1. Introduction

Ladies and gentlemen

Most people remember what they were doing on September 11, 2001. On that day the towers of the World Trade Center collapsed, sending a shock wave throughout the world. What followed was a war in Afghanistan and a war in Iraq.

In the financial profession, most people remember September 15, 2008. On that day, the US investment bank Lehman Brothers collapsed and sent a shock wave throughout the financial system. What followed was a global financial crisis and a worldwide recession.

I don’t want to stretch the comparison too far, but there are people who compare investment banking to a war: A war involving “financial weapons of mass destruction”, as Warren Buffet once described financial derivatives.

I am somewhat sceptical about using that kind of language. After all, the loss of human life is very different to the admittedly devastating loss of a vast amount of money and wealth.

But still, the failure of Lehman Brothers was an event that shaped the course of the world and of many peoples’ lives. It wasn’t just a case of a single bank going bankrupt, and it has since become a symbol; a symbol of all that is wrong with banking, with the financial system and – to some – with capitalism itself.

Two questions emerge from this: first, “How did it all happen?” and, second, “What can we do about it”? Certainly, these two questions are closely interlinked. We have to learn from the past in order to shape the future.

Thus, let us begin by looking into the past and investigating the causes of the events which unfolded on September 15, 2008 – pretty much five years ago.

2. Learning from the past – what Lehman Brothers taught us

The roots of the financial crisis stretch back a long time, far back beyond the day Lehman Brothers failed. In a sense, the surprise is not the fact that the crisis occurred, but that it took until 2008 for it to happen.

It would certainly take more than 30 minutes to discuss all aspects of the complex web of factors that contributed to the crisis. But we can at least make a quick tour of the causes and see what we can learn along the way.

2.1 How it all began

To some extent, the financial crisis had the same origins as many earlier crises: high credit growth, fuelled by an environment of low interest rates. There was, however, a specific element to this crisis: financial innovation. In the 1990s, new types of securitisation were added to the toolbox of financial engineers. These made it possible to bundle together a large portfolio of loans and to sell small slices, or tranches, of this portfolio. In essence, securitisation is nothing but an instrument to enable the efficient allocation of risks.
However, there were two problems that turned this otherwise beneficial instrument into one of Warren Buffet’s “financial weapons of mass destruction”: distorted incentives and a lack of transparency.

During the 2000s, many financial firms granted large amounts of loans, especially in the subprime segment of the mortgage market. However, they did not intend to hold these loans on their own books for long – they were only “warehoused” as it was called. Instead the banks securitised the loans and eventually sold them on to other investors.

This originate-to-distribute business model destroyed incentives for prudent behaviour. The originators of the loan knew they would swiftly shift the risk further down the line; so why should they bother to take particular care in evaluating the creditworthiness of the borrower?

Furthermore, more often than not, the securitised loans were rated by the very same agencies that helped to structure the loan portfolios. Not surprisingly, they granted these structured portfolios rather favourable ratings.

Based on these ratings, many banks invested in securitised mortgage loans, thereby exposing themselves to the US housing market. This process was encouraged by another layer of distorted incentives. Volume-linked revenue structures within the banks created incentives to pursue growth rather than to evaluate and monitor risks.

All these distortions induced lending standards to fall: they led to a flood of cheap mortgage loans to subprime borrowers and they promoted the distribution of the associated risks throughout the whole financial system.

And due to a lack of transparency along the securitisation chain, no one really knew on whose balance sheets the risks eventually ended up.

Then, in 2007, housing prices in the US started to falter and US subprime borrowers started to default on their loans.

2.2 Banks get into trouble

Once that happened, a crucial asset in financial markets just vanished: trust. Or to use the Latin word: credit. Due to the lack of transparency, no one knew the exact extent of banks’ exposure to securitised mortgage loans. Consequently, market participants began to mistrust one another.

At the same time, many banks found it difficult to assess their own exposure, and they began to prepare for the worst. Princeton University’s Markus Brunnermeier called this “a textbook example of precautionary hoarding by individual banks”.

As a result, money market liquidity dried up fast. Banks were no longer able to tap into the interbank market to secure their funding. And such a squeeze of liquidity can even break a solvent bank’s neck – especially when it is engaged in maturity transformation and is short on liquid assets.

At the same time, prices of financial assets began to fall. This induced banks to sell their assets as fast as possible to limit their losses; everyone was rushing for the exit. This sent the markets into a downward spiral, reducing the sometimes already thin capital cushions of banks.

2.3 The system breaks down

As an interesting matter of fact, Dick Fuld, then CEO of Lehman Brothers, knew how essential capital and liquidity were. “You always need a lot of cash on hand to ride out the storm,” he used to say.

However, the liquidity Lehman Brothers held was not at all sufficient. And, over the course of 2008, Lehman got into trouble, hit by the events I have just described. But how to deal with a large, international and interconnected bank that runs into difficulties?
In his book “Capitalism 4.0”, the renowned journalist Anatole Kaletsky pinned all of the blame for the fallout from the Lehman shock on Hank Paulson, then US Secretary of the Treasury.

To me, this seems unfair. During the crisis, the authorities and market participants were unsettled by the unprecedented pace of events. Each impact seemed to send policymakers in a different direction.

The rescue of the investment bank Bear Sterns in March 2008 was the subject of much criticism. The US government was accused of practicing “socialism for the rich”. Against this backdrop, the government took a harder stance toward Lehman Brothers.

Moreover, letting Lehman fail was consistent with the fundamental principles of a well-defined market economy – insolvent firms should leave the market.

However, no one really knew what needed to happen if a large institution became insolvent. The moment Lehman filed for insolvency, everyone in the room knew that chaos threatened.

First, nobody could reliably assess the interconnections in the financial system – the reason being, again, a lack of transparency. Second, it was unclear what the insolvency of Lehman Brothers in New York would mean for its subsidiaries in London and Frankfurt. There was no international legislation on the resolution of systemically important banks.

Against this backdrop, it is remarkable fact that the creditors of the German subsidiary of Lehman eventually may well be fully reimbursed.

To sum up: in retrospect, Secretary Paulson did the right thing, in principle, but at the wrong time and under the wrong conditions. And the lesson from this is that we need mechanisms to deal with the failure of systemically important banks.

3. **Looking to the future – how to make things better**

My brief overview has most certainly not captured all the details and the entire complexity of the crisis.

But even this brief overview provides some valuable lessons. We learned the hard way about distorted incentives, we learned about a lack of transparency, about inadequate capital and liquidity buffers and about the problem of “too-big-to-fail”.

Now, let us look at how far we have come in translating these lessons into a better regulatory framework.

3.1 **Where to begin**

My account of the crisis began with financial innovation. So, would it be the logical step to inhibit such innovation? In my opinion, not at all. Just like the real economy, the financial system thrives on innovative ideas – and many of those ideas also benefit the real economy.

Nevertheless, regulators have to ensure that new financial instruments do not pose systemic risks. In our case, that means addressing the problems of distorted incentives and the lack of transparency with regard to securitisation.

On both accounts, we have made good progress. In many jurisdictions, notably in the European Union, originators of securitisations have to keep a portion of the risks on their own books. This aligns their incentives with those of investors that buy the securitised products. Furthermore, originators are expected to make transparent the underlying portfolios of assets so as to help investors with their risk management.

Looking at the incentive structures within banks, I mentioned the problem of inadequate compensation schemes. To address this problem, the Financial Stability Board has published principles for sound compensation practices. In a recent evaluation, it found that good progress has been made in implementing these principles. However, it also states that more work needs to be done.
All these initiatives are important steps to address the specific causes of the financial crisis. Even so, we should be aware that no two crises are alike. Against this backdrop, one thing seems important: we need to enhance the resilience of the financial system. It will then be better able to withstand shocks, no matter from which direction they come. The starting point for this exercise should be the individual bank.

### 3.2 Raising banks resilience

The good news is that, today, banks are much better capitalised than they were five years ago. And this is in line with the new international regulatory standards. Basel III requires banks to hold more and better capital. This raises bank’s capacity to absorb losses and makes them more resilient against sudden shocks.

Recently, both the United States and the European Union initiated their respective legal frameworks. With a phasing-in period up to 2019, minimum total capital for non-systemic banks will increase to 10.5% of risk weighted assets.

Thus, the concept of risk-weighted assets is being maintained – and rightly so. Despite all criticism, risk weights set proper incentives for prudent risk management – and these should not be foregone.

I have one major caveat, though. The risk weights assigned to different asset classes need to be reassessed. I doubt that the zero risk weight for government bonds is adequate. The European sovereign debt crisis clearly suggests otherwise.

But, during the crisis, it was not only inadequate capital buffers that posed a problem. Many banks also had inadequate liquidity buffers. In fact, it was liquidity, or rather the lack of it, that dominated the first round of the crisis.

And now, five years later, we have, for the first time ever, decided on an international standard on liquidity. This standard may not be perfect, but it can shield banks to a certain extent from a liquidity squeeze in the money market.

### 3.3 Enhancing the system’s resilience

But, still, individual banks getting into trouble was just the first step toward the brink. What really defined the crisis was its systemic aspect of a large bank failing and pulling others with it into the abyss, also known as the too big to fail-problem.

If a too-big-to-fail bank runs into difficulties, the government will have to step in to prevent a systemic crisis. This entails an unhealthy asymmetry to the detriment of the taxpayer – heads: banks win, tails: taxpayers lose.

This asymmetry in turn provides distorted incentives for banks. Knowing that the government will have to save them, banks have incentives to engage in risky activities. At the same time, the implicit guarantee by the government makes such banks look less risky to investors. Thus, they have a funding advantage over banks that are not systemically important. All this makes the too-big-to-fail problem even bigger.

Against this backdrop, making banks more resilient can only be the first step toward a more stable financial system. The next step must be to ensure that even large and interconnected banks can fail without causing a systemic crisis.

Toward this end, a new international standard on recovery and resolution of systemically important banks has been developed. Having this new standard is a major step forward. However, at the end of the day, the willingness to let an institution go bankrupt will be crucial. And that is a political rather than an economic decision.

In contrast to 2008, such decisions will at least be better informed today as transparency has been increased. Banks’ risk disclosure rules have been tightened, and it is now easier to assess the interconnections in the financial system. It is easier to find out who is dancing with
whom – and how closely. However, a necessary precondition is that accounting standards of different jurisdictions converge. Otherwise, we would be comparing apples with oranges.

In over-the-counter derivatives markets, for instance, central counterparties will play a major role with regard to transparency. In addition, they mitigate counterparty risk – provided they are well-managed.

In general, transparency will be further enhanced by a new tool that is currently under development: the legal entity identifier, LEI for short. This tool will allow the risk management of banks to aggregate and assess total exposure to individual counterparties much more easily. This is a small step with the potential to have a great effect both in day-to-day management and in crises.

4. Mission accomplished?

All this brings us to the key question. To assess the reforms we have undertaken so far, there is one question that needs to be answered: If a major bank were to fail tomorrow, would we be better prepared for it than we were five years ago?

Well, there is no doubt that we have come a long way since September 2008. But we have not yet achieved our objective. What still has to be done? The first priority is certainly to implement the revised regulation; to implement it consistently across sectors and jurisdictions.

4.1 Not only banks can be too big to fail

But there is more on the agenda. In some fields, further conceptual work is required; just think about the insurance sector. Just one day after Lehman collapsed, the US government had to invest more than $180 billion to bail-out the insurer AIG – another institution that was deemed too big to fail.

Five years later, the regulation of systemically relevant insurers is far less advanced than it is for banks. A relevant framework is slowly emerging, but some groundwork has been done only recently.

One of the main issues is that there is still no international capital standard for insurers. However, initial steps have been taken in this regard. And taking a more medium-term perspective, a comprehensive supervisory and regulatory framework for internationally active insurers will be developed, including a quantitative capital standard.

4.2 Out of the shadows – non-bank banking

However, there are other areas of bank-like business that are still outside the perimeter of banking regulation. These areas are usually referred to as the shadow banking system. In my view, this term is somewhat misleading and unfair as it implies that institutions operating in the shadow banking system are somewhat shady in character. I would therefore prefer to call them non-bank banks.

But, still, it is a place where systemic risks can emerge because of unregulated liquidity and maturity transformation, because of the build-up of leverage, and because of pro-cyclicality. Just two weeks ago, the Financial Stability Board provided the G20 summit with new recommendations on how to address these risks.

In line with these recommendations, regulation for money market funds is being developed in the United States and the European Union. The objective is to reduce money market funds’ vulnerability to runs by investors.

There is still further conceptual work required, for instance in the area of banks’ relations with the shadow banking system and in the areas of repo and securities financing business. And then, as always, international recommendations are only as good as their implementation.
However, in the case of shadow banking, implementation is not the end of the story. Shadow banking is very dynamic, and whenever innovations entail systemic risks we may need to rethink regulation.

5. Conclusion

Ladies and gentlemen, the failure of Lehman has taught us a number of lessons. And five years on, we have translated many of those lessons into new regulatory concepts.

We have chosen the right way, so to speak, but we have not yet reached our destination: a stable financial system that serves the real economy. And to achieve that objective in due time, we have to move at a faster pace.

However, one thing should be clear: we cannot solve all of our problems through regulation. Financial stability begins in the hearts and minds of those who work in finance: investment bankers, stock market brokers, hedge fund managers and everyone who invests other people’s money. And financial stability begins at the universities that provide the theoretical basis for finance.

What we need is a change of culture. The times of “greed is good” should have long been gone. We should see the financial system as what it is: a service provider for the real economy. Subscribing to this notion of finance will probably be the most important step toward financial stability.

Thank you very much.