Jens Weidmann: The financial crisis, ten years on - what have we learned?

Speech by Dr Jens Weidmann, President of the Deutsche Bundesbank and Chairman of the Board of Directors of the Bank for International Settlements, at Ruhr University Bochum, Bochum, 22 May 2017.

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1. Introductory remarks

Professor Paul

Professor Roos

Ladies and gentlemen

Students

I'm well aware that I'm not the first central banker to speak before you in the "ikf impulse" series. Indeed, my predecessor Axel Weber delivered his third-to-last speech as Bundesbank President here in April 2011.

I, too, will deliver my third-to-last speech today - but that's just for the month of May.

Incidentally, his speech was titled "The role of economic policy after the crisis", which, from today's perspective, seems somewhat premature - after all, the euro area had not yet put the crisis behind it at that time. Quite the opposite, in fact - the crisis had yet to come to a head in the euro area. As the situation in Greece and other member states progressively worsened, some even went as far as to question the continued existence of monetary union.

With that in mind, "after the crisis" is more likely referring to the global financial and economic crisis, which began in 2007 and reached its crescendo in autumn 2008 with the collapse of Lehman Brothers and the severe economic downturn that followed. To that extent, it is not premature to talk to you here today about the financial crisis ten years on and to ask what we have learned.

However, I will scarcely be able to do justice to the complexities of the crisis, complete with its causes, implications and the lessons we can learn from it, in just over 45 minutes. I would therefore like to focus on aspects that are especially relevant from my perspective as a monetary policymaker, while noting that the observations I am about to make are not exhaustive.

2. The significance of the liability principle

Ladies and gentlemen

If you give some thought to the causes of the crisis, it becomes clear that the financial crisis and the later euro-area crisis follow a common theme: the liability principle was undermined in the run-up to both events.

Walter Eucken, founder of the Freiburg school and a pioneer of the social market economy, condensed the liability principle into a simple formula: "Whoever reaps the benefits must also bear the liability."

This tenet was so dear to him that he declared it a constitutive principle of our economic order -

for, in his view, economic agents will make responsible decisions only if the liability principle is enforced.

For instance, when banks become so big that their failure could bring the entire financial system to its knees, they can rely on politicians to throw them a lifeline if they run into difficulties. Thanks to this implicit insurance policy against the risk of insolvency, the banks benefit from a funding advantage even in normal times, as investors perceive the risk of default to be lower, and the capital market, deeming them too big to fail, therefore cuts them a certain amount of slack.

Furthermore, complex financial market products and confusing market structures had caused a fog to descend on the financial markets, with the resulting lack of transparency likewise serving to help drive the mispricing of risk. As a result, many banks were therefore undercapitalised in terms of their balance sheet risk.

But the rules that apply to enterprises, banks and investors must ultimately apply to governments, too. Their purse strings also tend to be loosened if they are absolved, either in part or in full, from bearing the financial consequences of their projects. In a monetary union, the impact of one country's debt - felt in the form of rising interest rates – becomes more widespread across all of the other member states, not only because of the single capital market but also, similarly to the response to the too-big-to-fail problem, it makes sense for member states to come to each other's rescue during times of crisis. To this extent then, too, there is a greater incentive to run up debt.

Of course, the founding fathers of monetary union were well aware that, as a general rule, unsound public finances are an Achilles' heel to a monetary union in which a single monetary policy has been put in place while fiscal policy remains a matter of national responsibility. For this reason, the framework of monetary union is actually designed to safeguard sound public finances. In addition to setting out annual budget deficit and debt ceilings, it highlights the member states' individual fiscal responsibility. A no-bailout clause was introduced precisely to prevent euro-area countries from stepping into the breach for another member state and providing financial aid.

The thrust of both measures is keep in check those financial risks to which the euro-area countries may be exposed as a result of participating in monetary union. At the same time, however, the no-bailout clause is designed to help enforce the liability principle on the market for government debt. The no-bailout clause also served as a warning to private creditors that the member states are solely responsible for their finances, even in times of crisis, meaning that government bonds do not constitute a risk-free investment.

Now, these two pillars have clearly not been enough to safeguard sound public finances. One reason for this is the weak binding effect of the fiscal rules, with repeated breaches leaving them permanently impaired. Germany was one of the primary culprits here, having worked together with France in the first half of the 2000s to water down the rules of the Stability and Growth Pact.

On balance, however, the second pillar was also too weak: the capital markets' disciplinary effect on euro-area countries proved to be inadequate.

The capital markets had assumed that the euro area was a union with a common destiny and that, despite the existence of the no-bailout clause, its member states would provide financial assistance to one another in the event of a crisis. Despite the huge disparity in economic power and indebtedness between the member states, they therefore paid similar levels of interest on their debt prior to the crisis.

However, it is also worth remembering that, although some of the countries that later found themselves in need of financial assistance were indeed experiencing rising macroeconomic imbalances prior to the crisis, their public finances were only actually thrown off track when the banks were bailed out.

It’s worth keeping these root causes of the crisis in mind as I now look back at how the crisis has unfolded since 2007 and later ask what remains to be done in order to put an end to the crisis once and for all.

3. Flashback

Ladies and gentlemen

In 2007, we Germans became acquainted with a term that, at most, only financial market experts had previously ever heard of - and even they were likely unaware in many cases of the risk involved. I’m talking about subprime mortgages.

This was the name given to mortgages issued to borrowers in the United States with low - in other words, not “prime" - credit ratings. It goes without saying that the term “subprime” was a euphemism, as loans were granted en masse to households whose credit ratings could be charitably described as questionable.

The subprime boom was boosted by three developments: low interest rates, a property bubble and the securitisation of subprime mortgages.

The interest rate environment led to a “search for yield". What’s more, thanks to the low interest rates, low-income households were also able to shoulder the debt. At the same time, homeowners’ debt levels were falling as a result of ever-rising property prices, irrespective of their mortgage repayments. In the United States, many homeowners used this opportunity to refinance and take out additional mortgages. Borrowers became all the more vulnerable to rising interest rates and falling property prices, culminating in the subprime crisis of 2007.

The ability to securitise and re-securitise subprime mortgage created an incentive to issue as many subprime mortgages as possible, as various links in the “value chain” turned a profit from processing fees. In the end, the risk attached to such loans did not remain with the banks that had made the credit decision but was rather passed on. As a result, not only were risks created on a large scale - the seeds for the subsequent spread of the crisis were also sown.

And so the subprime crisis quickly spilled over to Germany and Europe, where some financial institutions that had invested particularly heavily in the corresponding securities found themselves in financial distress.

This is yet another demonstration of the fact that, if it is possible to take risks for which one is ultimately not liable, misincentives will be created. Credit assessments will no long be carried out with the necessary due diligence and the risks taken will be too high.

The financial markets were then left well and truly paralysed by the bankruptcy of US investment bank Lehman Brothers on 15 September 2008. Lehman had been a major cog in the subprime mortgage securitisation business and suffered critical losses in the wake of the crisis.

I know from my conversations with my US counterparts at the time what a tough decision it was to opt against saving Lehman using taxpayers’ money. At the end of the day, a bail-out would have further eroded the liability principle and given additional credence to the implicit too-big-to-fail assumption held by many senior bank executives and market participants. And so, with the fall of Lehman, it was necessary to accept potentially sweeping contagion effects in the financial system.

An important lesson learned from this experience is undoubtedly the fact that it is only possible to resolve an institution without triggering major financial market turmoil if the contagion effects are contained and the other financial market participants are sufficiently resilient.

But this was not the case at the time: following the Lehman bankruptcy, financial market participants sought refuge from risk and continued to invest only in the safest of assets, primarily the government bonds of certain countries. The decline in the price of risky securities accelerated, and the uncertainty that this triggered regarding the financial shape of many banks ultimately meant that financial institutions had to be rescued using taxpayers' money in order to avert a meltdown of the global financial system.

In Germany, the Financial Market Stabilisation Fund (SoFFin) was set up to help either rescue or resolve several banks, Hypo Real Estate being the most significant and arguably best-known example.

Despite the enormous amount of government aid provided to the world's banks, it was not possible to prevent the global financial crisis from spreading to the real economy. The period covering the fourth quarter of 2008 and first quarter of 2009 was subsequently marked by a sharp contraction in world trade and a massive economic slump in many countries. In the G7 countries, real GDP declined by 3.8 % in 2009, with this figure even hitting 4.5 % in the euro area.

Many countries launched debt-financed economic stimulus packages designed to partially compensate for the shortfall in demand and thereby avoid a downward spiral. Some of you will no doubt still be able to remember the car scrappage scheme in Germany.

Incidentally, one factor that should not be overlooked here is the G20 states' joint commitment at this time to not strive for unilateral advantages and to refrain from protectionist measures.

While the appetite for risk had been excessively high prior to the crisis, the crisis led to a drastic reassessment and a growing aversion to risk in the financial markets. This was particularly evident in the market for government bonds of some euro-area countries.

At the same time, it was now becoming increasingly clear that some economies in the euro area were not exactly in the best of shape. Countries were vulnerable in the face of pronounced current account deficits and high reliance on capital inflows from abroad. A large part of the funds they received had also previously been used for non-productive purposes, be it high government spending, private consumption or excessive housing investment. To put it bluntly, some euro-area countries were living beyond their means prior to the crisis.

To make matters worse, the bursting of the property price bubble in countries such as Ireland and Spain shook the banking system, which had helped to finance the construction boom on a large scale. Negative feedback effects of government support measures included a drastic deterioration in public finances, which intensified the banking crises in these countries even further. This was because banks held sizeable amounts of bonds from their own countries.

This sovereign-bank nexus is a particularity of the euro crisis, in which troubled banks and ailing states mutually dragged each other down further and further.

Above all, this episode shows how quickly the risk assessment of the market participants can change. This is partly because the fundamentals had worsened, but also because the overblown expectations were corrected and have now been reversed. One of the main issues debated by regulators after the crises was therefore how buffers can be created to make the banking system more resistant, not only to such turnarounds in sentiment but also to adverse developments in general, by ensuring a more solid liquidity position or a more robust financing structure. Moreover, the severing of the unhealthy ties between sovereigns and banks is still seen by many - and rightly so - as an urgent necessity.

At first, however, controversial emergency measures were taken to prevent the crisis from spreading throughout the euro area: in April 2010, Greece, which had become heavily indebted, was practically unable to obtain any further loans on the capital markets and had to ask the other countries in the euro area for financial assistance. Together with the IMF, the donor countries provided fiscal support to the ailing country and, as you all know, this was not the only “financial assistance package” that Greece was to receive.

Following this ad hoc measure, the euro-area member states drew up a rescue package to be made available to all countries, which was initially temporary but later became a permanent fixture. A total of five countries (Ireland, Portugal, Greece, Spain and Cyprus) received financial assistance from this fund.

In doing so, the euro-area member states, for all practical purposes, established a kind of joint liability. This, in itself, increased the incentive for these countries to run up debt. To prevent this from happening, the ESM rescue package may only be activated as a measure of last resort to thwart an immediate threat to the stability of the euro area as a whole. Furthermore, assistance may only be provided to help with liquidity problems, but not solvency problems, as the liability principle would require the creditors to be bailed in, ie a restructuring of debt. The no-bailout clause would also clearly exclude such aid.

Moreover, the granting of financial assistance is subject to strict conditions, true to the motto “solidarity against solidarity". Assistance loans should therefore only be paid if the recipient countries have met the previously agreed conditions. Ultimately, ESM funds can only finance the necessary adjustment process, and thus “buy time". Only economic policy in the affected country itself can treat the root cause.

As a result, the Bundesbank came to the conclusion at the time that, given the threat to the stability of the European monetary union, the assistance fund that was created and the aid programmes, with their strict fiscal and economic conditionality, were by and large justifiable from an economic perspective – provided that the restrictions and conditions are actually met.

Ladies and gentlemen

As we all know, the Eurosystem was also compelled to take measures to prevent the crisis from escalating. Yet these measures, too, only acted as strong painkillers. Although they did manage to alleviate the symptoms, such as banks’ liquidity squeeze and the sharp rise in risk premiums for individual euro-area countries, they did not tackle the actual root causes of the crisis.

And just like any other medicines, you should read the package insert carefully, because the side effects can sometimes be quite nasty. The Bundesbank was therefore very critical of some of the measures taken.

Here I am referring to the government bond purchase programme in May 2010. Under the Securities Markets Programme (SMP), Greek bonds were initially purchased; the programme was later extended to include Irish and Portuguese government bonds. From the summer of 2011, Spanish and Italian bonds were also added to the programme.

I am also, however, thinking of the OMT programme adopted in the summer of 2012, which replaced the SMP and which still exists today. Unlike the SMP, the OMT programme potentially envisages unlimited purchases, which, however, are conditional on the successful implementation of an adjustment programme.

As a result of the targeted purchase of bonds from countries with a poor credit rating, their risk premiums were offloaded onto the capital markets. The Eurosystem and its bond purchases therefore had a significant impact on the government bond interest rates of these countries and consequently encroached deep into the realms of fiscal policy. It therefore also exposed itself to the danger of coming under political pressure to ease the burden on fiscal policy time and time again and consequently weakened the disciplinary function of the capital markets.

Moreover, the purchases resulted in sovereign liability risks being mutualised via the Eurosystem's balance sheet. However, the mutualisation of sovereign liability risks is inherently a political decision. Governments and parliaments, and not the central banks, have the task of determining which burdens the taxpayers in the member states should ultimately shoulder in order to stabilise the euro area.

The independence of the central banks requires a narrow mandate and a clear separation from fiscal policy.

Ladies and gentlemen

Just like so many others, Queen Elizabeth II also asked the simple, yet not so easy to answer question during a visit to the London School of Economics in the spring of 2009: “Why did no one see it coming?"

The reputation of economists has undoubtedly suffered as a result of the crisis.

In his book “The Art of Thinking Clearly", the Swiss author Rolf Dobelli writes: “in 2007, economic experts painted a rosy picture for the coming years. However, twelve months later, the financial markets imploded. Asked about the crisis, the same experts enumerated its causes: monetary expansion under Greenspan, lax validation of mortgages, corrupt rating agencies, low capital requirements, and so forth. In hindsight, the reasons for the crash seem painfully obvious, and yet not a single economist (...) predicted how exactly it would unfold. On the contrary: rarely have we seen such a high incidence of hindsight experts."

"The hindsight bias", Dobelli goes on to write, “is one of the most prevailing fallacies of all. We can aptly describe it as the ‘I told you so’ phenomenon."

In my opinion, however, most (serious) economists do not claim to have always known it would happen. Rather, many would agree that the risks in the financial system were underestimated for far too long. Dobelli is, however, right in the sense that the logical ex post facto explanation of the crisis should not lull us into a false sense of security.

Economists who study history, such as Kindleberger, Galbraith or Reinhart and Rogoff, would in any case argue that financial crises are always recurring phenomena. They write about speculative bubbles which occurred a long time ago, such as the Tulip Mania in Holland in the 17th century or the South Sea bubble in the 18th century. And just a few years before the subprime crisis, the New Economy bubble burst.

And so the recent financial crisis will not have been the last crisis that we encounter. This is assured by the “This time is different” syndrome, as described by Carmen Reinhart and Kenneth Rogoff. Its core consists “of the firm belief that financial crises only happen to other people in other countries; a crisis cannot occur here and now in our country. We are doing things better, we are smarter, we have learned from past mistakes."

But even if we do not fall for the “This time is different” trap, even the best economists in the world are not exactly sure what will trigger the next crisis.

Maybe the next crisis will be triggered by cyber attacks or hacker attacks and not by risks in banks’ loan books. After all, the increasingly digitalised nature of financial market infrastructures is leaving our financial system increasingly exposed to such risks. And in contrast to the usual credit risks, where the default of a single creditor does not as a rule profoundly shock a bank, it may even be enough under certain circumstances for one of the many cyber attacks carried out on a daily basis to succeed and to paralyse the activities of a bank for a while, thereby throwing the financial system into disarray.

And that is why it is so important to place a greater focus on the potential dangers associated with cybercrime than has been the case to date. The Federal Ministry of Finance and the Bundesbank have therefore put cyber security on the G20 agenda. And last week's events have underscored the wisdom of this decision. But perhaps a new crisis is brewing elsewhere.

However, knowing how difficult it is to accurately predict a crisis certainly does not give us a licence to just sit back and do nothing about it. The very least we can do is to draw the right conclusions from past crises. The aim is not only to eliminate individual risk factors but to make the financial system more robust as a whole, so that future crises no longer result in such dramatic consequences.

And so we now come to the question "What have we done to reduce our vulnerability to crises and to strengthen the resilience of the financial system?"

4. Consequences of the financial and debt crisis

First and foremost, the stricter financial market regulation is particularly worthy of mention. Its fundamental objective was to restore greater validity to the principle of liability in the financial markets.

First of all, the root causes of the subprime crisis were tackled. Obvious moral hazard in the securitisation business was corrected, for example by introducing a mandatory deductible for securitisation transactions in the EU. In addition, rating agencies are now more closely supervised and are obliged to be more transparent.

The more stringent capital requirements under the Basel III framework also mean that the owners, and thus those who are ultimately responsible for taking entrepreneurial decisions, now have to bear greater responsibility for their actions. After all, more money is now at stake for them. At the same time, the institutions have "greater room to manoeuvre" in the event of negative developments, and their loss-absorbing capability increases.

The average tier 1 capital ratio of the major German banks improved from 5.4 % in 2011 to 12.1 % in the middle of last year.

The major banks in Germany and the other euro-area countries have also been directly supervised by the ECB, in cooperation with national supervisors, since November 2014. The less significant banks - around 3,500 in the euro area as whole - are supervised by the national supervisors according to uniform standards.

This is also an important step on the road to a more stable banking system, especially as national supervisors occasionally tended to see "their" banks through rose-coloured glasses. The creation of a single supervisory mechanism (SSM) should also be used as a means of counteracting regulatory arbitrage, ie the targeted relocation of business to countries with the least strict supervisory regimes.

But the SSM is just one pillar of the European banking union. The other, at least equally as important, pillar is the Single Resolution Mechanism for banks, or SRM. This mechanism is designed to facilitate the resolution of a failed bank and ensure that there is a clear hierarchy of liability in place, with the taxpayer as the last possible port of call, in line with the "bail-in instead of bail-out" principle.

To a certain degree, bail-ins are the implementation of something Martin Luther had demanded of lenders 497 years ago: "If you want to have an interest in the gains, you must also have an interest in the losses."

To be able to shoulder major losses, there naturally has to be bail-inable capital in excess of other capital as well, which is why minimum requirements for bail-inable liabilities were developed at both the global and European level. For the large, systemically important banks, these requirements play a role in curbing the too-big-to-fail problem. The same is true of additional capital surcharges for this group, which are intended to form part of an even larger buffer, but also to help reduce the size-related funding advantage of these institutions.

Admittedly, the crisis showed that monitoring the stability of individual financial institutions does not suffice when it comes to safeguarding a stable financial system. Anyone who thinks financial stability can be preserved in this way can't see the forest for the trees. Or, as Janet Yellen once put it: before the crisis, "we looked closely at the trees and not as intently as we should have at the forest".

The approach of looking at "the forest" in the sense of financial stability has come to be termed "macroprudential" - in contrast to "microprudential" supervision, which looks specifically at the individual trees.

And with regard to the macroprudential approach, considerable progress has since been made here, too. Institutions that have analytical capabilities and are designed to identify risks to financial stability have been set up at the global, European and national level. Moreover, special tools were created, such as borrowing limits for real estate loans.

Yet the interactions in which microprudential and macroprudential instruments intervene are always complex, and good intentions do not always produce good results, as history has shown with the cobra effect.

The concept is named after a British governor's failed attempt to tackle a plague of cobras in India. Because of the bounty for each dead cobra, the Indian population began to breed and kill cobras in order to cash in on the reward. And after the bounty was scrapped, the remaining captive cobras were released, so that in the end there were even more cobras than there had been originally.

Or, to put a less dramatic and more nuanced spin on it, you could say that every measure can of course have side effects alongside the intended effects. At the end of the day, the costs and benefits of regulation have to be analysed and the efficacy of the measures already implemented needs to be evaluated. This is precisely what we have agreed upon as part of our ongoing G20 presidency and we have entrusted the Financial Stability Board with the related tasks.

Aside from the creation of the banking union and macroprudential supervision, there have been other institutional reforms in the euro area aimed at making the monetary union more crisis-resistant.

The Stability and Growth Pact was reformed, for instance, and a fiscal compact was agreed. This should facilitate the more automatic enforcement of sanctions when the deficit and debt limits are breached. After all, sound government finances are the best protection against the risk of a sovereign debt crisis.

Because experience showed that undercompetitiveness can also lead to crises, a macroeconomic imbalance procedure was also established, which looks at current account developments in the individual countries, for example.

Furthermore, the ESM stands at the ready as a permanent crisis resolution mechanism that can ward off threats to the euro area as a whole. It is important, though, that the ESM is not misused as a means of circumventing the no-bailout clause. If crisis-hit countries look unlikely to be able to repay their financial aid, the ESM is not permitted to grant assistance loans. In addition, assistance can only be paid out – as I mentioned – subject to strict fiscal and economic conditionality.

That was the legal situation.

In practice, however, this is still a challenge, for reasons of political expediency and due to concerns about remaining contagion effects, but also because differentiating between liquidity and solvency problems in real time is not a trivial matter.

One thing can be said for certain, though: the assistance loans have paved the way for the required adjustment programmes in the recipient countries. Without them, a much more abrupt adjustment would have been needed.

And in actual fact, the countries that were especially hard hit by the crisis have made noticeable progress in dismantling macroeconomic imbalances over the past few years. Current account deficits have shrunk significantly and have even turned into surpluses in most countries.

In the five countries that have received fiscal assistance, unit labour costs have fallen since 2010, making these economies more competitive. Additionally, labour market reforms and other structural reforms, some of them extensive, were undertaken. And as the World Bank's Doing Business report shows, the business environment has also seen a marked improvement.

The interim conclusion we can make, therefore, is this: extensive measures have already been taken in the wake of the financial and debt crisis, most of which have suitable potential to restore greater validity to the liability principle.

5. What remains to be done

But is everything thus resolved? I would argue: no, not yet.

To return immediately to my last point: the extensive reform efforts in the former crisis-hit countries mustn't obscure the fact that local conditions in those places should be improved further.

The fact that youth unemployment is still very high in a number of countries, say, highlights the need to continue dismantling barriers to employment. Low productivity in many countries is also an argument to invest more in education and training. And public administration and the legal system must become more efficient in some countries.

It certainly is not as if all other countries still have homework to do while we in Germany can just lean back and rest on the laurels of the successful labour market and social reforms implemented in the first half of the last decade. These measures helped Germany - christened the "sick man of Europe" by the Economist back in 1999 - to now post one of the lowest unemployment rates in the euro area.

The Eurogroup President Jeroen Dijsselbloem hit the nail on the head when he said, "Structural reform isn't something that is undertaken every ten or twenty years".

OECD forecasts predict that, of all 42 OECD countries, Germany will see the second-slowest growth rate up to 2030 and the slowest until 2060. The reason for these weak growth prospects is unfavourable demographic developments, which will squeeze the potential labour force considerably in the coming years.

Added to this are other challenges, such as providing a speedy digital infrastructure and affordable energy given a changed energy mix, and integrating refugees into the labour market. So there is a need for economic policy action here in Germany, too. We have to invest more in education and training so that the opportunities presented by globalisation and technological progress can be better harnessed for all.

Ladies and gentlemen

The principle of individual national responsibility and the liability principle are enshrined in the framework of the monetary union. Member states have retained responsibility for their fiscal and economic policy.

But as I have already noted, for all practical purposes elements of joint liability were established while we were combatting the crisis. And many additional reform proposals boil down to extending joint liability, for example by way of a European unemployment insurance fund, a European deposit protection scheme, or by introducing Eurobonds. What most of these kinds of proposals have in common is that they do not envisage a material transfer of sovereignty to the European Union level.

That's not surprising given that most countries have little desire to relinquish sovereignty. But without mutualising further policy areas or at least introducing stringent coordination, the mismatch between actions and liability would grow in the face of even greater joint liability.

It therefore seems to me that it would be more expedient for the time being to strengthen the Maastricht framework and the attendant principle of individual national responsibility.

Strengthening the Maastricht framework means, first and foremost, eliminating its weaknesses.

The first step in doing so would have to be increasing the binding force of the fiscal rules. Admittedly, that was precisely the objective of the last reform of the Stability and Growth Pact. But as it turned out, the implementation by the European Commission entailed broad discretionary scope, a great deal of flexibility and numerous exceptions.

Torn in two directions in its dual role as a political institution and guardian of the treaties, the Commission is evidently frequently inclined to compromise at the expense of stringent and rule-based implementation.

It almost seems as if the Commission has taken as its role model the US comedian Groucho Marx, who said of himself, “Those are my principles, and if you don't like them ... well, I have others."

As I see it, it would be crucial to fundamentally strengthen the fiscal rules as well as their binding force. While deficits have been pared back significantly since the peak of the crisis, the debt ratios in many countries are still extremely high and are seeing only moderate decreases, at most.

The rules should be refocused more clearly on the objective of sound public finances. Their formulation and implementation have to be more transparent and logical, and involve fewer exceptions.

A more rigorous implementation of the rules could also be achieved by giving responsibility for fiscal surveillance and compliance with the rules to an independent authority, such as the ESM, instead of the Commission. An institution with a clear mandate concerning sound public finances would come into less conflict with numerous other European policy objectives.

Obviously, that alone would not ensure that all member states maintain solid budgets, which is why it is vital that the disciplining forces of the financial markets also come into play. The architects of monetary union already knew this, as I've said.

But the financial markets only have an incentive to price member states' varying solvency risks appropriately if the “no-bailout” principle fundamentally enshrined in the EU Treaty is also credible. That, in turn, is contingent on investors retaining liability and sovereign default also being a realistic option in an extreme scenario – or not being ruled out, at the very least.

In order for the capital market to fulfil its function, investors have to be more credibly informed in future that there are risks involved in buying bonds from sovereigns with unsound finances. And this is why the Bundesbank has been proposing, for some time already, that the terms of government bonds should provide for an automatic maturity extension for said bonds as soon as a government applies for assistance loans. This has two key benefits.

When the maturity is extended, the original creditors, such as investment funds, would still be on the hook, even in cases involving an assistance programme, and could still be held liable in the event of a debt restructuring later on. In other words, unlike today, they will not be repaid with taxpayers' money from other member states when assistance programmes are in place. This boosts their incentive to be more aware of risk when investing.

In cases where no assistance loans need to be used to repay original creditors, a country's financing needs are also still limited to the current deficit. The assistance loans are therefore significantly smaller. And this boosts the ESM's firepower considerably. The burden will be removed from taxpayers in the other member states and potential moral hazard created by the ESM rescue package will be limited.

Above and beyond this, it has to be generally assured that the default of a sovereign does not immediately rattle the entire euro-area financial system. Doing this means, in particular, severing the nexus between banks and sovereigns that I mentioned earlier. In other words, sovereigns in crisis cannot be permitted to jeopardise the national banking system and problems in the banking sector should not be allowed to pose the same risk to sovereigns. It is precisely in times of crisis that banks have a huge appetite for government bonds, preferably domestic ones. And we ought to curb this appetite.

It would already help if banks were required to hold capital against government bonds and if large exposure limits were introduced, as is the case for loans to the private sector, which is to say, if the preferential treatment of government bonds were discontinued.

6. The role of monetary policy

But there are other ways, too, to ease the burden on monetary policy; notably by making the framework of monetary union more resilient to crisis. This could be achieved by stepping up the binding force of joint rules, making the no-bailout principle credible and, especially, increasing the stability of financial markets.

Then central banks could get back to doing their actual job rather than having to keep stepping in and doing the dirty work for all those that claim that their hands are tied.

Monetary policy's main mandate is ultimately to keep prices stable. The Governing Council of the ECB deems this goal to have been achieved when the euro-area inflation rate is below, but close to, 2 % over the medium term.

Domestic price pressures are currently subdued. We should not be blinded by the sharp rise in consumer price inflation over the last few months. This was mainly driven by movements in energy prices, which were much lower twelve months ago. Further proof can be found in the fact that core inflation - ie the inflation rate excluding energy and unprocessed food - tends to be at around only 1 %.

However, forecasts indicate that both core and headline inflation are set to return to the target level of below, but close to, 2 % in the medium term. This is because, by virtue of the sustained economic upswing and the gradual decrease in unemployment in the euro area, wages - and therefore domestic price pressures – are likely to pick up again. If this development continues and is sustainable, we will be one step closer to normalising monetary policy.

While there is currently no doubt that an expansionary monetary policy stance is appropriate, there are many different views on just how accommodative monetary policy should be and which instruments should be used. This is especially true because, since 2015, the rather expansionary monetary policy stance has included the purchase of government bonds under a new purchase programme. And such purchases, as I have already mentioned, are not just another instrument.

Unlike the previous SMP and OMT purchase programmes, the current programme does not focus on lowering risk premiums of crisis-hit countries. In principle, the national central banks are buying only bonds from their own country and loss sharing is largely ruled out. Yet, such purchases are still blurring the boundaries between monetary and fiscal policy.

Another worrying aspect of the purchases is that a large part of general government debt is no longer subject to the disciplining effect of the capital markets. The present low-interest-rate environment is providing notable relief for finance ministers, especially those of highly indebted countries. Compared with the interest rate level back in 2007, euro-area countries have collectively saved around €1,000 billion in interest payments. And you don't need to be a "nattering nabob of negativism" to fear that there may be political pressure on the ECB's Governing Council to postpone any normalisation of monetary policy out of concern for public finances.

On top of that, maintaining an ultra-accommodative monetary policy stance for any length of time poses risks for financial stability. A zero interest rate policy impairs the profitability of commercial banks and with it their ability to build up capital buffers for bad times. And it can lead to speculative bubbles on financial markets and other financial imbalances which, in turn, can generate long-term risks for price stability, as the crisis made abundantly clear.

It is therefore essential that central banks tighten the monetary policy reins as soon as this is necessary for price stability. We must not, out of consideration for public finances in certain countries or for any losses sustained by individual financial market players, delay the normalisation of monetary policy.

7. Conclusion

Ladies and gentlemen

A lecture should exhaust the topic and not the listener. In the time available, I can only partially achieve the former, but I will stop now before I fully achieve the latter. Let me conclude with a few remarks.

I believe that the path to a stable monetary union depends on the following key points.

1. Even if we cannot forecast with any certainty the precise shape and form that the next crisis will take, a few things are sure: Undermining important economic principles, such as that of liability, generally has a price tag attached to it.
2. Central banks must not be overburdened; they should not be forced to pick up the pieces for political errors. Instead they should be allowed to focus on fulfilling their mandate.
3. The euro-area countries must persistently live up to the responsibilities of membership of a monetary union. They have to use smart economic policymaking to ensure that they are successful and do not drift apart. They have to give people the opportunity to make the most of globalisation and technological advances and offer them employment prospects. The framework of monetary union needs to be designed in such a way that actions and liability for their consequences are aligned.
4. The financial crisis has demonstrated just how dangerous it can be if regulation of the financial markets is insufficient and loses sight of the principle of liability. Thanks to fundamental reforms, the global financial system is now more robust. Given the many

> possible causes of a crisis, a focus on individual agents and markets falls far too short of the mark. It is essential to increase the resilience of the financial system as a whole. This should stop a crisis from developing into a systemic problem and endangering the functioning of the entire financial system. It would be a mistake to turn back the clock on regulation.

In his book “A short history of financial euphoria", the Harvard economist John Kenneth Galbraith, who died in 2006, lamented the “... extreme brevity of the financial memory,” adding that “In consequence, financial disaster is quickly forgotten.” He believed that the world of finance was one of the few fields of human endeavour in which history counted for so little.

Ten years on from the outbreak of the subprime crisis and with a decade of crisis behind us - especially here in the euro area - I don’t think we can yet talk about the crisis having been forgotten; most people’s memories are not that bad.

But I see a certain danger that lessons learned from the crisis may be increasingly thrown to the winds.

That makes it all the more important not to put the crisis to the back of our minds or postpone the necessary consequences.

But you of all people, about to embark on your working lives - and maybe some of you will choose to work in the “world of money” – should take heed. Maybe some of you know what Mark Twain said about young people. “We love the young, with their fresh ideas, just as long as these ideas are the same as ours."

Thank you for your attention. I look forward to our discussions.