

## José Manuel González-Páramo: Sovereign contagion in Europe

Speech by Mr José Manuel González-Páramo, Member of the Executive Board of the European Central Bank, at the Distinguished Speaker Seminar of the European Economics and Financial Centre, London, 25 November 2011.

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Ladies and Gentlemen,

It is a great pleasure to speak to you here in London and discuss some key issues relating to the ongoing crisis in Europe. For centuries the City of London has held its position as a leading international financial centre. Few other places in the world exhibit such a high density of expertise in financial matters. At the same time, where financial activity tends to be concentrated experiences with financial contagion during crises are often also pronounced.

Let me cite a few excerpts from Walter Bagehot's "Lombard Street":<sup>1</sup> "Mercantile bills are an exceedingly difficult kind of security to understand ...in years like 1871 many active men make so much money at the end of the year they are worthy of altogether greater credit than anyone would have dreamed of....On the other hand, in years like 1866 a *contagious ruin* destroys the trustworthiness of very many firms...Persons who buy and sell again soon are often liable for amounts altogether much greater than their own capital; and the power of obtaining those sums depends upon their "respectability," their "standing," and their "*credit*," ...and more simply upon the *opinion which those who deal with them have formed of them*."

Whilst not directly applicable to the present times and taken out of the historical context of the financial panic around the failure of Overend, Gurney and Co. in 1866, there are still a number of thought-provoking passages that sound so familiar in comparison with what we have been experiencing over the past four years of financial crisis. This is not only the case because the offices of Overend in Lombard Street were only a few miles away from where we are meeting today.

So, let me dedicate my speech to the issue of contagion, and more specifically to the experiences with sovereign contagion during the European debt crisis and the related policy responses. I would like to start out by discussing why contagion needs to be addressed by policy and how. Next, I shall review recent evidence of contagion phenomena across European sovereigns. The third part of my speech will deal with how the European Central Bank has responded to these developments; and the fourth part with the ultimate key responsibilities pertaining to domestic fiscal authorities in this area and the need for strengthened governance structures.

### Financial contagion and public policy

Since the writings of Walter Bagehot financial contagion has become an issue that is discussed widely in policy, market and academic research circles.<sup>2</sup> Taking a broad

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<sup>1</sup> W. Bagehot (1873), *Lombard Street – A Description of the Money Market*, pp. 129ff. Emphases by the speaker.

<sup>2</sup> See, for example, the following surveys on the issue: G. Kaufman (1994), "Bank contagion: A review of the theory and evidence", *Journal of Financial Services Research*, 7; E.P. Davis (1995), *Debt, Financial Fragility and Systemic Risk*, Clarendon Press, 2nd ed.; O. de Bandt and P. Hartmann (2000), "Systemic risk: A survey", ECB Working Paper, no. 35, November; S. Claessens and K. Forbes (eds., 2001), *International Financial Contagion*, Kluwer Academic Publishers; ECB (2005), "Financial market contagion", *Financial Stability Review*, December; ECB (2009), "The concept of systemic risk", *Financial Stability Review*,

perspective embracing different views and studies, contagion could be defined as a situation in which instability in a specific financial market, institution or country is transmitted to one or several other markets, institutions or countries. A first characteristic of contagion is that the spread of instability would usually not happen without an initial trigger event – which often appears to be a relatively contained event. A second characteristic is that the transmission of instability is in some way abnormal, for example, in terms of its speed, strength or scope. Though spillovers are to be expected in an interconnected financial system, contagion is distinct in that it often reflects a market failure and a dangerously amplified transmission of instability.

The underlying market failure consists of the fact that contagion often involves externalities.<sup>3</sup> As a result, the private costs of the initial financial market failure, that is the costs to the actor triggering contagion, are lower than the social costs. In the specific case of the sovereign debt crisis in Europe, the trigger could, for example, be that a country in a precarious fiscal situation does not seriously implement the necessary fiscal consolidation measures. This could lead interest rates on this particular country's government debt to rise and could in turn also constrain economic growth in that country. This is what I call the "private costs" of such behaviour. Although in this case the lack of fiscal discipline is something which is strictly related to one country, this circumstance may still lead volatile financial markets to also lower their expectations about fiscal consolidation efforts in other countries. As a result, those other countries also begin to face costs in terms of significantly increased interest rates on their government debt.

The social costs are in the end equal to the aggregate cost represented by the higher interest rates that the governments of all the other countries have to pay for their debt because of the fiscal irresponsibility of the original country.

The difference between private and social costs implies a market inefficiency calling for some form of intervention whose objective is to internalise these kinds of externalities. In other words, the countries that pursue activities which risk causing contagion need to be constrained in pursuing such activities or "pay a price" which is proportional to the expected costs to the other countries which are affected by the contagion. This provides them with incentives to reduce the activities that could trigger contagion.

Given that the possibility of contagion is well known from the literature and economic history, we should mind about both the preventive and corrective policies. In the case of sovereign contagion preventive policy options would include, fiscal rules and governance mechanisms that avoid excessive deficits or high stocks of public debt. Ex post policy options aimed at addressing the fall-out from sovereign contagion would include liquidity provision by central banks to financial markets, the recapitalisation of fragile banks and the swift implementation of growth enhancing structural policies and fiscal adjustment measures to regain market confidence in national economies and governments and offset the adverse effects of contagion. It goes without saying that – as a rule – prevention is by far preferable to addressing the problems that arise from contagion *ex post*. But I am afraid that the evidence of contagion that I will present to you in a moment illustrates that we no longer have the privilege of focusing on prevention alone.

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December; O. de Bandt, P. Hartmann and J.L. Peydro (2010), "Systemic risk: An update", A. Berger et al. (eds.), *The Oxford Handbook of Banking*, Oxford University Press.

<sup>3</sup> See de O. Bandt and P. Hartmann (2000), *op.cit.*, sub-section 2.4 for a more extensive discussion of policies addressing financial contagion.

## Recent evidence on sovereign contagion in the euro area

There is a growing body of evidence which shows that contagion plays an important role in the current crisis gripping the euro area – across sovereigns, across banks, and between the two.<sup>4</sup> While contagion has characterised the various stages during which the financial crisis has become more acute through the end of this last summer, recent developments have been indicative of a continuation – or even by some metrics an intensification – of contagion forces. Perhaps the most potent illustration of this comes from studying the dynamics of a specific recent episode where various aspects of contagion – notably the intense and persistent transmission of idiosyncratic risks in a sequential manner – offer a compelling narrative characterising developments.

The episode in question is the announcement by the Greek authorities on the first of November that a referendum on the rescue programme agreed at the EU summit the week before was being considered. The referendum was an event very specific to Greece. Indeed, the fact that this day was a public holiday in parts of Europe implies that the news flow on that day was more limited than usual.

In response to the announcement yields on Greek government bonds and Greek sovereign CDS *premia* soared even further. The transmission of this shock to some other euro area sovereigns and euro area banks, in particular, appears to have been rapid, large and persistent. The CDS premia of France, Germany, Italy and Spain exhibited the largest one-day increase of the year. But whereas the CDS premia of France and Germany quickly receded to their previous levels, those of Italy and Spain further rose in subsequent days. Movements in bond yields were comparatively muted, although Germany benefited from strong safe haven flows.<sup>5</sup>

The above observations offer quite a compelling case for contagion, but such narratives are still subject to the question of whether alternative interpretations of these events are possible. It therefore makes sense to have a more systematic look at the data using empirical models of contagion. For this purpose, ECB staff has developed and is extending an analytical toolkit of models, which is “state of the art” in this area. Generally speaking, the results from these multiple analyses tend to support the notion that contagion is indeed a driving force behind the trends in the data. I would like to focus in particular on the results from two different but complementary empirical approaches that sharpen the view on the existence and nature of contagion occurring in the euro area over the course of this year.<sup>6</sup>

The first approach exploits the possibility of a persistent ability of idiosyncratic events in Greek credit default swap premiums to predict developments in other euro area countries’

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<sup>4</sup> A previous account of this has been provided in a recent speech by my colleague Vítor Constâncio, who described inter alia how contagion spread the sovereign debt crisis beyond the countries under EU/IMF programmes over the summer (<http://www.ecb.europa.eu/press/key/date/2011/html/sp111010.en.html>). For further discussions of the links between banking instabilities and sovereign debt problems, see V. Acharya, I. Drechsler and P. Schnabl (2011), “A pyrrhic victory? – Bank bailouts and sovereign credit risk”, NBER Working Paper, no. 17,136, June, or A. Alter and Y. Schöler (2011), “Credit spread interdependencies of European states and banks during the financial crisis”, mimeo., University of Konstanz, June.

<sup>5</sup> Like in previous episodes, such effects were not limited to sovereigns. The average CDS premium of a group of 17 large European banking groups – none of which is Greek – showed the largest one day increase of this year. Finally, also non-financial corporations were affected. The Eurostoxx 50 declined by 5.2% on the same day, the third largest one day drop of this year.

<sup>6</sup> Staff of the International Monetary Fund has found related evidence with different methodologies; see C. Caceres, V. Guzzo and M. Segoviano (2010), “Sovereign spreads: Global risk aversion, contagion or fundamentals”, IMF Working Paper, no. WP/10/120, May, or R. Arezki, B. Candelona and N. Sy (2011), “Sovereign rating news and financial markets spillovers: Evidence from the European debt crisis”, IMF Working Paper, no. WP/11/68, March. See also G. Amisano and O. Tristani (2011), “The euro area sovereign crisis: Monitoring spillovers and contagion”, ECB Research Bulletin 14 (<http://www.ecb.europa.eu/pub/pdf/other/researchbulletin14en.pdf>).

CDS premiums.<sup>7</sup> Estimation proceeds in two stages, using multivariate frequency decomposition. First, each CDS series is decomposed into long-, medium-, and short-run shocks. Second, the long- and medium-run shocks of Greece, which are those that produce lasting effects, are used to explain the CDS spreads of another euro area country, while conditioning on the country's own shocks. If the additional explanatory variables improve forecast accuracy over a 100-day horizon, the results from the model may be interpreted as an indication that developments in Greece are causing contagion.

The results suggest that with the escalation of the sovereign crisis in July 2011, contagion from Greece has become a source of systemic risk for several euro area countries. Spillovers from the Greek sovereign crisis can explain the sharp deterioration in the perceived creditworthiness of the other countries under EU/IMF programmes, Ireland and Portugal that occurred in July 2011. Since July, this applies also to some of the larger euro area countries such as Italy and even Germany. Moreover, the model indicates that the spillovers from Greece are persistent and are thus likely to dissipate only slowly in the presence of favourable developments.

Another model co-authored by ECB staff assesses the effect of an increased probability of default of one country on the likelihood of default of other countries in the euro area, controlling inter alia for the fact that the degree of interconnectedness in the system changes over time.<sup>8</sup> Let me emphasize that these default probabilities are estimated strictly on the basis of the CDS premiums quoted in the market, irrespective of whether the probabilities priced-in by the market are in line with the assessment made by official institutions. On the basis of historical CDS data, these models, for example, find that a default in Greece increases the probability of Portugal defaulting on its public debt by 30 percentage points. The results of this model may be interpreted as providing some indication of sovereign contagion effects from Greece to other euro area countries.

In sum, both descriptive and model-based evidence point to the presence of significant sovereign contagion in the euro area. Moreover, these contagion pressures have recently intensified, as they have spread beyond the euro area's periphery and have started to affect larger economies. Following up on my earlier discussion on the policy-relevance of contagion, policy makers need to address this. I shall address policy responses in two steps; first, responses by the ECB and, second, responses by fiscal authorities.

### **Sovereign contagion, the monetary transmission mechanism and the ECB's Securities Markets Program**

The intensification over time of the sovereign debt crisis – as also illustrated by the contagion evidence I have just referred to – has presented the ECB with the challenge of preserving the proper functioning of the monetary policy transmission mechanism. In normal times the key interest rates decided by the central bank have an initial impact on short-term interest rates in the money market, and arbitrage relationships further propagate the policy impulse along the maturity spectrum and across different asset classes. Coupled with adjustments of money, credit and financing conditions, monetary policy can ultimately affect prices. The smooth working of this transmission mechanism allows the central bank to fulfil its mandate of maintaining price stability.

Security markets, especially sovereign bond markets, have traditionally come to play a distinct role in the transmission of monetary policy in all advanced economies. This occurs

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<sup>7</sup> P. Donati, (2011), "Modelling spillovers and measuring their impact and persistence: Application to CDS spreads during the euro area sovereign crisis", unpublished ECB internal manuscript, August.

<sup>8</sup> X. Zhang, B. Schwaab and A. Lucas (2011), "Disaster calculus: Joint and conditional measures of euro area sovereign default risk", unpublished ECB internal manuscript, November.

via three channels. First, government bonds are often used as a reference rate for pricing loans or other asset classes. This is the so-called *price channel*. In particular, markets generally consider that the credit standing of a sovereign has direct implications for the creditworthiness of most private institutions within the jurisdiction of the sovereign itself. Thus, sovereign yields provide generally a floor to the funding conditions of the private sector. To the extent to which abrupt movements in yields carry the risk of spiralling off and leading to contagion, credit intermediation suffers and there is an impairment in the transmission of monetary policy. Second, government bonds usually provide a primary source of collateral, given that they are generally the most liquid asset class. This makes government bonds a prominent type of collateral in repurchase agreements. The disruption of sovereign debt markets hampers the functioning of the interbank repo market and reduces its liquidity. This leads to increased money market rates due to premia for liquidity risk, with an impact on the capacity of banks to provide credit to the real economy. This is the so-called *liquidity channel*. Third, changes in the valuation of bonds affect the behaviour of the financial and non-financial sectors via their impact on the strength of their balance sheet – this is the so-called *balance sheet channel*. For lenders, the lower capital base may mean that they can supply fewer loans to the economy. By contrast, borrowers see their creditworthiness reduced. This in turn limits their capacity to borrow. Concerning contagion, it is clear that both contagion across sovereign bond markets and contagion between sovereigns bonds and banks distort the working of all three channels on top of any idiosyncratic market malfunctioning.

Faced with the risk of profound impairments of the transmission mechanism of monetary policy, the ECB has adopted several non-standard measures in order to maintain a stable relationship between its monetary policy stance and the conditions actually faced by households and firms. I will focus here on the Securities Markets Programme (SMP) adopted by the ECB in May 2010, given its direct relevance for addressing the malfunctioning of security markets.

The programme was designed in the form of interventions in the euro area's securities markets. The liquidity provided by the central bank via SMP interventions is fully re-absorbed by other liquidity operations. The liquidity neutrality of the SMP interventions is one feature making them distinct from "quantitative easing", which has the very purpose of increasing the liquidity provided by the central bank.<sup>9</sup> In addition, quantitative easing programmes have a numerical target for the amount to be purchased. This is not the case for the SMP. Finally, quantitative easing programmes have a much larger size, given their intended aim of "flooding" the market with liquidity. A better-fitting analogy may therefore be drawn between the SMP and sterilised exchange-rate interventions, which likewise do not necessarily have an announced target and aim to correct a misaligned asset price.

To fully assess the impact of the SMP it would be necessary to know the counterfactual, that is the situation that would have prevailed in the absence of the SMP. By definition this counterfactual cannot be observed. There is, however, no doubt that through the purchases of government bonds the SMP has contributed to restoring the monetary policy transmission mechanism in the euro area. Other things equal, the programme also helped contain volatility in the markets concerned.

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<sup>9</sup> For an overview of quantitative easing (QE) and its impact, see A. Krishnamurthy and A. Vissing-Jorgensen (2011), "The effects of quantitative easing on interest rates: Channels and implications for policy", mimeo., Northwestern University, October (<http://www.kellogg.northwestern.edu/faculty/krisharvind/papers/QE.pdf>). For more specific policy views regarding the nature of QE policies by the US Federal Reserve and the Bank of England, see Chairman B. Bernanke (2009), "The crisis and the policy response", Stamp Lecture, London School of Economics, January, and M. Joyce, M. Tong and R. Woods (2011), "The United Kingdom's quantitative easing policy: Design, operation and impact", Bank of England Quarterly Bulletin, 51(3).

It is essential that the nature of the SMP as a measure that supports the central bank in the pursuit of its goal of maintaining price stability does not distort the incentive structure among different policy actors that lie at the heart of EMU. For this reason, both when the SMP was first announced in May 2010 and when its active implementation was confirmed in August 2011, the ECB took special note of the commitments of euro area governments to ensure the sustainability of their public finances and address the shortcomings of economic governance in the euro area.

### **Fiscal imbalances, governance in a Monetary Union and sovereign contagion**

It is clear that a lasting solution to the current sovereign debt crisis requires making swift progress in the consolidation of public finances, the boosting of sustainable economic growth and the strengthening of the governance framework at the euro area level – to which I will now turn.

The fiscal situation in euro area countries deteriorated significantly following the financial crisis.<sup>10</sup> In 2010, the aggregate fiscal balance of the euro area stood at more than 6% of GDP, up from an almost balanced budget in 2000. The latest projections by the European Commission suggest that the euro area deficit ratio would gradually decline to around 3½% of GDP in 2012. Euro area debt amounted to more than 85% of GDP in 2010 and would increase to around 90% of GDP in 2012. Moreover, 14 out of 17 euro area countries are currently facing an excessive deficit procedure related to a budgetary deficit above the 3% of GDP reference value.

To be sure, the fiscal situation in the aftermath of the crisis is even worse in other major economies. In the United States, for example, the 2010 deficit ratio stood at more than 10% of GDP and the latest IMF projections suggest only a relatively limited decline to around 8% of GDP in 2012. US debt reached around 95% of GDP in 2010 and would further increase to around 105% of GDP in 2012. Japan and the UK ran similarly high deficits. In the case of Japan, the deficit ratio amounted to around 9% of GDP in 2010 and, after an increase in 2011, would return to around this level in 2012. In the UK, according to the latest European Commission forecast the deficit ratio would decline from 10.3% in 2010 to around 8 % in 2012.

Against this background, what are the reasons for the particularly severe disruptions in some euro area sovereign debt markets and the related contagion effects, which are undermining financial stability in the euro area as a whole? To approach this question it is helpful to take a closer look at the specificities of the euro area institutional setup.

The combination of a single monetary policy and strongly decentralised fiscal policies constitutes a specific feature of the euro area. The weak European governance has not been able to remove incentives for national fiscal policymakers to allow the emergence of fiscal imbalances in the form of running excessive deficits at the cost of other participating Member States. The Stability and Growth Pact (SGP) was established to address such coordination problems. However, it suffered from weak national implementation and a lack of enforcement at the European level.

Enforcement of the SGP was built on a peer pressure mechanism among Member States. In the past, however, Member States proved to be reluctant to enforce adequate fiscal discipline on their peers. Moreover, decision-making bodies at the EU level were left with a

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<sup>10</sup> See A. van Riet (ed., 2010), "Euro area fiscal policies and the crisis", ECB Occasional Paper, no. 109, April (<http://www.ecb.europa.eu/pub/pdf/scpops/ecbocp109.pdf>).

significant degree of discretion regarding the implementation of the fiscal rules, notably following the 2005 reform.<sup>11</sup>

Incentives for ensuring sound national fiscal positions have as a consequence been insufficient. Member States failed to adhere to their medium-term budgetary objectives and only slowly corrected excessive deficits. As a result, a number of euro area countries accumulated large fiscal imbalances already in “good times”, instead of using opportunities for reducing public deficits and debt levels. Therefore, they were left with hardly any room for manoeuvre when the financial and economic crisis hit.

In the wake of the crisis, the substantial underlying fiscal and structural weaknesses in a number of euro area countries, as well as the inability of the current governance framework to prevent the emergence of such imbalances, became very apparent. Starting from the collapse of Lehman Brothers in mid-September 2008, a regime switch in the pricing of sovereign credit risk could be observed, from a pre-crisis situation of almost complete compression of spreads to one of extreme market sensitivity to adverse country developments. At the same time, the high degree of economic and financial integration in EMU resulted in the fact that risks quickly spread to other Member States perceived as vulnerable by the market. This happened, particularly, via national banking systems and their exposure to sovereign credit risk. These developments illustrate how the emergence of economic and financial imbalances laid the groundwork for the subsequent instability. The experience of the crisis has also shown that in times of financial market stress the unravelling of imbalances and contagion effects, which are both sources of systemic risk, often reinforce each other.

As result, I think it is fair to say that we now stand at a crossroads and that decisive and far-reaching reforms will be necessary to address the sovereign debt crisis and ensure a smooth functioning of EMU in the future. It seems that European policymakers have understood the urgency of the situation and, fortunately, substantial reform steps have been initiated.

A governance reform package – the so-called “Six pack” – has been approved by the European Council, the European Parliament and the European Commission in September 2011. It strengthens both the preventive and the corrective arm of the SGP and establishes minimum requirements for national budgetary frameworks. At the European summit of 26/27 October 2011 governments announced further steps to enhance fiscal governance, notably a strengthened surveillance of countries under the excessive deficit procedure and the implementation of balanced budget rules in all euro area Member States.

Important steps have also been taken to strengthen the European Financial Stability Facility (EFSF). The EFSF has been ratified by all 17 Member States of the euro area and agreement has also been reached on leveraging existing EFSF resources in order to increase the overall “firepower” of the fund without extending the guarantees underpinning it.

## **Conclusion**

Looking ahead, the identification of the necessary reforms has to start from being clear about what the ultimate objective is: the need to establish institutional arrangements which provide credible incentives for sound fiscal and macroeconomic policies in a monetary union. In my view, a more fundamental deepening of fiscal and economic policy surveillance is necessary in the long run. This would involve a transfer of sovereignty to the European level of decision

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<sup>11</sup> See, for example, R. Morris, H. Ongena and L. Schuknecht (2006), “The reform and implementation of the Stability and Growth Pact”, ECB Occasional Paper, no. 47, June (<http://www.ecb.europa.eu/pub/pdf/scpops/ecbocp47.pdf>), or M. Catenaro and R. Morris (2008), “Fiscal policy and implementation in EMU: From Maastricht to the SGP reform and beyond”, F. Farina and R. Tamborini (eds.), *Economic Policy in the European Monetary Union: From the Old to the New Stability and Growth Pact and Beyond*, Routledge.

making, which should have much stronger powers, and would also mean stricter constraints on national budget policies.

This kind of reforms would require a comprehensive change to the EU Treaty but, above all, an adequate mechanism to ensure their democratic legitimacy. Let me outline the ideal cornerstones of such a governance reform. First, to ensure fiscal discipline, all planned deficits of more than 3% of GDP and those in excess of a country's medium term objective would need to be approved by all euro area governments. Second, past fiscal slippages would be automatically corrected in upcoming budgets without any room for discretion via the introduction of constitutional rules similar to the German "debt brake". Third, all Member States would also agree to implement fines and sanctions in a quasi-automatic mode. Finally, with the introduction in 2013 of a permanent crisis resolution mechanisms, the European Stability Mechanism (ESM), those countries slipping in the progress with their macroeconomic adjustment programmes would temporarily lose financial autonomy.

The institutional arrangements at both national and supranational level would also have to be strengthened. At the national level, independent budget offices would ensure reliable forecasts – a prerequisite for sound planning and implementation of budgets. At the euro area level this needs to be complemented by an independent entity with a clear mandate and a strong institutional framework to assess the implementation of fiscal rules. For instance, this could be called a European Budget Office or "EBO", which could potentially form the nucleus of what might become over time, and in a gradual manner, a European Ministry of Finance. Strong and independent institutions at the euro area and national levels serve to enhance transparency. They bring the necessary pressure to bear to ensure the conduct of sound policies and effectively counteract possible tendencies towards a lenient implementation of fiscal rules at the level of individual member states.

In addition to the "Six-pack" adopted in March 2011 the Heads of State or Government of the euro area also agreed on a "Euro Plus Pact" to strengthen policy coordination with the aim of improving competitiveness and convergence. Under this agreement euro area governments commit to use a set of common indicators to regularly monitor each others progress in areas such as labour-market reforms, reforms to wage-setting arrangements and reforms aimed at improving the sustainability of pension, health care and social benefit systems. Governments who signed the Euro Plus Pact also committed to translate the rules set out in the Stability and Growth Pact into their national legislations. The reform of article 135 of the Spanish constitution in August 2011, which for the first time introduced the principle of budgetary stability into the fundamental law of the country, is a positive example of recent progress made in this area.

As a final remark, let me emphasise once again that mastering the current crisis situation requires that all parties involved honour their previous commitments. Most notably, governments need to ensure, under any circumstances, the achievement of announced fiscal targets and deliver the envisaged institutional and structural reform programmes. This is of utmost importance for improving market confidence and regaining macroeconomic and financial stability in the euro area.

Thank you for your attention.