try to mitigate the conflicts of interest arising from the issuer-pays model. The Senate bill prohibits compliance officers from working on ratings, methodologies, or sales. Both bills also seek to improve NRSRO's employees' performance. While the House calls for closer supervision of employees and annual evaluations of the ratings of each individual, the Senate wants to require ratings analysts to pass qualifying exams and have continuing education.

The final version of the Senate bill contains two additional provisions that significantly strengthen Credit Rating Agency regulations. It has a provision to remove all statutory references to rating agencies and has asked the SEC to make recommendations on new standards of credit worthiness to the Congress. And it prevents banks from choosing ratings so they can shop for the highest ratings. It has asked the proposed office for credit ratings at the SEC to assign agencies to provide ratings.

European Union

The European Council and the Parliament have already agreed to proposals put forward by the European Commission on the regulation and supervision of Credit Rating Agencies in the EU. The agencies will be required to register with the pan European Securities regulator (CESR for now) and will then be supervised by colleges of national securities regulators. It is anticipated that the ESFS will play a central role in the regulation and supervision of these agencies when it comes into existence. The supervisor will set up an information repository which collects information on the methodology, performance and data of all ratings issues by all the ratings agencies. This repository will help do due diligence and benchmark performance.

The CRAs will be required to: 1) have at least two independent board directors whose compensation is not linked to the performance of the firm; 2) disclose the names of rated companies which contribute 5% or more to their earnings; and 3) rotate their analysts regularly so they do not get too close to any industry. The Commission plans to impose rules on ratings agencies such as disclosure of the models and methodologies on which they base their ratings. Furthermore the Commission has suggested that it would require the agencies to improve their governance standards including for example by having at least two independent board directors whose compensation is not linked to the performance of the firm.

In addition to this CRAs will be forbidden to rate companies where analysts have financial interest and will be prohibited from providing consulting services to firms they rate now or will rate in the future.

The new EU regulation on CRAs introducing oversight and supervision of CRAs was formally adopted by the European Council in July 2009 and by the European Parliament in September 2009.

Credit rating agencies will now have to register with the EU and under proposals currently being discussed will be regulated by the new EU security market regulator ESMA. Moreover, the EU is likely to require a full access to the data and methodologies of the credit rating agencies as a condition for authorizing them in the EU. Several EU leaders have also been echoing calls for a new pan EU rating agency but it is not clear what this will do or how it will work.

10.2 Discussion

There are three potential macro-level solutions to the problems highlighted in credit ratings in the current crisis. One of them is to shift from the current 'issuer pays' model to an 'investor pays' model. Another is to eliminate the regulatory role enshrined for credit ratings. The third is to tackle the pervasive conflicts of interest, information asymmetries and problems inherent in boiling complex risks especially in structured products into a single number.

Regulators have rejected the first because of the practical difficulties of implementing the 'investor pays' model. Regulators around the world but especially in the US are looking seriously into reducing the role of credit ratings in regulation but it seems highly unlikely that this role can be eliminated altogether.

The focus of most now regulation then has been on the third option of minimizing conflicts of interests and reducing information asymmetries. Here both the US and EU proposals are far from perfect but present significant steps in the right direction. Moreover, the proposals could benefit from cross fertilization.

In particular the US proposals on the disclosure of detailed analysis to supplement ratings as well as the mandatory pooling of data to other agencies should be taken on board by the EU and it seems that this will now be the case. In turn the data repository suggested by the EU as well as the compulsory rotation of analysts should be taken on board by the US.

A possible way to move away from the conflicts inherent in the issuer pays model is discussed below.

Under this, part of the funds paid by the issuer are pooled into a fund which chooses a second rating agency at random (according to expertise or some other well thought out criteria) to produce an independent rating. The information produced in this way could be used to spot and tackle discrepancies between ratings, perform due diligence, monitor accuracy and track records and take corrective action, thereby enhancing accountability substantially.

Using this double rating approach would both increase confidence in the independence of ratings and stimulate competition. It would also be possible to entrust the relevant regulator (e.g. the SEC or the proposed pan EU security market regulator) with choosing a rating agency to rate each asset. This is what the new Senate bill has suggested. Taking away issuers' choice of their desired agency would mitigate the opportunity of ratings shopping while at the same time doing away with agencies' incentive to attract business by offering favourable ratings.

11. Using Taxation to Regulate Financial Markets

11.1 Financial Transaction Taxes: A brief history

Financial transaction taxes have an old heritage. The most well-known example is perhaps the Stamp Duty in the UK, which applies to purchases of shares in companies with a UK stock register. This has existed in one form or another since 1694 and in its current form is levied at a rate of 0.5%, though certain 'qualifying intermediaries' such as market makers at large banks are exempt. The UK Stamp Duty Reserve Tax, as it is now called, raises close to £3bn in revenue every year.

Several other European countries including Ireland, Greece, Finland and Switzerland also levy some form of financial transaction taxes, as do non-European countries such as India, South Africa, China and Taiwan. Both in the UK and Ireland they raise about 1% of the total tax revenue whereas for Taiwan, which levies a broader range of taxes, the revenue raised is reaches 5%–8% of all tax revenues. Even the United States levies a 'Section 31 fee'[48], currently set at a rate[49] of 0.00169%, which applies to financial transactions and the proceeds from which fund the SEC (the financial market regulator).

Several Latin American countries have imposed financial transaction taxes and some continue to mobilize significant revenues from them. The most common form of taxes in Latin America have been taxes on bank debits. While most of these taxes raise revenues close to 1% of GDP, a 1990s tax in Ecuador mobilized as much as 3.4% of GDP and the recently discontinued CPMF (transaction tax) in Brazil mobilized close to $10bn every year, a full 4% of total government revenue. Brazil has now imposed a 2% tax on foreign currency inflows to help curb speculative inflows.

In the period 2005–2009, India imposed a Banking Cash Transaction Tax of 0.1% on cash withdrawals from banks and it continues to have a stock transaction tax in place.

Many countries around the world impose various forms of transaction taxes on different parts of their financial systems including derivative markets, share trading, bonds and bank debits.

Many different motivations have been suggested for imposing financial transaction taxes, but some of the key reasons for discussing an implementation of such taxes are:

- They can provide significant revenues when applied broadly at very low rates
- They can tackle endemic short-termism in financial markets by penalizing such behaviour
- They can help reduce excessive speculation by making it costly
- They can generate transaction level information for tax or regulatory purposes
- They can help reduce systemic risk by penalizing opacity and complexity
- They can mobilize tax revenue from lightly-taxed financial actors

11.2 A Financial Instrument Tax Regime

G-20 leaders meeting in 2009 stressed the need for the financial sector to make a 'fair and substantial' contribution to the costs of the financial and economic crisis. As well as exploring various mechanisms for implementing these options 'in house' the G-20 leaders also asked the International Monetary Fund to report on the various possible mechanisms. This discussion has assumed a new urgency given that the world has suddenly woken

48 http://www.sec.gov/answers/sec31.htm
49 http://www.sec.gov/news/press/2010/2010-29.htm

up to an urgent fiscal challenge. Budget cuts will soon start to bite in many countries around the world, especially in Europe while funding for international development and tackling climate change has already been cut.

At the same time, as we discussed in the previous chapters of this book, few financial regulatory changes have come into effect, and the process is likely to drag on for another 2–3 years. Meanwhile, the financial system that got us into this fiscal mess remains largely unreformed and bankers have gone back to earning their bonuses in many cases on the back of state and central bank support.

A more fundamental point is that even after the regulatory changes are all enacted they are likely to fall short. This is because of two main reasons. First, the proposed changes are largely neglecting the issue of systemic risks posed by financial markets in favour of changes to the banking system. Most regulations, as would also have become clear from the previous discussions in this book, are targeted towards banks with few suggestions for reforming financial markets. Second and perhaps even more important much of the reform suggestions have been reactive and very little has been done to align finance with the real economy.

Levying small taxes on financial transactions can help mitigate both of these shortcomings and raise significant revenue at the same time. These have traditionally been called Financial Transaction Taxes, we propose to extend the proposal so it applies to a broader set of markets and can be, depending on the liquidity of the market, be levied either on the trading of securities for more liquid markets such as those in stocks and futures, or in the case of illiquid markets such as those in securitized products, mortgages and OTC derivatives, be applied one time at the point of issuance.

Implementing a series of Financial Instrument Taxes (FITs) offers a highly flexible toolkit and can be tailored to the idiosyncrasies of particular markets. In this regime, relatively higher FIT rates would apply to products that pose higher systemic risk. So, derivative transactions that are more complex, less transparent, or traded over the counter would be penalized with higher rates. Moreover, a highly attractive aspect of FITs is that tax rates can be varied counter cyclically to curtail the build up of systemic risk: overheating markets can be cooled down through an increase in tax rates, while in a market downturn, FIT rates can be slashed.

Beyond this allure as macro-prudential tools, FITs also have the capacity to generate highly valuable information. For example, the CPMF, Brazil's financial transaction tax, not only mobilized substantial tax revenue, but also generated data that helped reduce tax evasion. Similarly, India introduced a cash transaction tax with the primary objective of generating useful tax enforcement information, while a senior government adviser in China recently floated the idea of levying such a tax on foreign exchange primarily to identify speculators. At a time when we are still paying the costs of inadequate oversight of the financial system, the potential role of FITs to generate information on trading activity is critical, and should indeed be one of its explicit goals. Such a FIT regime will not only help reduce revenue-depriving tax flight, but would also ensure that an audit trail exists for financial instruments so regulators can better locate financial sector risks.

Furthermore, the implementation of FITs would tackle the growing problems associated with emerging trading patterns, such as automated high frequency trading strategies and algorithms designed primarily to chase the trend. While niche machine trading may have enhanced diversity and liquidity in the market, its dominance now impedes market efficiency. Collectively, machine based trades can exacerbate trends and increase volatility; more seriously, they pose a severe and growing threat of systemic breakdown as seen most recently in August 2007 and May 2010. Levying a small transaction tax would reduce this systemic risk through rebalancing the market away from automatons by reducing their profits. It would also reduce some of the excessive short-termism that increasingly afflicts financial markets.

FITs can raise some serious money to hurl at those yawning fiscal deficits, as well as worthy causes such as international development and tackling climate change – as much as $250 – $350 billion annually by our estimates. What's more, a well-designed FIT regime will have a highly pro-

gressive incidence, earn political capital and reap significant regulatory rewards. It is also a natural market-based complement to a bank-based levy.

11.3 Current proposals

It would be useful to compare our proposals for differentiated taxes to what has already been suggested. Several governments, such as those of France, Germany, United Kingdom, Austria and Belgium have voiced strong support for an expansion of financial transaction tax regimes in response to the crisis. While few concrete proposals have been put on the table by these governments, a number of proposals have indeed been put forward by others including Non Governmental Actors, Academics, Think Tanks and the US Congress and it would be useful to examine these briefly.

The Leading Group[50]: The leading group of countries has 55members and is dedicated to mobilizing financing for development through innovative means. The group is broadly supportive of a proposal to levy a 0.005% tax on foreign exchange transactions to mobilize funds for development and has set up an expert group to examine this option. The proposal was first put forward by UK network Stamp out Poverty[51] and is meant to be a tool purely for raising revenue. Such a tax could raise between $20bn and $40bn annually.

WIFO[52]: The Austrian Institute of Economic Research has put forward a proposal for a uniform rate of financial transaction tax to be levied across all financial markets. The WIFO proposal is intended to fulfil two objectives 1) raising substantial amount of revenue and 2) reducing some of the boom-bust patterns in the financial markets. WIFO calculates expected tax revenue for three rates 0.01%, 0.05% and 0.1% to be between 0.4% of world GDP and 2.2% of world GDP. WIFO suggests that this would raise roughly between $200bn and $1,000bn if implemented globally.

US Congress[53]: Bills have been put forward before both the US House as well as the US Senate proposing a broad ranging implementation of financial transaction taxes. Under the bills, Stock transactions would be taxed at 0.25%, and derivatives such as futures, swaps and credit default swaps at 0.02%. The main purpose of the proposed bills is to raise funds rather than improve market behaviour. The bill suggests that the tax would raise around $150bn annually in the US.

CEPR/PERI[54]: In a joint working paper, CEPR and PERI, two US based think tanks have put forward a suggested Financial Transaction Tax Schedule that levies differentiated rates of taxes on different kinds of financial transactions: *Equities* -0.5%, *Bonds*--0.01 percent per each year until bond's maturity, *Futures*--0.02 percent of the notional value of underlying asset, *Options*--0.5 percent of the premium paid for the option, *Interest Rate Swaps*--0.02 percent per each year until maturity of swap agreement. The primary purpose of this suggested tax regime is to raise revenue with financial stability as a secondary goal. They estimate that such a tax regime would raise between $180bn and $350bn in the US alone.

Re-Define: This author's organization, Re-Define, has argued for a more sophisticated differentiated financial transaction tax regime[55]. This is already applied in some form in a few countries. Taiwan, for example, applies a sophisticated system of differentiated rates of taxation on shares (0.3%), bonds (0.1%), futures (between 0.0000125% and 0.06% depending on the kind of contract) and options (between 0.1% and 0.6%). Finland, Italy and Malta have a transaction tax regime in place but exempt securities traded on stock exchanges. Such a

50 http://www.leadinggroup.org/rubrique20.html
51 http://www.stampoutpoverty.org/
52 http://www.wifo.ac.at/wwa/jsp/index.jsp?&language=2 and http://www.wifo.ac.at/wwa/jsp/index.jsp?fid=23923&id=31819&typeid=8&display_mode=2 and http://www.wifo.ac.at/wwa/servlet/wwa.upload.DownloadServlet/bdoc/S_2008_FINANCIAL_TRANSACTION_TAX_31819$.PDF
53 Let Wall Street pay for Wall Street's Bailout Act of 2009
53 http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_201-250/WP212.pdf and http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_1-50/WP20.pdf
54 See "Financial Transaction Taxes: Tools for Progressive Taxation and Improving Market Behaviour", Re-Define, Sony Kapoor, 2010 and previous publications. Also see the European Parliament testimony of Re-Define Managing Director Sony Kapoor: Available at http://www.re-define.org/blog/2009/12/04/re-define-testimony-european-parliament-hearings-financial-transaction-taxes
55 A Conversation between Lord Turner, Chairman FSA and Sony Kapoor, Managing Director Re-Define can be found on the Re-Define website www.re-define.org

tax therefore penalizes the opacity that comes with transactions that are over the counter and encourages more securities to be traded on exchanges.

11.4 The Regulatory case for building a FIT regime

In this part we concentrate on our own proposals and show how a flexible use of financial taxes can help achieve several regulatory objectives.

Financial institutions naturally concentrate on developing products that they can make money from. The products they make most money from are those that trade extensively. Consequently, the financial system is biased to excessive trading, churning and volatility." – *Avinash Persaud, Chairman Intelligence Capital Writing in the Financial Times*

"It is almost certain that there is some level of trading activity that is not economically optimal, beyond what is optimal, and if we impose on that a relatively small tax we can be confident that at very least we will gather some money in way that is not harmful; because even if it somewhat reduces the trading activity, if we believed the trading activity was too much in the first place then we have not done harm[55]." – *Lord Adair Turner, Chairman Financial Services Authority, in conversation with Re-Define*

Reducing churning

Retail and institutional investors pay billions of dollars of excessive brokerage fees and charges which are the direct result of brokers directing client money into more volatile securities since these are likely to be traded more often and thus generate a greater fee for brokers and an excessive amount of trading in securities in order to maximize fee generation even when the fundamentals do not justify such trading[56].

Even a small financial transaction tax would penalize churning and thus help cut down waste and some of the rent-seeking activities in the financial markets.

Tackling excessive short termism

Lord Myners, a former fund manager and present City Minister, has said that he fears companies could become "playthings" of speculators because of super-fast automatic share trading. He said that such practices risked destroying the relationship between an investor and a company. He also said that "the fact that people can own shares for nano-seconds seems completely divorced from the concept of a joint stock company". – *BBC Interview with Lord Myners*[57]

Lord Myners succinctly captures what is an increasing problem in capital markets: their role as information markets, providers of capital and overseers of investments is being undermined by an ever-shrinking investment horizon and corresponding increase in the volume of transactions. It is estimated, for example, that automated and high frequency trading now accounts for as much as 70% of the trading volume in US equities.

The excessive volatility that results from an increasingly short-term focus in the market and the growing dominance of technically driven traders over those who trade on the basis of economic fundamentals means that both long-term investors as well as corporations that raise capital in the markets lose out. Long-term investors can lose substantial sums of money because of the higher volatility of the securities they invest in and also lose billions in trading costs due to having to trade more frequently in response to greater volatility than they otherwise would. Users of capital markets can lose out because the market signals they receive, which influence their investment decisions, are based less and less on economic fundamentals and driven increasingly by technical trading strategies.

Imposing a small financial transaction tax penalizes excessively short term investment horizons

56 http://en.wikipedia.org/wiki/Churning_(stock_trade), http://www.sec.gov/answers/churning.htm
http://www.stockbrokerfraudblog.com/2009/04/churning_accounts_by_brokers_i.html
57 http://news.bbc.co.uk/2/hi/business/8338045.stm

and penalizes technical trading over fundamental trading.

In September 2009, the widely respected Aspen institute in the United States released "Overcoming Short-termism", a policy document urging the government to address the issue. One of the report's central proposals is to levy an excise tax on financial transactions. Warren Buffet, the legendary investor, John Bogle, the founder of the Vanguard group of investment companies and James Wolfensohn, the ex-president of the World Bank were some of the prominent signatories of this call[58].

Financial transaction taxes increase transaction costs on short-term trading and so penalize those with excessively short-term investment horizons. Their introduction could significantly improve the functioning of financial markets by reducing the churning, excessively short-term focus, excessive volumes and volatility in these markets. This is also likely to significantly increase the informational efficiency of financial markets. FTTs have the potential to generate billions of dollars in cost savings and efficiency gains, which would be additional to revenue raised by the tax itself. As suggested by the Aspen institute, an FTT will create an incentive for more stable, long-term investments[59].

The IMF, in its evaluation of various forms of capital controls, has concluded that financial transaction taxes levied on foreign exchange inflows helped countries such as Chile lengthen the profile of investments converting some would be short term investors into longer term investors[60].

Reducing excessive volatility

Another disturbing trend in financial markets is their increasing volatility. While new information on companies or relevant macroeconomic variables emerges rather infrequently, market prices are highly volatile and transactions far more frequent than can be justified by reaction to new information alone. A Financial Times report registered 90 trades and 72 price changes in the stock of Vodafone in less than a minute on a typical day[61].

In surveys of traders in foreign exchange markets, two thirds of them say that for time horizons of up to six months, economic fundamentals are not the most important determinant of trading prices. Instead they point to speculation, herding and 'technical trading'[62].

Let us say there is a change in economic fundamentals that justifies a change in the price of a security from 100 to 101. If there is extensive short term trading, this might involve fifty intermediate steps, but in a market where short term trading is less this might only involve two steps. In conventional measures of volatility which look at transaction to transaction price change the second market may appear to be more volatile. This may explain why financial transaction taxes sometimes increase short term volatility in empirical models used by academics. But this is a not a true measure of volatility from the perspective of long term investors. They are penalized when momentum driven trading overshoots and is likely to result in larger amplitudes of long term price swings.

By penalizing purely momentum based trading strategies, financial transaction taxes have the potential to improve the information efficiency of markets reduce volatility from the perspective of long term investors.

Tackling Market overheating

In technical trading 'the trend is one's friend' – traders buy when the price of the security is going up and sell when the price is falling, based on certain market patterns[63]. Most algorithmic trading (high frequency trading) also follows similar patterns. Taken together these practices amplify the 'noise element' of financial markets and by relying primarily on the actions of other market actors and price moves as an information source, can seriously reduce the informational efficiency of financial mar-

58 http://www.aspeninstitute.org/policy-work/business-society/corporate-programs/cvsg/public-policy
59 http://www.aspeninstitute.org/policy-work/business-society/corporate-programs/cvsg/public-policy
60 "Capital Inflows: The Role of Controls, IMF Staff Working Position Note, 2010
61 http://www.ft.com/cms/s/0/b0ec7222-819e-11de-9c5e-00144feabdc0.html
62 Cheung Y. and M.D. Chinn (2000) "Currency traders and Exchange rate dynamics. A survey of the U.S. market." Department of Economics, University of California, Santa Cruz, mimeo. Hutcheson T. (2000) "Trading in the Australian foreign exchange market". Working Paper No. 107, School of Finance and Economics, University of Technology, Sidney. Cheung Y., M.D. Chinn, and I. Marsh (2000) "How do UK-based foreign exchange dealers think their markets operates?" NBER Working Paper No 7524
63 Lehman Brothers Technical Trading Manual

kets. Such behavior exaggerates price swings, results in markets overshooting, can significantly increase market volatility and eventually amplifies boom-bust patterns observed in financial markets.

We also know now that 'animal spirits' can drive people into speculative manias when particular markets become overheated and lose touch with economic fundamentals. The stock market during the dot com bubble was one such example. In more recent months, the Chinese housing market is seen to have become overheated. Similar overheating in the real estate market in the US and the UK led to the financial crisis.

The Chinese government has used its stock transaction tax as a prudential tool to cool overheating markets when it sees that they are being dominated by speculators[64]. In May 2007, for example, it tripled the rate of the tax in a bid to cool the market and inject a dose of rationality before even more speculators could pile in. The idea of having a circuit breaker like two tier tax to curb speculative excesses in overheated markets was first proposed by Paul Spahn[65], a German Academic and extended in a study for the Co-operative Bank[66].

Having a variable financial transaction tax where rates can be raised if markets get overheated or speculative excesses build up can serve as a very useful market specific prudential tool in the hands of regulators.

Guarding against spurious liquidity

Turnover across all financial markets has grown by leaps and bounds in the past few decades. Currency market turnover for example rose from about $ 4 trillion in the 70s to $ 40 trillion in the 80s to more than $ 500 trillion now. Turnover in equity markets registered a seven fold increase between 1993 and 2005 to about $ 51 trillion and the wealth held in the global bond market is more than $ 60 trillion now with turnover being higher. The notional value of OTC credit default swaps, just a single kind of derivative, rose to more than $ 60 trillion from almost nothing a decade ago[67].

It is also well-understood now that this rapid rise in turnover is not unambiguously positive. Those who insisted that this rise in turnover was an indication of higher liquidity have been proven wrong by the financial crisis. Liquidity comes from having a diversity of participants and views in the financial markets with the volume of trades being far less important. The liquidity that existed in financial markets disappeared exactly when it was most required.

Discussions on liquidity of financial markets are often confused because in most instances liquidity is equated to the volume of transactions. This is wrong. True liquidity in a market comes from diversity of opinion and the number of transactions during times of easy credit is a very poor measure of this. In fact, as became clear in the current crisis, markets which appear to be liquid, i. e. have a large number of transactions, may turn illiquid in a very short time as soon as a disturbance hits the financial sector. This phenomenon was observed across a number of markets during the current financial crisis. In a sense, there is an illusion of liquidity in the markets during peacetime but this liquidity is only skin deep and is not driven by fundamental factors. This lulls market players into a false sense of security and they keep too few reserves and margins of capital and liquidity due to this illusionary liquidity.

It is far better to have lower transaction volumes which provide more robust liquidity. Imposing financial transaction taxes will help remove the superfluous transactions from the market which serve no economic purpose and will ensure that the transactions that remain are driven more by fundamental economic motives.

Tackling the systemic risk posed by derivatives and structured products

The proliferation of derivative securities such as credit default swaps and structured financial products such as collateralized debt obligations contributed significantly to the financial crisis. Bilaterally ne-

64 http://www.bloomberg.com/apps/news?pid=20601080&sid=az9GIHMvaBhA&refer=asia
65 http://www.wiwi.uni-frankfurt.de/professoren/spahn/pdf/publ/1-057.pdf
66 Transaction Taxes: Raising Revenues and Stabilizing Markets, Report for a Project financed by the Co-operative Bank, Sony Kapoor, 2004
67 The figures are all taken from Taking the Next Step – Implementing a Currency Transaction Levy, Hillman, Kapoor & Spratt, Norwegian Government, 2007: http://www.innovativefinance-oslo.no/pop.cfm?FuseAction=Doc&pAction=View...

gotiated over the counter derivative securities had an outstanding value of more than $ 600trillion in 2009, about ten times world GDP[68].

Opacity

These derivatives transactions were opaque and did not lend themselves to being monitored by regulators or counterparties who simply did not have information needed to gauge the risks inherent in derivative exposures. This allowed a significant amount of risk to be built up in the financial system away from the prying eyes of regulators so helped bring the financial crisis about. Also, the lack of knowledge about third party derivative exposure of their counterparties led financial institutions to withhold funds from each other once the crisis had been triggered and led to the seizing up of interbank markets and an amplification of the initial financial shock.

The new regulatory discussions around shifting derivative transactions on exchange and to centralized counterparties will reduce some of this opacity but exemptions are already being built in for certain derivate transactions.

Imposing higher financial transaction taxes on derivative transactions that are not traded on exchanges or settled in clearing houses can help reduce some of the systemic risk posed by these transactions and internalize the externality.

Leverage

Over the counter derivative securities required only small margins and collateral so allowed financial institutions to build up significant leverage which, as we have discussed, poses a serious threat to financial stability. In as much as a third of OTC derivatives, there was no requirement of margining whatsoever so institutions were allowed to build up leverage for free without any safety cushion. Excessive leverage was a major cause of the financial crisis.

Taxing derivative transactions can help penalize excessive leverage especially if the rates are set in a way that penalizes derivative transactions that create more leverage than those that do not.

Interconnectedness

Another feature of OTC derivatives is that they increase the degree of interconnectedness between financial institutions by building up interlocking liabilities. The excessive interconnectedness of institutions such as Lehman Brothers and AIG through the derivative market led to problems faced by these institutions to pose serious systemic risk through the possibility of inflicting domino losses on their many counterparties. The term too-interconnected-to-fail was coined in this crisis and refers to the excessive institutional interconnectedness through OTC derivative markets.

Interconnectedness

Even as derivative reforms are being enacted to push more transactions on to exchanges and on to centralized counter parties, it is already clear that not all of the OTC transactions will be eliminated. This means that the remaining over the counter derivative transactions will continue to generate excess interconnectedness amongst financial institutions and contribute to systemic risk. That is why it would be good to penalize such OTC derivative transactions by levying higher rates of financial transaction taxes.

Complexity

Banks resorted to issuing increasingly complex securities such as collateralized debt obligations and collateralized debt obligations squared (CDO squared) in a bid to maximise profit margins. Higher complexity can drive greater profit margins since it reinforces the difference in understanding and information that naturally exists between buyers and sellers. The Bank of England has highlighted that an investor wanting to understand CDO squared fully would have needed to go though 18 billion pages of documents. The sale of complex derivatives to unsophisticated retail investors as well as several municipal and city authorities in countries such as Italy was also driven by a desire to maximise profitability. When the crisis first erupted, the uncertainty associated with the true and fair value of complex structured finance products and derivatives significantly amplified the effects of the initial shock

68 www.bis.org

Since complexity contributes to systemic risk, it would be prudent to penalize such a contribution by levying higher rates of transaction taxes for more complex derivatives and structured products.

Generating information for regulators and tax authorities

Taxing derivative transactions could significantly enhance both the incentive for authorities as well as give them the means to make sure that all they have knowledge of and can track all derivative transactions without exception. This oversight of transactions will also apply to any other financial markets that are taxed. Financial Transaction Taxes can be to generate information which would be very useful for both regulators as well as tax authorities.

"...about the informational role of this [the financial transaction tax]; you're absolutely right, some of the things we are doing to require greater use of central counterparty clearing and trade depositories and clear post-trade disclosure, in and of themselves both help a tax regime to be enforceable, but also the very process of enforcing a taxable regime... one of the reasons why we actually know quite clearly many of our carbon emissions is precisely because we tax certain activities[69]." – *Lord Adair Turner, Chairman Financial Services Authority, in conversation with Re-Define.*

The Indian Banking Cash Transactions Tax (BCTT) of 2005-9, imposed at a rate of 0.1% on cash withdrawals from banks, was said by the Finance Minister to have "served a very useful purpose in enlarging the information system of the Income Tax Department.[70]" The Brazilian CPMF was also reported by the Economist to have generated very useful information that helped the Brazilian authority crack down on tax evasion[71]. Another aspect is that a financial transaction tax could be used to penalize non-cooperative jurisdictions and tax havens, by penalizing transactions with such jurisdictions at higher rates.

So, financial transaction taxes on derivative and other financial markets can help regulators and tax authorities through their 'informational' role by providing a mechanism and incentive for authorities to keep track of relevant financial transactions and the actors engaging in them.

A recent comment by Andrew Shang, chief adviser to the China Banking Regulatory Commission proposing the introduction of a zero rated foreign exchange transactions in order to help identify who was speculating in the foreign exchange markets further emphasizes the informational potential of financial transaction taxes[72].

Tackling the Systemic Threat Posed by High Frequency Trading

More than 60% of the trading in US equity markets, for example, now comes from the so called algorithmic trading or high frequency trading where computers, not humans drive trading decisions and the typical transaction time is measured in microseconds not days.

This raises four concerns:

1) Most of these algorithms are based on the 'the trend is your friend' principle of technical trading which makes the market more procyclical and amplifies price movements and short term volatility
2) The trading done in microseconds clearly cannot be responding to changes in economic fundamentals so can overwhelm the 'information discovery' role of markets. A recent test reported 90 trades and 72 changes to the price of Vodafone shares in the space of a minute on a typical day with most transactions generated by automatic algorithms
3) Such 'automated' trading can pose serious systemic risk. This occurred in August 2007 when unanticipated market movements caused several of these algorithms to malfunction and lead to widespread market stress and a near meltdown. Goldman Sachs called it a '25

69 A Conversation between Lord Turner, Chairman FSA and Sony Kapoor, Managing Director Re-Define can be found on the Re-Define website www.re-define.org
70 Financial Transaction Tax: Panacea, Threat or Damp Squib? World Bank Policy Research Working Paper 5230, 2010.
71 http://www.economist.com/world/americas/displaystory.cfm?story_id=E1_TDNVPQQD
72 http://static.reuters.com/resources/media/editorial/20100319/Global%20Regulatory%20Briefing%202010-03-18.pdf

standard deviation event' which in probability terms is likely to happen only once over several lifetimes of the universe. Last week, driven by these same 'malfunctioning ' algorithms the DJIA fell 800 points in 15 minutes

4) The growth in the business being generated for exchanges and trading platforms by high frequency trading has led to several of them offering 'co-location' facilities to such hedge funds allowing them access to price movements before the rest of the market can see them violating a basic principle of fair markets. It also has resulted in special 'pricing deals' that might come at the cost of higher costs payable by other investors.

   Even in the presence of a small transaction tax, automated computer trading based on mechanistic rules which sometimes buys and sells the same security hundreds of times a day would become untenable. Given the risk such trading poses to the financial system as highlighted by its total breakdown in August 2007 and then in May 2010 that would be no bad thing. A reduction in trading patterns which threaten financial stability without delivering much in the form of social benefits would reduce the likelihood of financial crisis.

In summary, implementing a differentiated financial transaction tax regime with different rates on different markets and the possibility of changing the rate of taxation can:

1) raise substantial revenue 2) with a highly progressive incidence 3) from hedge funds, investment banks and other parts of the shadow banking system 4) tackle short-termism in the financial markets 5) reduce excessive speculation 6) penalize opacity 7) penalize complexity 8) be used as a countercyclical instrument to cool down overheating markets 9) promote true market liquidity 10) help tackle tax evasion 11) promote better monitoring of systemic risk.

Critics allege that financial market taxes are very difficult to implement, would mainly be paid by small savers, and would seriously damage market liquidity by reducing the number of transactions. These criticisms are easily addressed.

First, experience with such taxes in the UK, India and Latin America, makes it clear that the electronic nature of markets makes them easy and cheap to implement, and difficult and expensive to avoid. Furthermore, regulatory reforms, such as the increased use of central counterparties and trade repositories for derivatives, would make this evasion even more difficult. FITs can be unilaterally implemented on markets such as stocks, bonds and real estate. Derivative and currency markets can be captured at the level of the European Union. So, while a G-20 agreement is desirable, it is not imperative. Merkel's commitment to EU level financial market taxes is not just empty rhetoric, but a realistic goal.

Second, a small saver exemption with a provision for tax refunds should be built into the system to ensure that the tax incidence is progressive. It helps that the first incidence of a FIT regime will fall mainly on hedge funds, investment banks and large fund managers, not on commercial banks.

Third, liquidity, which measures the price impact and ease of transacting, is only indirectly related to the frequency of transactions. A highly liquid market can have few transactions, while a market with many transactions can be highly illiquid. True liquidity comes from a diversity of opinion, and FITs can increase liquidity by rebalancing the market away from uniform algorithms towards a more diverse set of market participants. FITs could also smooth market functioning by filtering out spurious boom-time liquidity, whist not affecting the true liquidity that is robust to downturns.

Yet, no matter how convincing the arguments, the financial industry will lobby hard to defeat any attempts to tax them. It is not just the bankers who are sceptical, but some policy makers are also not convinced about the proposal. If they are in genuine doubt, policy makers should simply start with a tiny rate say 0.001 % or less, on select markets and increase the rate and scope incrementally after regular impact analyses.

12. Conclusion

Finance is inherently unstable and became much more so in the run up to the ongoing financial crisis. Technological development, capital account liberalization and deregulation allowed bankers and other finance professionals chasing profits to load up on leverage, issue complicated but poorly designed securities, increase dependence on short term funding and trade frantically at an ever increasing pace. This allowed the financial sector to generate ever larger rents, a substantial portion of which were pocketed by employees who had clear incentives for privately optimal but socially destructive high risk – high return behaviour.

The financial sector evolved into a highly leveraged, just-in-time, complex, opaque and conflict-ridden set of institutions and markets that were highly connected to each other and operated with negligible capital and liquidity safety margins. When a shock hit one part of the system, the fragile state of affairs meant that the effects rippled across other institutions and would have brought about systemic collapse was it not for unprecedented government support.

The 'evolution' of finance resulted in a much greater build up of systemic risk. Ever larger financial institutions, faster speeds of transactions, a greater degree of interconnections - all significantly increased the possibility of a systemic collapse. That is why the crisis was less like a sudden earthquake but more like a slow moving tsunami wave that anyone who cared to look could have spotted well in advance. But as long as things seemed to be going well, there was little interest in holding the financial system to account.

Those inside the sector successfully sold the narrative of a new era where technology and innovations allowed finance to be rewarding without being risky. Regulators, happy that their wards were reporting record profits got seduced by the narrative so did not bother asking tough questions about where the risk actually ended up. Even if they wanted to, they could not have got an accurate picture since finance was increasingly characterized by opaque derivatives being held off balance sheets sometimes in legal structures set up in tax havens. Civil society actors bought the 'this is too complicated for you to understand' line too easily and did not invest enough capacity into holding the sector to account.

In order to make sure we do not end up here again, four broad sets of financial reforms are required.

- Changes to supervisory structures and approaches so as to supplement current local bottom up approaches with international and top down regulators who have a system-wide view.
- Changes to the structure of the financial system to tackle the too-big-to-fail, too-interconnected-to-fail, and too-complex-to-fail institutions which are able to gorge on implicit subsidies during peacetime and significantly increase the possibility of a systemic meltdown.
- Changes to regulations to build up capital and liquidity buffers, tackle procyclicality and lean against the build up of systemic risk.
- Tackling endemic incentive problems in the financial sector that encourage excessive risk taking and short termism.

At the time of making these changes, it is worthwhile to ask ourselves what sort of a financial system we need to support the real economy and work backwards from that to make sure that the changes we make to finance are not just reactive to the crisis but also proactive in terms of anticipating and fulfilling the needs of the 21st century economy.

The reform process is still in full swing so it is useful to consider how what is being discussed compares with what needs to be done.

A glaring omission in ongoing discussions is the complete absence of proposals to set up a global financial supervisor. While the International Monetary Fund and the Financial Stability Board

are expected to be financial watchdogs of some kind, the global financial system needs a global regulator.

At a regional level in the European Union and the national level in major economies such as the United States, progress is indeed being made in setting up both systemic risk top down regulators as well as better more holistic supervisory authorities but the efforts are unlikely to go far enough.

While there is a near universal agreement that tacking systemic risk is the new mantra, there is far too little being done to address the root cause of this risk. There is little serious discussion of breaking up too-big-to-fail institutions even though the business case for them remains unproven while their contribution to systemic risk is widely acknowledged.

The too-interconnected-to-fail problem is not being tackled by limiting the scope of activities of firms but only by introducing mandatory clearing for derivatives which addresses only part of the problem. It is hoped that the too-complex-to-fail problem will be mitigated through the implementation of strict and credible 'living wills' that allow for failing institutions to be shut down quickly but this is by no means assured.

The immense lobbying power of large financial institutions as well as the tendency of politicians in some countries to see their banks as national champions means that the likelihood of progress on tackling the problematic structure of the financial system is low.

Changes to capital and liquidity regimes are being co-ordinated through the Basel Committee on Banking Supervision and are likely to be decided by the end of 2010. Here again, while the initial proposals put on the table seemed robust they are being chipped away by lobbyists working for the financial sector. While it is clear now that both the quality and quantity of capital is set to increase, it is far from clear that the actual changes introduced will go far enough. A long overdue liquidity regime has finally been proposed and is likely to be introduced gradually over the next few years. Here again, while the direction of reform is clear, its scope remains a matter of much debate.

As supplements to the basic capital and liquidity regimes, discussions are ongoing about the introduction of leverage ratios, countercyclical overlays and systemic risk charges. These will be critical defining features of the new regulatory regime though the parameters continue to be the subject of intense discussions.

The incentive mis-alignments at the heart of the financial sector are scarcely being addressed. While reforms have been introduced at the margin to tackle conflicts of interests in securitization and credit rating agencies, the asymmetric payoffs faced by financial sector employees and institutions will continue to drive them to take excessive risks.

Compensation issues, which drive micro as well as macro behaviour in the financial sector have been successfully labelled as a 'sideshow' by financial sector lobbyists keen to preserve their 'heads I win, tails you lose' exorbitant and unfair bonus structures. The rules on compensation proposed by the Financial Stability Board are very weak and in danger of being watered down even further. The only sensible option of reducing the asymmetry of compensation by capping the relative and absolute amounts of bonuses is not even on the table.

Other incentive problems that drive the financial system to be excessively short-term oriented, highly opaque and needlessly complex are also not being tackled.

The financial system failed the test of the market and has left taxpayers to foot the gargantuan bill for its failure. Hopes that this would lead to robust corrective action have so far not been met. While the window of opportunity remains open, it is critical for all of us to engage with the process and the substance of financial reform since our failure to do so is likely to land us with another even bigger bill in the future.

Civil society actors and those outside the financial sector should no longer be content with the 'it is too complicated for you to understand' or the 'relax, I know what I am doing' messages from the financial sector and regulators.

This book is an attempt to bring finance and financial reform to you in the hope that you will then engage and hold the financial sector and financial regulators to account. Financial system reform is much too important to be left to the regulators and politicians alone.

Annexes

References

Bank of England (2009) 'Financial Stability Report', Bank of England.
Bank for International Settlements (Various Publications).
Basel Committee on Banking Supervision (Various Publications).
Committee on Economic and Monetary Affairs, European Parliament (Various Publications).
Directorate General Internal Markets, European Commission (Various Publications).
The Economist Magazine (Various Issues).
The Euractiv Web Portal.
Financial Services Authority (2009) 'A Regulatory Response to the Global Banking Crisis', FSA Discussion Paper.
Financial Stability Board (Various Publications).
Financial Times (Various Issues).
Gieve, J. (2009) 'Seven Lessons from the Last Three Years', Bank of England Speech.
Global Risk Regulator (Various Monthly Issues).
Haldane, A. (2010) 'The $100 Billion Question', Bank of England Speech.
Haldane, A. (20009) 'Banking on the State', Paper Presented at "International Financial Crisis: Have the Rules of Finance Changed?", Federal Reserve Bank of Chicago Conference.
House Committee on Financial Services (2009)'Wall Street Reform and Consumer Protection Act', US House.
International Monetary Fund (Various Publications).
Kapoor, S. (2010) 'Bank Levies AND Financial Transaction Taxes NOT Bank Levies OR Financial Transaction Taxes', Re-Define Policy Paper.
Kapoor, S. (2010) 'Controlling Compensation, Taxing Transactions and Imposing Bank Levies', Speech at the Dutch Ministry of Finance.
Kapoor, S. (2010) 'Emergent Global Challenges: What Europe Needs to do to Tackle the Triple Crises of Tax Finance and Climate', European Parliament Policy Paper.
Kapoor, S. (2009) 'Financial Transaction Taxes: Necessary, Desirable and Feasible', Hearing at the ECON Committee of the European Parliament.
Kapoor, S (2009) 'Principles for Reforming Finance', Keynote Address at the DGB Conference on the Future of Capitalism.
Kapoor, S. (2010) 'Reforming Finance – As if we had a plan', Speech at the European Commission DG Internal Markets.
Kapoor, S. (2008) 'Risk Sharing to Put Financial System on a Healthy Track', Presentation to the Second Committee of the 63rd UN General Assembly, United Nations.
Kapoor, S. (2009) 'The financial crisis – some implications for regulation, investments, tax policy & economic governance', Speech at the Norwegian Ministry of Finance.
Kapoor, S. (2010) 'Taxpayers Pay and Bankers Sashay: A Prudential Case for Controlling Compensation', Re-Define Policy Paper.
Kapoor, S. (2009) ' What financial reforms are needed', Re-Define Policy Brief.
Kapoor, S. (2009) 'What makes a good banking system', Re-Define Policy Brief.
King, M. (2009) 'Finance: A Return from Risk', Bank of England Speech.
Landau, J.P. (2009) 'Complexity and the Financial Crisis', Banque de France Speech.
New York University (2009) 'Real Time Solutions for Financial Reform', NYU Stern Working Group on Financial Reform.
Re-Define (2010) 'The Development Footprint of Financial System Reforms', GTZ Report.
Senate Banking Committee (2010) 'Financial Reform Bill Text', US Senate.
Tucker, P. (2009) 'The Debate on Financial System Resilience: Macro Prudential Instruments', Bank of England Speech.
Tucker, P. (2010) 'Resolution of Large and Complex Financial Institutions: The Big Issues', Bank of England Speech.
US Treasury (2009) 'Financial Regulatory Reform: A New Foundation', US Treasury White Paper.
Warwick Commission (2009) 'In Praise of Unlevel Playing Fields', Warwick Commission on International Financial Reform.

Glossary

Arbitrage

BHC: Bank Holding Company

BCBS: Basel Committee on banking standards

BIS: Bank for International Settelements

CCP: Centralized Counter Party

CEBS: Committee of European Banking supervisors set up by the European Union.

CEIOPS: Committee of European Insurance and Occupational Pensions Committee

CESR: Committee of European Securities Regulators

CDOs: Collateralized Debt Obligations

CDSs: Credit Default Swaps

Derivatives: Derivatives are securities that derives their value from another underlying security or index

ESRB(C): European Systemic Risk Board / Council

FDIC: Federal Deposit Insurance Corporation

FSAP: Financial Sector Assessment Program, under which the IMF conducts surveliance on the financial system of various countries

FSB: Financial Stability Board

FSF: Financial Stability Forum

OTC derivatives: Over the Counter derivatives are securities that are traded between (mostly) financial actors on a bilateral basis rather than through a central counter party.

Proprietry Trading Operations: When a bank puts its own capital at risk and trades on its own behalf rather than an agent for its customers.

Repo: Repurchase option – the temporary sale of a security to a counterparty that is accompanied by an agreement to buy it back at a later date usually for a higher price.

Rent: Used in the sense of rent-seeking which refers to returns that exceed normal returns attributable to risk taking in a competitive environment. Also called 'excess returns'.

ROSCs: Reports on the Observance of Standards and Codes that are issued by the IMF and rate compliance of country financial systems with internationally agreed standards

SEC: Securities and Exchange Commission

Securitizing: The process by which several financial securities or contracts such as loans are pooled together in a financial vehicle and the payouts re-allocated into new securities that represent claims on this vehicle rather than on the original securities.

VaR: Value at Risk models use historical data to calculate a number which could capture the worst possible loss a bank could face 99 days out of 100 under normal market conditions.

Capital Related Regulation: Proposals and Scenarios

Regulatory topic	Less Stringent	Nature of Regulation	More Stringent	Additional Action	Implications	Examples
Risk-adjusted capital ratio	Increase Tier 1 ratio to 6% Emphasis on through-the-cycle parameters	Increased capital requirements for market risk Regulatory stress tests for other financial institutions, e.g. insurers	„Stressed capIta l" ratio requirements +2-3 % to base ratio Or an increase of capital require-ments beyond the expected 10-12% range	Mandatory counter-cyclical buffers with pay-out restrictions Capital require-ments across other financial institutions, e.g. asset managers	Increase earnings retention	
Absolute leverage ration	Gross leverage ratio restrictions of 3-4%, for overseas opera-tions only	"Tangible leverage" ratio restrictions based on local accounting rules	Leverage ratio restrictions at a consolidated level	"Tangible leverage" ratio restrictions based on harmonized IFRS-based valuation	Ensure „right-risking" with a divers mix of less and more risky activities to achieve balance	Switzerland imposed absolute leverage restrictions for its major banks
Allowable capital	Exclusion of subordinated convertible debt from Tier 1 Higher levels of Tier 1 capital relative to Tier 2	Exclusion of hy-brid securities Tier 2 harmo-nized and Tier 3 eliminated Tighter restrictions on innovative Tier 1 instruments	Exclusion of deferred tax assets "Top up" capital such as contingent capital	Tier 1 replaced with "Crisis Common Equity"	Match capital rai-sing instrument to efficient fron-tier of regulatory decree and inve-stor preference	US: State of California ordered bank to raise more common equity
Off-balance sheet vehicles	Severe capital requirements for third-party securitization exposures	Liquidity facilities to off-balance sheet vehicles penalized	Underlying secu-ritization assets used for recovery under receivership	Bringing off-balance sheet vehicles back onto balance sheets	Penalize off-balance sheet and netted exposures and higher capital requirements	

Source: Oliver Wyman, State of the Financial Services Industry 2010, p. 25

A Snapshot of the G-20 Agenda on International Financial Reform

Prudential Regulation (BCBS)	More and better quality capital	Improving the quality and quantity of capital	
	Mitigating procyclicality	Use counter-cyclical capital buffers and leverage ratios	
	Improving risk coverage	Increase capital for trading and off balance sheet activities	
	Higher liquidity	Establish long term and short term capital standards	
Reducing the Moral Hazard of Systemically Significant Financial Institutions (FSB)	Reducing the probability and impact of Failure	Capital and Liquidity Surcharge	
		More efficient supervision through Supervisory College	
		Limiting the scope of business	Narrow Banking, Glass-Steagall Approach, Volcker rule
			Prohibition of certain activities and unregulated business
		Limit size	Limit market share or size ceilings
		Limiting complexity	Simplified legal structure (subsidiary vs. branch)
			Constraints on cross-border operations
	Improving resolution capacity	Firm specific contingency planning	Recovery and resolution plan (living will)
			Crisis management group
		Cross border resolution framework	
	Reducing risk of Contagion	Measures to strengthen core financial infrastructure and markets (CCPs, Repositories etc)	
Financial Sector Burden Sharing (IMF)	Systemic levy	Recouping existing losses	Whether to only target systemic institutions or a broader range, whether to tax all liabilities or only short term ones or whether to tax wage bill
		Building up a contingency fund	
	Financial Transaction Tax		
	Contingent Capital		
	Windfall Tax		
	Capital/Liquidity Insurance fee		

Source: G20 Sherpas Meeting Berlin 2010

Liquidity Related Regulation: Proposals and Scenarios

Regulatory topic	*Less Stringent*	***Nature of Regulation***	*More Stringent*	*Additional Action*	*Implications*	*Examples*
Liquidity Measurement	Coverage of on-and-off balance sheet exposures via business-driven tools/metrics	Breakdown of liquidity stress across key risk drivers Holistic stress testing (including reverse stress tests)	Modelling of stressed cash/ collateral flows for all exposures Additional regulator specified ratios/ metrics	Prescriptive measurement methodology and stressed parameters per product	Significant upgrade of data gathering, liquidity measurement and MIS system capabilities	NZ: Prescription of three liquidity ratios to cover mismatch and core funding capacity for local banks Europe: CEBS guidance to compute stressed liquidity position by projecting cash/collateral flows
Intra-day, intra-group liquidity management	Liquidity measurement and management across group entities Estimation of and plan to counter intra-day exposure	Liquidity buffer set up to consider intra-group dependencies Manage intra-day risk across settlement / payment systems	Demonstrate group-wide resilience given legal/regulatory constraints on constituent entities e.g. trapped liquidity	Demonstrate self-sufficiency across all group entities Buffers/ commitments to withstand severe intra-day stress	Need to quantify liquidity risk contribution by each group entity and account for trapped liquidity Management of intra-day exposure across settlement/payment systems	UK: FSA guidance on measurement and management of intra-day and inter-group liquidity management as part of a bank's ILAS submission and systems/controls requirements

Regulatory topic	*Less Stringent*	***Nature of Regulation***	*More Stringent*	*Additional Action*	*Implications*	*Examples*
Contingency planning and liquidity buffers	Guidance on expected survival horizon	Limitations on sources of contingent liquidity	Minimum survival horizon specification	Formulaic specification of contingency/ buffer requirements	Construction of liquidity buffer from diversified set of highly liquid assets, capability to execute contingency plans under stress	Switzerland: SNB outline on increased liquidity buffers across wholesale and retail funding to be finalised by Q2 2010
	Commitments from group or parent bodies considered	Guidance on the composition of liquidity buffer	Prescriptive buffer requirements for specific product types		Regional parameter calibration	
Liquidity systems, controls and governance	Oversight and management across operational monitoring groups	Systems/processes to support daily and even intra-daily oversight and reporting of liquidity		Inclusion of regulatory oversight on an operational basis	Establish and demonstrate robust capabilities to measure and monitor evolving liquidity situation with senior management oversight	US: Inter-agency guidance on liquidity management including corporate governance strategies, policies, procedures and risk limits
Liquidity viable business models	Guidance to seek stable/ diversified funding sources	Inclusion of liquidity price across products and funding models	Steering to less volatile funding sources and lower risk assets	Forced separation of business areas to isolate and contain liquidity risks	Implied shift in the source and maturity of funding and assets held by institutions	Global: BCBS consultation paper outline on differential buffer requirements (e.g. wholesale vs. retail funding)
				Limitations on asset options available	Quantification and inclusion of liquidity premium in pricing	

Source: Oliver Wyman, State of the Financial Services Industry 2010, p. 26

Number of Subsidiaries of Large International Banking Groups: Various Categories as of 31.12.2007

Banking groups	Bank	Insurance	Funds/ Nominees/ Trusts/ Trustees	Other Financial Subsidiaries	Non Financial Subsidiaries	Total
ABN Amro	50	7	129	204	280	670
BoFA	32	24	396	282	673	1.407
Barclays	49	21	309	239	385	1.003
BNP Paribas	88	74	102	433	473	1.170
Citi	101	35	706	584	1009	2.435
Credit Suisse	31	4	91	63	101	290
Deutsche Bank	54	9	458	526	907	1.954
Goldman Sachs	7	4	48	151	161	371
HSBC Holdings Plc	85	37	246	381	485	1.234
JP Morgan Chase & Co	38	17	229	145	375	804
Lehman Brothers Holdings Inc	9	3	84	210	127	433
Merrill Lynch & Co	16	9	85	89	68	267
Morgan Stanley	19	22	225	170	616	1.052
RBS	31	29	168	450	483	1.161
Soc Gen	81	13	93	270	387	844
UBS	29	2	121	66	199	417
Total	720	310	3 490	4 263	6 729	15 512
in per cent of total	5	2	22	27	43	100

Source: Berger Allen N., Molyneux Phillip, Wilson, John (eds.) (2010), The Oxford Handbook of Banking, Oxford University Press

Systemic Risk Regulation: Proposals and Scenarios

Regulatory topic	Less Stringent	*Nature of Regulation*	More Stringent	Additional Action	Implications	Examples
Tackling capital arbitrage	Restricting activity	Alignment of Basel II and Solvency II to reduce arbitrage between banking and insurance	Specific treatments for identified arbitrage opportunities	Global adoption of Basel II	Institutions required to hold more capital	
				Regulatory capital requirements for hedge funds		
Addressing „too big to fail"	Regulatory forbearance dialled back	International scrutiny	Incremental capital charge for increasing institution size/ complexity	Maintain partial government ownership	Capital-rich buyers benefit from expanded cross-border growth opportunities	UK: Lloyds Banking Group to be broken up in accordance with EC requirements
		Curbs to growth for implicit subsidies	Forced break up	Moral hazard tax		
		Living wills		Re-instating Glass-Steagall act		
Regulatory coverage and inter-faces	Strengthe-ning of data collection procedures/ more stringent data submission requirements	Creation of a macro-prudential supervisor/ regulator	Movement to risk-based supervision across banking, insurance, asset management	Coverage of „shadow" financial sector	Robust supervision of risks across the whole finan-cial system to potentially reduce severity of future crises	
				Establishment of registration, reporting and oversight for hedge funds		
Monitoring and reducing leverage build-up	Implemen-tation of a leverage ratio	Limitations on Repo activity	Increasing capital requirements at margin as leve-rage increases	Creation of an independent body with the policy instruments to deal with increasing leverage levels	Reduced financial system leverage to increase stability but lower industry RoE	Basel Commit-tee: Proposal to introduce a volume-based leverage ratio
Mitigating pro-cyclicality	Relief from market-to-market accounting rules	Loan to value ratios at the asset level	Counter-cyclical capital require-ments / loan loss provisions depen-dent economic cycle	Mandated portfo-lio diversification for pro-cyclical assets, markets	Contained excess credit growth and protection of banking sector from system-wide risk	Spain: Requires forward-looking loan loss provisioning across banking sector
				Encouragement back to DB/ hybrid retirement schemes		

Source: Oliver Wyman, State of the Financial Services Industry 2010, p. 28

The US House and Senate Bills, Key Differences and Likely Compromises

	Derivatives	Size and Activity Cap	Resolution Authority	Federal Reserve Reform
Senate Bill	Banks would be forced to spin-off their swap desks into separately capitalized entities. OTC derivatives including FX swaps would be obliged to trade on exchanges and settle through clearing houses. While exemptions exist for end users they have been watered down.	Incorporates the Volcker rule. Regulators have been instructed to seek ways to get banks out of hedge funds, private equity and proprietary trading activities. Institutions cannot grow beyond 10% of US financial liabilities through mergers.	The government has been empowered to seize and close down troubled systemically significant institutions subject to agreement by bankruptcy judges that this is the appropriate course of action. Any costs will be borne by the industry in the form of a levy to recover the costs of intervention.	There will be a sweeping audit of the Fed's lending operations since 2007. But it will be a one off.
House Bill	The house bill is weaker. While there is a strong push towards exchange trading and a use of central counterparties, it exempts forex swaps, there is no provision for swap desks to be spun off and the end user exemptions are more generous	The financial stability oversight council has been vested with the authority to break up a systemic financial institution provided it threatens stability	The house bill provides for an up front levy that is meant to raise as much as $150 billion from the financial sector that can be used for resolution.	The House bill makes a provision for full ongoing audits of the US Fed.
Likely compromise	The swap provision looks set to stay though an exemption might still be made for banks hedging own risk	The Volcker rule will stay in. There are suggestions that it will be toughened up but this is unlikely.	The upfront levy in the house bill is likely to be dropped. However, this will be accompanied by stricter provisions for creditor haircuts.	There has been a change of mood that is favourable to the Fed so the more moderate Senate version is likely to prevail.

Source: Financial Times

ISBN 978-3-86872-458-5