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# Financial Crisis and the Future of the Financial System

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You will have gathered from my introduction that I have been working in this field for rather too long. I had hoped to be enjoying a comfortable retirement, but the financial crisis over the last 18 months has made me work harder than I would wish. Yesterday I was talking to the person who is second in command at the FDIC[1] in the US, Michael Krimminger, who was saying that for the last three months he has not had a weekend. When they go in to work on Saturday morning, they say to each other, "There are only two more working days until the week begins again."

I am extremely grateful to CASE and to BRE Bank for inviting me over, and in particular to Ewa Balcerowicz and to Mariusz Grendowicz for being my hosts today. I also feel very much at home because you are all prepared to listen to me and, I hope, to ask questions in due course in English. It is very humbling for me that you all know my language and I do not know yours.

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We are here to talk about the financial crisis, and how it has occurred, and where we might go from here. I want to start by saying that there are two key interrelated concepts.

## I. Leverage

The first one is leverage, which as you know is defined as the ratio of owned capital or equity to total assets, or again as the ratio of equity to borrowed funds or debt. As you know, the crisis has been marked by a cycle of leverage, with a huge increase in the leverage of financial institutions taking on a much higher ratio of debt to equity in the run-up to 2006-2007, which has been followed in the course of the last 18 months by an on-going attempt by financial institutions to de-lever, to reduce the amount of debt that they have on their balance sheets, to try and claw their way back to safety.

One of the issues involved is how did this cyclicality, or cycle, in credit expansion and then credit reduction, take hold, and why did not financial regulation do something to mitigate

[1] FDIC - The Federal Deposit Insurance Corporation, an independent agency created by the US Congress with the task to maintain the stability and public confidence in the nation's financial system by insuring deposits, examining and supervising financial institutions, and managing receiverships (ed.)

or lessen the degree of cyclicality or pro-cyclicality that we had, first of all in credit expansion and then reduction in credit expansion.

Most ordinary enterprises have a debt to equity ratio of perhaps 2 or 3 if they are operating in a service industry or in manufacturing industry. Many banks, and I would have to say especially the European banks, had an enormously high debt to equity ratio. In a number of cases it approached, or was over, 50 times. I could give you some names that are perfectly well known. UBS, Deutsche Bank, Barclay's – all had leverage ratios that were about 50.

Northern Rock, towards the end, had a leverage ratio that was considerably greater than 50. Northern Rock in July was examined by the Financial Services Authority in the UK, and the FSA said that its capital adequacy requirement under Basel II was sufficiently good so that it could increase its dividend, at a time when its leverage ratio was over 50. A leverage ratio that is over 50 implies that it has a capital ratio, turning it around the other way, which is under 2 percent. And under the FDIC Improvement Act, a bank which has a capital ratio which is under 2 percent of its assets is severely undercapitalised and is required either to obtain additional capital or has to be closed down within 2 or 3 months. So we had a situation where a European bank was thought to be well capitalised under Basel II and yet was severely undercapitalised if you look at a simple standardised leverage ratio.

One of the reasons why the American banks, although they were much more exposed to the difficulties of the sub-prime market and the mortgage market, had on the whole not fared any worse that the European banks is that they were also subject to the FDIC Improvement Act, and they were subject to a leverage ratio, which was in the event less capable of being gamed by regulatory measures.

How, and why, did we get to the point that banks were prepared to expand leverage so enormously over the early years of the new millennium up to about 2007?

## 1. Factors causing high leverage

### Maintain Return on Equity (RoE) when interest rates are low

There was a desire by banks to maintain their return on equity, and that at a time when interest rates had come very low, particularly in the US during these years. When the margin, or spread, that a bank can make has been lowered, the only way that you can maintain your return on equity is to make equity a smaller share, a smaller proportion, of your total balance sheet. In other words, what they were doing was that they were increasing their leverage to offset the declining margins, in order to maintain their return on equity. The capital markets then seemed to require a high return on equity on the order of 15 to 20 percent, and one that was frequently held fairly steady. This was achieved by raising leverage.

An increase in leverage of this kind, by raising the debt to equity ratio, clearly increases the risk that banks were facing. But macroeconomic management had been so generally successful during the years between 1992 and 2006 that more or less everyone thought that overall risk had gone down. Because they thought that overall risk had gone down, they felt able to raise leverage without thereby increasing the risk so very much.

You may, or may not, recall my own Prime Minister, Gordon Brown, declaring with a degree of hubris that they had banished boom and bust. There was a general belief that the central banks, by responding to any downturn sufficiently aggressively, particularly the Federal Reserve, were able to mop up any adverse effect by a quick enough and sufficiently aggressive response; the Greenspan Put, as it was commonly known.

**US monetary policy promised future low short-term rates**

Moreover, during the years from about 2002 well into 2004, the Federal Reserve went so far as to promise, to forecast, that very short-term interest rates would be maintained at such very low levels for a fairly considerable length of time. Financial intermediation is largely about borrowing short to lend long. If your central bank promises with a degree of credibility that it is going to hold short rates very low for a fairly long foreseeable length of time, that is more or less the equivalent to telling every financial intermediary around to pile on the debt, pile on the leverage, because you will make a lot of money, because you will be borrowing cheap short to lend to someone at somewhat higher rates at a longer term. The Fed's actions had the effect of actually encouraging even more assumption of leverage than might otherwise have occurred.

Another feature of this belief that we have somehow conquered risk, that we had somehow dealt with the problems of macroeconomic management, that Alan Greenspan could walk on water, was an expectation that there would be continuing increases in asset prices.

**Expectations of future increases in asset prices**

Housing prices in the United States had never declined on average, or at least not significantly so since World War II. They may have not increased for a year or two, but never more. They have never declined on average across the whole of the United States since 1946, since WWII. There had been occasions when housing prices in certain parts of the United Stated had gone down: in the New England region in 1991-1992, in the oil producing states when oil prices went very low at some stage towards the end of the 1980s, in California at one stage. But if you could average, so you had diversified your involvement with housing over the whole of the United States, the experience over this period had been that housing prices never went down.

Therefore, if you took a model, and you estimated a model of what was likely to happen to housing prices, by extrapolating the past into the future, the probability that you would assign in building such a model to a housing prices decline was approximately 0; not quite, but approximately.

If housing prices were going to go on up indefinitely, the sub-prime market was perfectly safe. No problem! You have all heard about teaser rates, and the rest of it, that there was inappropriate predatory lending because the rate at which the interest rates reset after the end of the period of teaser rates, either 2 or 3 years, that the reset rates would be well above

the rates that the borrower could actually pay. It wasn't actually predatory, and didn't work on that basis and was never expected to do so.

The idea was as follows. You lend at teaser rates which were quite low and the ordinary relatively disadvantaged American, the Latino or Black American, could pay them, they were not much above rental rates. After 2 or 3 years it was not ever expected that the borrower would pay at the reset level. Instead, the borrower would refinance, virtually without exception when housing prices were going up, the borrowers on sub-prime would refinance.

Housing prices having gone up, should we say that there was a three-year teaser rate, let us assume that in these three years these housing prices have gone up by 5 percent per annum. That meant that after the three years the borrower of the same house would now have equity in the house which was now 15 percent more than he, or she, had at the beginning of the period. Because they had more equity in the house, they could now borrow at a lower rate.

The way that the sub-prime worked was: housing prices went up, you re-borrowed at a lower rate because now you had more equity, you now had another period in which you borrowed at a teaser rate, so you re-borrowed and you re-borrowed, until eventually you became the owner of the house, having paid very low rates actually throughout. The lender, of course, was protected because the housing prices had gone up. As long as you believed that housing prices would go up indefinitely, the whole thing worked perfectly. The credit rating agencies believed, because they were using exactly the same models, that housing prices were going up.

One of the lessons of the recent crisis, a lesson for bankers and for regulators, is, hire fewer mathematicians and physicists who build models on the basis of data that they can observe over a relatively short period, and hire a few more historians who know what can go wrong even if they don't necessarily have a good data basis to put into particular models.

**Regulatory arbitrage**

Then again there was a great deal of regulatory arbitrage. I have been describing how many European banks were easily, or quite easily, able to meet their Basel II requirements with a leverage ratio which was by American standards totally and completely unacceptable. This was largely done through a form of regulatory arbitrage. What you did was you looked for the best AAA private sector assets you could find, best in the sense they gave you the highest return. If you held AAA assets on your balance sheet, because Basel II was risk-weighted, the risk weight applied to the AAA assets was remarkably low. What is more, you could reduce the risk weighting even more by insuring the first loss, which is effectively what UBS did. So what you were looking for were assets which had a very high rating, which gave you a very low risk weight, but at the same time gave you a reasonable rate of return, which you could then lever up because the risk rating was so low. Enter of course CDOs[2], because the whole purpose of CDOs in some part was to provide a basis whereby banks, and in

[2] CDO - Collateralized Debt Obligation (ed.)

particular European banks because they had no leverage ratio, could lever themselves to the hilt, keep their risk-weighted assets at a minimum, and maintain their return on equity.

**Growth of wholesale short-term money market**

Finally, of course, there was a belief in the efficiency of markets, a belief that you could always obtain funding to hold such assets as you maintain within your balance sheet, that you had not sold on through securitisation, and that the wholesale markets, particularly the wholesale short-term markets, the interbank market, the asset-backed commercial paper market, and so on, would always be open, and you would always have access to them. Indeed, ever since these markets had begun to grow up at the end of the 1960s, they had remained working fairly efficiently, they had been open, and any bank which had sufficient capital, or had had sufficient Basel II capital, expected that they would always be able to access these short-term wholesale markets.

Combine that with a desire for leverage, and what you got was a tendency, particularly in European banking markets, for banks to extend their lending far beyond their own retail deposit base. I have absolutely no idea what the ratios are or have been in this country, and in many cases it is not entirely on an equivalent basis, because so many of the banks here are subsidiaries of foreign banks. But in the UK, the ratio of lending to own retail deposit base increased from 90 to 100 about 10 years ago to something on the order of 150 to 170, so that the banks were increasingly dependent on the operation of these wholesale markets. When the wholesale markets stopped operating in August 2007, then there was a major funding problem and a major liquidity problem that banks had to face.

Of course, all this was amplified and made greatly worse by self-amplifying spirals or what I would describe as endogenous risk.

**2. Self-Amplifying Spirals or Endogenous Risk**

One of the problems with the regulatory process, the supervisory process, was that one of the key mechanisms involved in that exercise was stress-tests. You have all heard and know about stress-tests, but basically what a stress-test involves is the supervisor envisaging some exogenous market event, some change to outside conditions: interest rates have gone up by 2 percent or housing prices have gone down by 30 percent, or the exchange rate has changed by plus or minus 10 percent. Then the banks are meant to go away and consider what effect it would have on their balance sheets. I have been involved, when I was in the Bank of England, in some of these stress-tests. There has never been a case that I have known when the banks did not say, "We would pass these stress-tests with flying colours."

The stress-tests were largely misconceived because the real systemic risk to our banking systems is not exogenous, it does not come from outside the system, it's endogenous, it comes from within the system. One of the problems is that when banks run into difficulties, what they do, and what you might expect an individual prudent bank to do, is to cut back its

own lending. It's one of the ways that you restore your liquidity, that you restore your capital ratio: you cut back the extent to which you pass money out to new borrowers.

The problem is that if all banks do this simultaneously, then liquidity simply vanishes from the system as a whole and asset prices go down. What we have is a process of self-amplifying internal spirals. Here I discuss the upwards part of the spiral that was operating between 2003 and 2006-2007. You get asset prices going up, profits rise, non-performing loans go down, and the capital base of the bank appears to rise, particularly with mark-to-market accounting when you take the increase in asset prices directly and immediately, and in total, into the balance sheet and into the P&L[3]. If you have profits and capital going up, risk appears to be going down. What's more, when asset prices are going up, they generally go up very smoothly, volatility seems to decline, as it did after 2001-2002, volatility in markets went way down between 2002-2006. On any VAR (Value at Risk) measurement, risk had declined during these periods, and therefore, with apparent risk down and capital and profits up, what you do is you increase your leverage. If everyone is increasing their leverage, which means that they are taking on more debt in order to buy more assets, what happens is that assets prices further go on up. It just goes round and round. And there are many other aspects to this self-amplifying spiral. There is a margin spiral as well. Under these propitious circumstances, margins go down. Required margins go down, required collateral is less hair-cut, and the margin spiral brings about an endogenous increase in the up-cycle and in this whole process. Credit expansion and leverage expand during the up-cycle. But what goes up must eventually come down.

If you cast your mind back to the beginning of 2007, what you will recall is that many central banks, and in particular the Bank for International Settlements, knew perfectly well that this risk existed, and they were very worried about it. They did not quite know where it was going to come to an end, where the crack would appear first. And indeed, the general expectation among most central banks was that the trigger for reversing this upward spiral would come from the failure of a large hedge fund, which had somehow taken a wrong bet. It did not.

The trigger came with the US housing market, because the elasticity of supply of houses in the US is very high. You can easily get planning permission, it is unlike my overcrowded island in the UK where planning permission takes forever. In a large expansive country like the US you can get planning permission quite quickly. The main way that you build is by a timber-built house, and it's very easy and quick to put up a timber-built house. Rising housing prices over 2003-2006 had generated an increase in supply so that supply eventually came to more than match demand, although demand had been considerably increased by the sub-prime and by the expansion of mortgages itself. That was the trigger. But if it had not been housing, it would have been something else, because the extent that risk had been taken on was simply unsustainable.

There are a number of queries about all of this. One of the queries is, if you had such large credit expansion and such a large increase in leverage, why did it not spill over into ordinary goods and services prices, why didn't inflation start rising in 2004, 2005, 2006, why

[3] P&L - Profit and Loss Statement (ed.)

didn't the Fed have to bring credit expansion under control quicker, because it fed through into ordinary inflation, when the Fed would have been required to deal with that.

One of the reasons, and this is more European again than American, is that housing prices are not in the European harmonised index of consumer prices. There is no inclusion of housing prices in any way. It's not true of course in the United States. Another reason is the China effect. You had this massive inclusion into the world's trading system of China and India and the Asian economies, a massive additional volume of labour, and that held down tradable goods prices. And you may have had improvements of productivity in other ways.

For whatever reason, the credit expansion, the increase in leverage, did not feed over into inflation, at least until the commodity and oil price boom at the end of 2006 and beginning of 2007 through mid-2008, which was a disaster, the timing of it, because you eventually got the inflation increases just at the time when otherwise central banks would have moved quicker and more aggressively to halt the decline in our economies which was by then fairly clearly going on. But you did not observe the credit expansion coming through into ordinary inflation; it just did not happen until it was too late.

## II. Cyclicality and Regulation

The next question is, why didn't regulation stop it. Well, for a number of reasons. The first one is that they just did not have the instruments. There was no proper instrument for this purpose. I am going to talk about how the Basel II capital adequacy requirements were very pro-cyclical in a moment.

### 1. Liquidity accord lacking

Another feature was that the liquidity requirements on banks had been virtually abandoned. In my own country, if you go back to the 1960s and early 1970s, banks held something like 30 percent, or even more, of their assets in highly saleable public sector debt, Government debt. That ratio has been eroded and eroded, and last year the ratio of Government debt to total assets or total liabilities of British banks was negative. How can it be negative? The answer is fairly straight-forward. They had borrowed more than they still held on their books.

Why had the regulators allowed the banks to abandon holding asset liquidity? Well, there are several answers to that. One was the growing belief that you could always get liquidity by accessing the wholesale money markets. In other words, that funding liquidity had taken over from asset market liquidity. Banks thought that they could get their liquidity by accessing the wholesale markets rather than by having assets which they could sell, or pledge, on their balance sheet.

Another factor, which most of you probably do not know, and I only know because I'm becoming the historian of the Basel Committee on Banking Supervision, is that in the 1980s the Basel Committee on Banking Supervision tried to reach an accord on liquidity that was going to be the match, or twin, of the Accord on capital which they introduced in 1988.

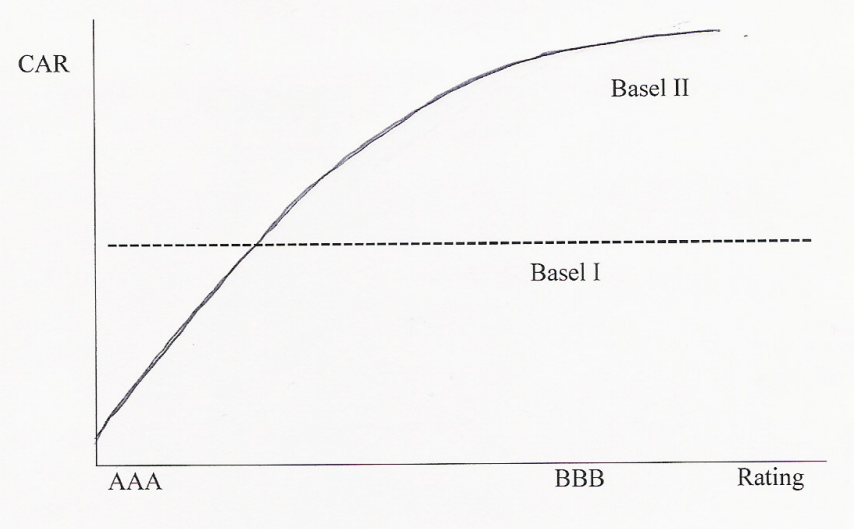
They struggled for about 4 or 5 years to reach an agreement with an Accord on liquidity and they finally decided that they could not do it.

Why could they not do it? One of the reasons is that what is liquid depends on whether the central bank will accept it as collateral, in other words, it will lend against it. Central banks had different traditions of what they would accept as collateral, and therefore the definition of liquidity differed from country to country. It was difficult enough to overcome differences in national viewpoints on what was appropriate to hold as capital. Those of you who remember the discussions on the Basel I Capital Accord will recall how difficult it was to get everyone to come into line. There was a pretty rough negotiation in 1986, 1987 and 1988. You may remember that the United Kingdom and the United States, or the Fed and the Bank of England, had a prototype agreement among themselves, and in effect had an incipient threat that they would not allow other countries' banks to enter their money markets unless they would abide by the UK/US agreement on capital. It was that prototype agreement done on a bilateral basis that actually provided the international threat to force other countries to compromise. The UK and the US had to compromise as well, but, when faced with having a second rough negotiation on liquidity, the Basel Committee on Banking Supervision simply said, this is too difficult, we cannot face a second front of having to battle it out and get agreement.

Moreover, they said to themselves that a liquidity problem would only be 'once in a blue moon', that it would be met by those efficient wholesale markets, and therefore if we provide sufficient capital through Basel I, getting the banks to hold sufficient capital, the wholesale markets would always be open, so we do not need a liquidity accord. Without an international liquidity accord and with the wholesale markets being open and providing through wholesale short-term funding cheap funds which were expected always to be available, there was a continuing steady shift by banks away from holding low-yielding highly saleable assets on their own balance sheet, to effectively obtaining their liquidity through funding through wholesale markets. We know what happened to that in 2007.

**2. Ratings migrate downwards in bad times**

One of the reasons why regulation is procyclical is that the Basel I, lending to the private sector, the capital requirement was identical irrespective of whether you thought it was very highly rated and very secure, or relatively lowly rated. Basel II, risk-weighting, gave a very much lower risk weight, very much lower requirement for capital adequacy, on the very high rated, the AAA, than on the very much low rated. You got a curve of that kind as in Figure below.




What happens when things start going pear-shaped in a systemic way? When things are becoming pear-shaped in a systemic way, what happens is there is a migration whereby the high ratings become somewhat lower ratings. Now remember that the way that you managed to obtain very high leverage with Basel II, when there was no leverage ratio, was that you loaded the bank up with AAA securities, particularly the CDOs and so on. But when things start going pear-shaped, you start moving down the curve. Note that the slope of the curve is much steeper at the very good end, and becomes less steep as you get towards the lower end, so that a shift in rating from AAA to AA has a much, much greater proportionate effect on the additional capital that you suddenly need than a shift from BBB to BB, because the slope is much steeper at the good end. What we were getting on the systemic front of course was, when the markets began moving and AAAs began to be reconsidered, effectively it meant that all those who had loaded their balance sheets up with stuff that they thought would require virtually no capital suddenly found that the proportionate increase in capital that they were required to face was very much greater than if they had actually held assets which were of a lower initial rating to begin with. Ratings migrate downwards in bad times and upwards in good times. That makes Basel II pro-cyclical.

### 3. Basel II plus mark-to-market was a procyclical doomsday machine

You combine Basel II with IFRS[4] mark-to-market and it provides something that can only be described as a pro-cyclical doomsday machine. It wasn't intended to be that way, and nobody wanted it to be that way, but it turned out that it was that way. I have to say that we in the Financial Markets Group had warned that it would happen. We used to pray that we were wrong. I have to say that our prayers were not answered.

### 4. Some of the things that are going to happen

[4] IFRS - International Financial Reporting Standards, standards and interpretations adopted in 2001 by the International Accounting Standards Board (IASB) (ed.)

**Required Liquidity Ratios**

We are going to go back to liquidity requirements, because we have now seen that the wholesale markets are not fully successfully capable of providing funding at all times. We are going to require something that looks more like the kind of liquidity requirements that were considered, but were not put through in the 1980s, some form of maturity mismatch measure.

There is still the problem that central banks have different procedures for accepting collateral, and therefore what is liquid in one country will not necessarily be of the same liquidity in another country. This whole issue is being considered in the CGFS, the Committee on the Global Financial System; it is not being considered in the Basel Committee on Banking Supervision, and there is a very simple reason for that. The Basel Committee on Banking Supervision includes a lot of non-central bank regulators. This is an issue that central banks want to keep privately among themselves, and the Committee on the Global Financial System (CGFS) consists only of central bankers. Central bankers want to decide on this privately among themselves.

Next, let me address home/host and transborder issues. Liquidity is traditionally the area where the host country tends to have prime responsibility. You probably saw that one of the extraordinary events attending the Lehman bankruptcy was that Lehman Europe, which was headquartered in London, transferred all its liquid assets overnight every night to Lehman USA. That meant that, overnight, effectively there was no liquidity in the UK at all. Not a comfortable position for a central bank charged with maintaining liquidity within its own boundaries. Probably as a result, the Financial Services Authority in the UK is now requiring all banks in the UK, including subsidiaries of foreign banks, though not, I believe, branches of foreign banks, to hold on their balance sheets a certain proportion of British Government debt.

One of the problems here is that this involves a quite conscious move whereby the host country is going to be requiring the banks within its own boundaries to hold more liquid assets within that country, and overnight as well. In other words, this mechanism whereby the home banks at headquarters can simply require the subsidiary to shuffle assets back to it, as and when they like, is going to be subject to certain reconsideration. This causes problems to the centralised Treasury operations of the headquarter of the big international home bank. There are problems about this. When the FSA introduced this particular measure, there were complaints that were being made by the central banks of countries where some of the home international banks are based. There is going to be a lot of discussion about home/host responsibilities and about how you introduce liquidity requirements in a world with international cross-border banks.

**Required Leverage Ratios**

Next, I think that there is no doubt whatsoever that the experience of this crisis means that the American procedure of requiring a simple leverage ratio is going to be introduced much more widely. The question is whether it's going to be separate from the Basel II

Accord. This is what has been done in Switzerland by the Swiss National Bank, which has introduced a leverage ratio which UBS and Credit Suisse are having to meet. They will now be limited by whichever is the higher of the leverage ratio or the Basel II ratio. I am producing on Saturday a report in Geneva[5] about the future of financial regulation, where I'm going to suggest that the leverage ratio should be interacted with Basel II, so that if leverage rises, your Basel II ratio becomes higher.

Again, there is a question whether the measures to try and add a counter-cyclical effect should just be a leverage ratio, or should be a rate of change or rate of growth of bank lending, or bank expansion. Whether that will be adopted and how it will play out is yet to be seen.

Also, there is a question whether this should just apply to banks or should apply more widely, to any highly leveraged and reasonably large institution. Credit expansion was not just by banks and investment houses, it was via hedge funds as well. When hedge funds, although they may individually be quite small and many of them with different policies, move as a herd, they will have an effect on credit expansion of this kind. Again, one of the issues is, to whom should these counter-cyclical measures actually apply, just banks or more widely.

Next there is a whole issue of housing loan to value ratios. One of the problems in both the US, the UK, Ireland and Spain was, in the upturn you could get loan to value ratios of 100 percent or more. Northern Rock was offering 125 percent in a programme described as "Together." Now you are lucky if you get a mortgage in the UK at a loan to value ratio higher than 75 percent. It is this kind of switch in loan to value ratios that enhances the cycle very considerably.

Will there be counter-cyclical state-varying requirements? How will it be done? Leverage ratios? Growth rates of bank expansion? Or what? The second point here is that if you are trying to be counter-cyclical, if you are trying to stop these asset price cycles, the cycles in leverage, credit expansion, they are not the same from country to country. There was a huge asset price cycle and credit expansion cycle in the US, the UK, Ireland and Spain; it was nothing like the same in Germany or in Italy or, I would expect, in Poland. There is not a world cycle. If there is not a world cycle and you want to be counter-cyclical, the implication of counter-cyclicality is that these ratios have to be applied differently from country to country. If you apply them differently from country to country, this means that you will have different requirements, if you are a cross-border bank, depending in which country you are operating. In other words, you are going to move away from a single global financial system, where the requirements on a bank are identical irrespective of where they are operating, to a world in which the nation state has much more control over what it is effectively being done in the financial system in its own country.

Moreover, as we have unfortunately seen in the last period, crisis management is really quite extraordinarily expensive. Guaranteeing deposits, recapitalising banks, and all that. Only the nation state has got the money, the power and the legitimacy to do that. The international bodies, or the supranational bodies, have done virtually nothing in this crisis. The European Commission, I have to say, has been remarkable by its absence; the

[5] M Brunnermeier. A Crocket, Ch Goodhart, A D Persaud and H Shin, The Fundamental Principles of Financial Regulation, Geneva Reports on the World Economy 11, ICMB & CEPR, 2009

International Monetary Fund did very little until the last few months when there was a need for additional foreign currency reserves. The International Monetary Fund cannot, simply does not have the money to provide for the recapitalisation of very large banks in the countries in which they operate. Effectively, the crisis has shown up the fact that our institutions do not have a sufficient cross-border function. Institutions that matter are effectively still national. As a senior figure in the UK Financial Services Authority effectively said at a Conference we held at LSE on January 19th, 2009, "An international bank is global when it is alive, it becomes national when it dies."

## III. What will this lead to?

What's all this going to lead to? Leverage based on short-term borrowing in wholesale markets is going to be cut back dramatically. We are going to return to retail banking. The "originate to distribute" model will continue. It had a lot of faults. Much too often it was "pretend to distribute" to SIVs - structured investment vehicles and special-purpose vehicles and conduits which were actually part of the bank itself.

One of the features that has not yet been sufficiently recognised is that the "slicing and dicing" and securitisation disrupts the lender/borrower link. If you have a real problem in your housing market, as they do in the United States, what you want to have is a negotiated rearrangement between the borrower and the lender, whereby the borrower can pay less, because s/he no longer can afford to pay as much, and the lender gets some kind of quid-pro-quo. You have to have some kind of agreement between lender and borrower to do this negotiation. But you cannot negotiate or renegotiate mortgages when they have been securitised because the holder of the mortgages is now divided up into thousands, possibly even tens of thousands of different people. It is this "slicing and dicing" that means you can't have easy renegotiation of mortgage arrangements. That will have to be changed. But the overall concept in my view remains valid.

There is going to be, I think, a shift towards the host in the home/host relationships. The problem in Europe is that financial crisis management is hideously expensive and there is no European funding basis to provide the money. It is a fiscal question. If the Europeans or the eurozone inhabitants are prepared to provide sufficient fiscal funding at the federal centre to finance crisis management, then and only then, can you effectively have a eurozone-wide supervisor, regulator, and all the rest of it. There is no evidence at the moment that those in charge in the eurozone are prepared to grasp the nettle of the fiscal problem.

Cross-border banking? I think that there will be some pull-back from globalisation and a shift towards host country control.

I am getting towards the end. Lehman Brothers were contagious. When it failed, there was a massive contagion and there was massive panic. All systemic banks around the world are now protected. If they are protected, should they get much tougher regulation? What has happened is that the smaller weaker banks who have got into trouble have been folded into bigger banks. HBOS, which would never ever otherwise have been allowed to merge with another British bank, was put together with Lloyd's almost overnight by Government fiat.

Wachovia was put with a larger US bank. WaMu was put with a larger US bank. Competition concerns have been totally ignored. Oligopolistic structure has been enhanced. In most countries now the majority of banking business is done by a very small number of huge banks, which are far too big to fail. In some cases, where they are in small countries, they are too big to save, because the country can't afford to save them. Look at Iceland. And in some cases they are probably too big to manage. Look at Citibank. The big banks have behaved as bad or worse than the small and medium banks. Again, look at Citibank, look at RBS, look at UBS. They were all very big banks and they didn't behave well during this crisis.

What are we going to do about the fact that our banking system is becoming more oligopolistic, more concentrated with less competition? First, we could do nothing and say that we don't care about it. Second, we could arrange that the bigger the bank the tougher the regulation, maybe even giving big banks the incentive to break themselves up because if they remain really big, then they will get much tougher regulation. A final suggestion – I do not know if many of you have read a very recent G30 proposal on financial regulation, which was, I think, largely drafted by Paul Volcker. If you read between the lines, and here I'm maybe doing him an injustice, I get the feeling that what Paul Volcker would like would be a power for the authorities simply to break up the really big banks in the way that AT&T was broken up into the Baby Bells. Should we allow Citibank, Bank of America, JP Morgan Chase increasingly to dominate the American banking scene, or the four banks in the UK – should that actually be allowed to happen?

## IV. Conclusions

We are going to return to retail banking with much less access to the wholesale markets. Less globalisation, more host country control. Perhaps, and I would hope, much more counter-cyclical control over credit and asset price cycles. Control over leverage applied to all intermediaries who are highly leveraged and big. I expect that we will get a twin-peak approach to financial regulation, with the macro-prudential instruments which relate to leverage and rates of growth and credit expansion being undertaken by the central bank, and the micro-prudential instruments, that's effectively Basel II, remaining within the FSA.

Let me end by saying that I think that this will be broadly favourable to Poland. The reason is that you are a country where the banking system is dominated by subsidiaries of foreign banks. This means that, until now, the trend has been home country control, allowing the global banks to do whatever they like wherever they like it. The countries which have been dominated by foreign-owned banks have been a little bit hesitant about that. I think that the world will change because in a world in which institutions are national it is very difficult to run a purely global system without potentially running into crisis conditions such as we have had. There will be a tendency, under these circumstances that have occurred in the last two years, to realise that simply for self-protection there needs to be a much greater shift of control mechanisms towards the host country, which in your case is your own country.