Jens Weidmann: Current developments in the euro area

Speech by Dr Jens Weidmann, President of the Deutsche Bundesbank and Chairman of the Board of Directors of the Bank for International Settlements, at the Bank of Slovenia, Ljubljana, 1 March 2017.

* * *

1 Introduction

Governor Jazbec

Ambassador Riedel

Ladies and gentlemen

I am delighted to have the opportunity to return to Slovenia – and to Ljubljana. I was here just over four years ago to attend the external meeting of the ECB Governing Council. So I already know the charm Ljubljana holds for its visitors. This time, I will also have time to visit the National Gallery, where I am especially interested in seeing the works of Slovenian artists. To me, art is far more than mere decoration: it grants insights – for example, into a country's soul at a given point in time.

Johann Wolfgang von Goethe, the great German poet, summed up this aspect of art as an expression of our inner selves when he said: "The mediator of the inexpressible is the work of art." Ladies and gentlemen, by accepting the invitation of the Bank of Slovenia to this event, you no doubt had the expectation that I would express my views clearly. Indeed, this afternoon is dedicated to a format that stands for arguments and facts – meaning the opposite of "inexpressible".

In my speech I would like to shed some light on current euro-area developments and the challenges ahead. I will then be glad to discuss with you the picture I have drawn.

2 Economic situation and monetary policy

The current economic situation of the euro area is quite good. The upturn has stabilised. With a macroeconomic growth rate of 1.7%, GDP in 2016 actually grew more quickly than euro-area production capacity; the output gap is gradually closing. Thus, unemployment in many euro-area countries is falling; in 2016 the unemployment rate for the euro area as a whole declined by almost 1 percentage point to 9.6%. That means it is now just a little less than 1 percentage point above its average in the pre-crisis years. The current Eurosystem projection from December assumes that the euro-area economy will continue to grow; namely by 1.7% this year and by 1.6% in each of the next two years.

A similar economic situation holds for Slovenia and Germany. Both countries currently benefit from robust economic growth. In fact, capacity utilisation in Germany is yet perceptibly higher than that of the euro area as a whole, employment is on maximum-value and confidence is quite high, for both, consumer and enterprises. The Bundesbank's economists expect the economy to grow at a rate of 1.8% in 2017, too. But this is nothing compared to the figures forecasted for Slovenia. The European Commission is projecting growth rates of 3.0% in 2017 and 2018 due to higher consumer spending and accelerating investment.

The robust economic upswing and rising capacity utilisation in the euro area will also drive up price pressures gradually. Of late, however, inflation has risen even more strongly than expected in the December projection, recently hitting 1.8%. This sharp increase in prices, however, is attributable mainly to base effects and the higher oil prices of late – since the end of November,

oil has become significantly more expensive. Assuming that oil prices do not rise any further, I see two notable developments.

First, inflation this year is likely to be well in excess of the figure projected to date; for Germany, an upward revision of around one-half percentage point is expected – and this might also be the case for the euro area as a whole. Second, we are likely to return to somewhat lower inflation rates by the end of the year. This is because domestic price pressures are still comparatively low at present. Core inflation, for example, which looks through energy price fluctuations and other volatile components of the consumer price index, stands currently at around the 1% mark. According to Eurosystem forecasts, however, it will slowly increase as the euro area continues its economic recovery and it is expected to reach 1.7% at the end of the forecast horizon in 2019.

In this constellation, an accommodative monetary policy certainly continues to be appropriate, though opinions differ over the right degree of monetary accommodation and the point in time at which the price outlook will have firmed enough to justify a change in communication and ultimately in the monetary policy stance. In this context, in my view some thoughts are worth sharing.

First, monetary policy is automatically looser in the coming months, even without central bank action: due to the increased inflation, the real interest rate declined. The effects are similar to a central bank rate cut. Second, in the euro area, we are now far removed from the threat of deflation, which is to say an expectations-driven downward wage-price spiral. Financial market participants seem to have a similar take on it: the probability, derived from inflation options, that the inflation rate will be negative in the next five years is now at its lowest point since the summer of 2011. Personally, I have always deemed such a deflation scenario highly unlikely. Third, some of the unconventional measures, which were taken in order to loosen the monetary policy stance, come with a different risk-reward calculus than the standard instruments of monetary policy. I am sure that it will come as no surprise that I am rather critical of government bond purchases.

This is because, in a monetary union of sovereign member states with a single monetary policy and largely autonomous economic and fiscal policies, government bond purchases are not a monetary policy instrument like our policy rates, for instance. Government bond purchases are increasingly blurring the line between monetary and fiscal policy, and government funding costs are depending to an ever greater extent directly on monetary policy decisions.

Euro-area central banks are now the largest creditors of their member states. All governments ultimately pay nearly the same interest rate on the debt in central banks' balance sheets, regardless of the country's creditworthiness. What's more: the larger the part of the debt that central banks withdraw from the market, the less markets will exert their disciplining forces, sanctioning unhealthy public finances with higher risk premiums. This is all the more worrisome as the low-interest-rate environment offers few incentives for governments to consolidate their budgets.

And indeed, fiscal policy in the euro area has been loosened noticeably over the past few years. In contrast to what would be needed given the still high debt levels in many euro-area countries, governments' savings in interest payments aren't being put towards the urgent goal of reducing debt, but instead are being spent to a significant extent. John F Kennedy once said: "The time to repair a roof is when the sun is shining." This is most certainly true. But if you don't want to risk permanent damage to your house, you sometimes have no choice but to repair the roof when it's raining.

I fear the danger of finance ministers becoming more and more comfortable with the high levels of debt the longer these favourable financing conditions exist.

This could lead to a situation in which fiscal policy takes the bait of a sustainability illusion. And, when the monetary policy reins have to be tightened due to increasing price pressure, the

Eurosystem could come under political pressure to make high levels of debt sustainable through low interest rates. This, however, would put price stability at risk.

Against this backdrop, it is essential that the Eurosystem is independent. After all, history has shown that independent central banks are better able to safeguard price stability than dependent central banks. This is also one of the key findings enshrined in the economic literature of the 1970s and 1980s. To quote the words of Otmar Issing, former ECB chief economist: "Central bank independence is indispensable if monetary policy makers are to be expected to pursue the primary objective of a central bank to maintain price stability and to do everything in their power to achieve this." [1]On the other hand, independence does not give a central bank carte blanche to do as it pleases; it obligates the central bank to interpret its monetary policy mandate narrowly, meaning to maintain price stability. This is because central banks' independence in monetary policy matters is not a self-evident feature of a sovereign democracy given that other areas of economic policy are subject to parliamentary control.

Monetary policy has to avoid the markets' perception that the central bank is only willing to counter downward pressure on financial markets with an accommodative policy stance but refrains from tightening the reins in times of higher price stability risks due to the fear of triggering market turbulences. The so-called "Greenspan put" illustrates the moral hazard that can come of such an asymmetrical approach. In extremis, monetary policy can even be held hostage by fiscal policy or the financial markets.

At the same time, it is a matter of fact that the success of central banks in fulfilling their mandate also depends on factors they cannot control. Sound public finances are only one precondition; prudent measures to generate growth and to foster the stability of the European monetary union are other examples.

3 Politics and the economic setting

3.1 Creating prosperity

Ladies and gentlemen

Contrary to what some believe – or might wish – it is not the responsibility of central banks to ensure sufficient growth and economic convergence: it is the responsibility of the member states. Or to put it metaphorically: it's not enough for a car to have a tank full of "liquidity" if you want to speed up. Someone still has to rev up the engine.

Financing costs in the euro area are exceedingly low; the Eurosystem has done its part in maintaining access to bank credit. In my view, financing conditions are no obstacle to private investment, but muted long-term growth prospects are. In the end, it's the politicians who hold the key that can unlock long-term economic growth. That's why the Governing Council has been tireless in calling for structural reforms – for example, in tackling the impact of demographic change. Both Germany's and Slovenia's long-term economic outlook is dampened because demographic change will hit our countries particularly hard. In the coming years, more people in both countries will be retiring than young people entering the job market.

But while the ambition should be to move into a higher gear on reforms, there are signals that we have already shifted back down to a lower gear. "Going for growth 2016", a recent study by the OECD, shows that since 2013 the speed of reforms has slowed down, especially with regard to measures in the fields of "innovation policy, public sector efficiency or product and labour market regulation".[2]

It is clear that each country has its own economic situation and preferences – meaning there's no such thing as a "one size fits all" approach. But I am convinced that measures which lead to sound public finances as well as competition-based economic systems with flexible labour and

product markets would foster long-term growth. Let me give you an idea of what could be achieved by implementing the appropriate reforms. The International Monetary Fund (IMF) conducted a study to determine which OECD countries have the most growth-friendly tax regimes, labour markets and social insurance systems. IMF economists then calculated what would happen if euro-area member states closed half of the gap to the leaders. The result is that annual euro-area growth in subsequent years would be just under one percentage point higher.[3]

Making it easier for new firms to enter the market is one type of reform that helps to raise competition and innovation. Measures which ease the process of setting up a new business and, where necessary, eliminating red tape would boost growth potential, too. Lowering the barriers that prevent enterprises from exiting the market would likewise foster growth. It would facilitate what Joseph Schumpeter called "creative destruction". OECD research suggests that policy-induced exit barriers matter for productivity growth, because fewer exits lead to less scope for productivity spillovers and the misallocation of capital, labour and skills. It concludes, for instance, that insolvency regimes should be streamlined.[4] The creation of a common services market and a single digital market in Europe could also speed up long-term growth. Studies show that this could yield twice the growth effect unleashed by the creation of the common market for goods.[5,6]

Additionally, companies in the euro area would benefit from a deeper and more integrated capital market. This would also improve financial stability, because equity flows would be less prone to sudden stops. Hence, more equity financing makes companies more shock-resistant, thereby supporting growth and jobs. This is where the Capital Markets Union comes in. Currently, European companies largely rely on bank debt – in relation to GDP, about four times more than in the United States.[7] Improving and harmonising regulation could help to make equity markets a better funding source for enterprises. The integrated equity markets in the US cushion around 40% of total cyclical fluctuations between federal states.[8] If a negative shock hits an industry or a specific region, then this loss is spread widely beyond that region. Creditors, on the other hand, are not exposed to losses – except in the event of insolvency. In other words: equity is a shock absorber, debt is a shock amplifier.

But let me state clearly at this point. I am not pushing for the European financial system of the future to look exactly like the American one. What is needed, however, is to supplement Europe's financial system, not supplant it.

Finally, investing more in skills and education promises to deliver rich rewards, too. This would not only boost labour productivity, but also reduce the risk of workers losing their jobs. Thus, it would enable them to better cope with the structural change induced by globalisation and technical progress. Labour market flexibility can also contribute to higher employment and growth. Germany is a point in case here. Research shows that the labour market reforms implemented in the middle of the last decade in combination with the moderate wage policy definitively contributed to the fact that employment in Germany went up significantly and that the country overcame the crisis better than other countries in Europe.[9] At the same time, however, despite having contributed to preventing a further rise in income inequality, some see these reforms as an explanation for the increasingly widespread perception that globalisation comes at the expense of the low-skilled workers.

3.2 Preserve open markets and a competition-oriented economy

Ladies and gentlemen

The economic growth of our countries will also be influenced by one additional factor: the future of global trade. Not least Ljubljana is a very good example of the welfare-enhancing effects of trade. Emona, too – the ancient predecessor of Ljubljana the early Christian times – was a thriving city thanks to flourishing trade.

These days, however, open markets don't seem to be very popular anymore. As all of you know, the decision by UK voters to leave the European Union and the result of the presidential election in the US have also been interpreted as signs of growing scepticism about globalisation. Elsewhere in the world, too, many people are mainly seeing the disadvantages which globalisation – and technological progress – unquestionably entail for some.

Public concerns on matters like these need to be taken seriously. But it's safe to say that barriers and exclusion would be the wrong response. That's because open markets boost prosperity. Free trade makes production more efficient by allowing specialisation and, therefore, by using economies of scale. By increasing competition, it lowers the prices of goods and facilitates the spread of new ideas and technologies. This, in turn, leads to more innovation and growth. Think of the more than 3,000 year-old wheel which was found in the moor of Ljubljana. It is surely undisputable that the invention of the wheel catapulted the well-being of mankind much as the invention of money did when it spread throughout the world.

However, while the effects of globalisation on overall welfare are generally positive, this does not necessarily apply for each of us all the time. The invention of the wheel, for example, left the owners of pack animals worse off rather than better off, even though it did bring relief to mankind in general. The right reply to public concerns about a competition-based economy with open markets is not to build up barriers. Instead it would be to enable as many people as possible to benefit from it and to shield the rest from its negative aspects. This would mean enhancing education, but also improving the flexibility of goods and labour markets. And it would mean a well-targeted and transparent tax and transfer system which could act as a cushion. The interplay of these factors was well-known to the mentor and creator of the so-called "social market economy" in Germany, Ludwig Erhard. For him, this is the foundation of what he neatly encapsulated with the phrase "Prosperity for all". In any case, together with the German government I appreciate the opportunity to discuss the issue of open markets and fair trade in the current G20 process under the German presidency.

Ladies and gentlemen

If I might be permitted one side note: an accusation has been made that Germany is taking advantage of the United States and other countries with an undervalued currency. In my view, this criticism is actually beside the point. While there is a kernel of truth in the argument that the US dollar is currently strong, the United States has, up until recently, enjoyed a very favourable competitive position for almost a decade. These ups and downs in exchange rates, and thus also in terms of price competitiveness, are entirely within the realm of normal fluctuations.

The fact that Germany's economy is highly competitive certainly isn't the outcome of manipulative policy, either. While its competitiveness certainly does benefit from the low external value of the euro, this is predominately due to different monetary policy paths on both sides of the Atlantic, which also reflects different cyclical positions, as well as to policy announcements by the new US administration. Additionally, German enterprises are competitive because they are excellently positioned in global markets and offer innovative products. The very high current account surplus of 8½% of GDP is mainly attributable to this.

Given the foreseeable demographic change, current account surpluses for Germany are quite appropriate at the present time, as this reflects how Germans provide for old age, amongst other things. The assets held abroad will later be depleted as more and more employees retire and run down their savings. German investors, then, are harnessing the higher returns on offer in regions with faster-growing economies, not at least in Slovenia, where German enterprises are the third most important investors. In my view, this seems to be a situation in which both sides win.

That said, however, the high current account surplus we see today in Germany cannot be put down to demographics alone. And also the low oil price, which diminished the cost of imports,

explains only part of the high surplus.

It would nonetheless be wrong, in my opinion, to scale back this surplus by adopting economic policy measures that deliberately erode the competitiveness of German enterprises or by embracing debt-fuelled government spending, as some have been calling for. First, the import content of German exports is quite high. Intermediate inputs and goods delivered by other euro-area countries account already for nearly 40 percent of German exports. So, making German exports less attractive also weakens component suppliers, including those located in other euro-area countries. Second, with capacity utilisation currently running at above-average levels, a government expenditure programme would not only be pointless; it would also be of little benefit to other countries. The ripple effects would be too small. And if monetary policy were to react with higher policy rates, the effect on the economies in other euro-area countries could possibly be negative.

At the same time, it is appropriate that public investment increases given the need to improve the infrastructure and provide more education. What is also indispensable, however, is a more growth-friendly environment to foster private investment and growth.

3.3 Institutional framework of the EMU

Ladies and gentlemen

Economic uncertainty is the enemy of investment. That is true not only of uncertainty over the future of global trade but also of uncertainty over the stability of the European Monetary Union. It is crucial that we also make the institutional setting of the EMU more stable and restore trust, for instance by abiding by the agreed rules.

The financial and sovereign debt crises in the euro area had one major characteristic in common – both saw a core economic principle being violated: the liability principle. German economist Walter Eucken, who was another founding father of Germany's social market economy, once said very aptly: "Those who reap the benefits must also bear the costs." If banks assume they are too big to fail, they will be tempted to make the most of this implicit insurance and take on excessive risks, at the expense of society at large. This is exactly what happened before the financial crisis. This kind of implicit insurance is not altogether unlike the framework of the European Monetary Union, where a single monetary policy exists alongside 19 largely autonomous economic and fiscal policies. I have already mentioned this special feature of our monetary union.

As the crisis taught us, this set-up potentially exposes the EMU to vulnerability. Because at the end of the day, the community may have to foot the bill for unhealthy developments in individual member states if it wishes to prevent the stability of the union as a whole from coming under threat. The option to spread the consequences of unsustainable policy across the entire monetary union might weaken the incentives to run sound policies, in particular a healthy budgetary policy. This is why institutional safeguards were put in place before the euro was launched: the Stability and Growth Pact, the no-bail-out clause, and the ban on monetary financing of governments. Unfortunately, these safeguards failed to prevent public debt from ballooning in some euro-area countries. The crisis played a role in this, but so did the fact that the fiscal rules were repeatedly violated and the capital markets didn't sanction these breaches because the no-bail-out clause lacked credibility.

When doubts about the debt sustainability of some euro-area member states surfaced during the sovereign debt crisis, the urgently-taken rescue measures helped to prevent the crisis from escalating. But they did so by mutualising fiscal liability on a substantial scale. Economic and fiscal policies, on the other hand, essentially remained a national prerogative, though the fiscal rules have admittedly been adapted. As a result, the balance between liability and control has been thrown out of kilter. However, striking an even balance between liability and control is crucial

for the functioning of the EMU. In theory, there are two possible ways to restore this balance: through deeper integration, or through greater national responsibility on the part of the individual member states.

The first solution would be to create a fiscal union with centralised decision-making powers. While a fiscal union would not guarantee sound fiscal policymaking, it could certainly mitigate the deficit bias of individual member states. But let’s be honest here. A fiscal union approach is not on the cards, because it implies the delegation of sovereignty to the European level in a substantial scale. As long as there’s no willingness to transfer national sovereignty to the European level, there will be no basis for mutualising sovereign risks.

And that’s why a European Deposit Insurance Scheme (EDIS) is also not the right institutional response in restoring the balance between liability and control in the euro area at the current point in time. As long as actions taken at the national level, such as drafting insolvency laws, or very high stocks of government bonds on banks’ balance sheets can have a substantial impact on the health of financial institutions, the European Deposit Insurance Scheme would allow risks arising from national decisions to be shifted to the European level. This would send the wrong incentives to banks and investors alike. The mutualisation of risk would not go hand in hand with the necessary mutualisation of control rights – irrespective of the Single Supervisory Mechanism that has been put in place.

Whenever – as a reaction to the Brexit-vote – calls are made for greater mutualisation of debt, I think it’s rather like a ship that is listing: when the passengers – eager to help – rush to the lower side of the ship then, contrary to their good intentions, they are not helping to remedy the unfortunate situation at all but are, in fact, making it worse.

The second way to restore the balance between liability and control, meanwhile, would be to strengthen the Maastricht approach based on individual responsibility. This would leave economic and fiscal policy, as well as ultimate liability for public debt, in the hands of the individual member states. But how could such a decentralised approach work better in future than it has done in the past?

Although the rules were changed after the crisis, the European Commission was granted more flexibility in interpreting them. And it has used this flexibility quite a few times so far – and always to interpret the rules very loosely. As a result, the binding force of the budgetary rules is weaker than ever before – as we can see, for instance, in the budgetary developments in France, Spain, Portugal and Italy. One way of ensuring that the rules are binding would be to install a new and independent authority, a fiscal council. This institution would not be exposed to the same political conflicts of interest as the Commission, which has to assess whether national budgets comply with the Stability and Growth Pact and hammer out political compromises between the interests of the different member states. Of course, the European Council ultimately holds the key to the success of any budgetary control. Its determination to enforce the rules and support the Commission in a strict interpretation is all-important.

“Debt is a two-edged sword. Used wisely and in moderation, it clearly improves welfare. But, when it is used imprudently and in excess, the result can be disaster.” This statement by former BIS chief economist Stephen Cecchetti and his colleagues Madhusudan Mohanty and Fabrizio Zampolli is directed not only at private debt but at public debt as well.[10] They show that excessively high private and public debt is a risk not only to financial stability but also to economic growth. According to their estimations, in the euro area we are already in the danger zone – at least with regard to corporate debt, at 105% of GDP, but also in terms of public debt, at 91%. And so this is one more reason why effective limits for government debt are urgently needed.

Binding fiscal rules and an institution that observes their adherence are just one component of a consistent reform agenda. Additionally, it is important for capital markets to resume their role of

disciplining national fiscal policy. As for enterprises, more deeply indebted countries ought to pay higher interest rates. This will only happen if the no-bail-out clause in the Maastricht Treaty really does have teeth. Therefore, it must be possible to restructure public debt without posing major risks to the financial system.

The July 2016 edition of the Bundesbank's Monthly Report describes what needs to be done to make this possible. There are two reforms I would now like to mention. First, we need to sever the sovereign-bank nexus. A strong inter-linkage between banks and sovereigns increases the probability of a bail-out by other member states and weakens incentives for risk-oriented pricing. And it is precisely this sovereign-banking nexus that contributed to a mutual intensification of the crisis in the euro area, when banks suffered from declining prices for sovereign bonds in their balance sheets and countries from struggling banks in their territory. The European banking union already marks a huge step towards untangling this dangerous embrace. However, to complement the banking union, it is also crucial that we do away with the preferential treatment of sovereign debt in banking regulation. This implies that, similar to banks' lending to the private sector, sovereign exposures will need to be backed by capital and also be part of a large exposures regime.

A second measure concerns the design of the European Stability Mechanism's financial assistance programmes. The ESM is there to provide resources to countries that apply for an ESM financial assistance programme. However, these funds are generally used not only to cover budget deficits, but also to redeem maturing sovereign bonds. By implication, when a programme is activated, European taxpayers are, in essence, bailing out the respective country's creditors. This does not exactly foster willingness on the part of member states to agree to restructure a programme country's debt. Instead of a truly viable solution being reached, when push comes to shove, a strategy of muddling through would win the day. That's why the Bundesbank is proposing to add a clause to the government bonds of euro-area countries which automatically extends the maturity of bonds by three years if the member state in question applies for ESM assistance. This way, the initial creditors would remain liable, and if the government debt really did need to be restructured, that could be done in an orderly fashion without jeopardising financial stability.

The financial crisis also showed, however, that wobbling banks can cause sovereigns to stumble. To cut this part of the nexus, financial market regulation has already been improved substantially. In the euro area, a common restructuring and resolution regime (the Single Resolution Mechanism) and a bank supervision body under the aegis of the ECB (the Single Supervisory Mechanism) are in place. The Single Resolution Mechanism and the Bank Recovery and Resolution Directive (BRRD), which assure the harmonised implementation of the rules throughout all member states, substantially strengthen the principle of individual responsibility in the banking sector, thereby reducing the likelihood of public bail-outs. And in this sense, both are important elements not only to protect tax payers but also to make the euro area more stable.

However, the first line of defence in making a bank resolution less likely is the establishment of higher capital requirements for banks, as the Basel Committee on Banking Supervision already decided in principle six years ago. The good news is: the resilience of the European banking sector went up significantly. This is proven by the fact that Common Equity Tier 1 (CET1) for the directly supervised SSM banks rose after the financial crisis to 12.8% by mid-2016, and that this level is well above the unchanged aggregated capital demand of the Supervisory Review and Evaluation Process (SREP) for 2017 of around 10%. Nevertheless, it is important that Basel III is implemented in a timely manner. This would also reduce regulatory uncertainty for banks, which in my view is a serious burden for them.

4 Conclusion

Ladies and gentlemen

writer Mary de Rachewiltz once called money the obscene Doppelgänger of creative writing, because both are made from nothing, their economies both hinge on moderation and efficiency, yet they both tend to proliferate.

As a central banker, I know rather more about monetary policy than about literature. But I do know that too many words can be just as inflationary as too much money. I'm certainly aware, however, that I've used quite a number of words to clarify my stance on monetary policy and the challenges facing the euro area which still have to be resolved.

Luckily, language appears to be of major importance here in Slovenia, which is understandable given your country's history; this can also be seen in the country's great admiration for France Preseren.

Thank you for your attention.

---

[1] Interview with Otmar Issing, published 4 August 2015; www.youtube.com/watch?v=IdqSYSvr3DY

[2] www.oecd.org/eco/growth/going-for-growth-2016-executive-summary.htm

[3] Spilimbergo A, Berger H, Schindler M (eds) (2014), Jobs and growth – supporting the European recovery. International Monetary Fund.

[4] Müge Adalet McGowan and Dan Andrews (2016), "Insolvency regimes and productivity growth: a framework for analysis", *OECD Working Paper (2016)33*.

[5] Roland de Bruijn, Henk Kox, Arjan Lejour (2008), "Economic benefits of an integrated European market for services", *Journal of Policy Modeling 30*, pp 301–319.

[6] Copenhagen Economics (2010), The economic impact of a European digital single market, Final Report.

[7] www.bankofengland.co.uk/financialstability/Documents/fpc/fspapers/fs_paper33.pdf, p 6.

[8] P Asdrubali, B Sørensen and O Yosha (1996). Channels of Interstate Risk Sharing: US 1963–1990, in *Quarterly Journal of Economics, 111(4)*, pp 1081–1110.

[9] H. Bonin (2012), "The Two German Labour Market Miracles: Blueprint for Tackling the Unemployment Crisis?", *Comparative Economic Studies*, 54.

[10] Stephen G Cecchetti, Madhusudan Mohanty and Fabrizio Zampolli (2011), "The real effects of debt", *BIS Working Papers No 352*