

Benoît Cœuré: Duration risk in the financial system

Speech by Mr Benoît Cœuré, Member of the Executive Board of the European Central Bank, at “The Global Borrowers and Investors Forum 2013 – a Euromoney Conference”, London, 25 June 2013.

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Ladies and Gentlemen,

It is a great pleasure for me to be here at this Euromoney conference. Today I'd like to consider the impact that volatile interest rates may have on the financial system.

Let me state quite clearly that I do not intend to drop any hints about a change in the monetary policy stance in the euro area in the near future. A reversal would not be warranted by current economic conditions. Economic growth is projected to remain weak this year and inflation is expected to remain clearly below 2% for the euro area as a whole. The various non-standard measures that have been introduced by the ECB to support monetary policy transmission in certain market segments will stay in place as long as necessary, and there are other measures, standard and non-standard, that we can deploy if warranted. Therefore, at the current juncture, there should be no doubts that our “exit” is distant and our monetary policy is and will remain accommodative.

However, these conditions are not permanent; interest rates will eventually increase, triggered by a tightening of the monetary policy stance, by an unwinding of global risk appetite, and/or by other external events. The recent bout of volatility in global fixed income markets is excessive in view of the current economic conditions, but it can serve as a useful reminder that such developments cannot be dismissed lightly.

In fact, since the Great Depression a number of financial crises have occurred after a prolonged period of exceptionally easy monetary conditions. Some of you may remember the events of 1994, when even a gradual shift in the monetary policy after a low-rate period triggered severe turbulence on bond markets. For the United States, this concern was raised in a recent speech by Federal Reserve Governor Jeremy Stein.¹ He concluded that there are signs of a fairly significant pattern of “reaching-for-yield” behaviour in US corporate credit markets. However, he also commented that leverage in the short-term financing of credit remained modest and therefore the potential for systemic harm would be relatively limited.

These developments trigger several questions: First, what are the channels through which a low interest rate environment can affect the financial system's exposure to risk? Second, how sensitive are the balance sheets of euro area financial institutions to duration risk? Third, how should regulatory and macroprudential policies be designed to avoid the negative implication of rising interest rates? And what can be the role of standard and non-standard monetary policies to mitigate unwarranted volatility along the road?

I will structure my remarks along the following lines. First, I want to review some of the recent literature on the relationship between monetary policy and the risk-taking behaviour of financial institutions, the so-called risk-taking channel of monetary policy. Second, I will present some evidence on the on-going search for yield in corporate bond markets. Third, I will also address specific challenges related to the fragmentation of the euro area financial markets. Fourth, I will draw upon forward-looking solvency analysis results published in the ECB's most recent Financial Stability Review to discuss some of the consequences of

¹ See Stein, J. C., 2013, Overheating in Credit Markets: Origins, Measurement, and Policy Responses, speech held at a research symposium at the Federal Reserve Bank of St. Louis, 7 February 2013.

various risks related to a re-emergence of risk aversion in several market segments. Finally, I will discuss the policy implications.

The risk-taking channel of monetary policy

One concern arising from a low interest rates environment is that the associated search-for-yield may induce excessive risk-taking behaviour by financial institutions.

The recent crisis has rekindled the idea that prolonged lax monetary policy can lead to financial instability what has been termed “the risk-taking channel” of monetary policy. There are four broad arguments which I would like to briefly discuss: asset substitution, search for yield, pro-cyclical leverage, and expectations of monetary policy reaction.²

- The asset substitution argument derives from standard portfolio theory, and it holds that a lower yield on safe assets will lead to a decrease in their weight in bank portfolios. Banks adjust their portfolio until risk-adjusted returns on risky and safe investments are again equalised. This results in a lower share of safe assets.
- A related mechanism operates through the search for yield. Financial institutions with long-term commitments (such as pension funds and insurance companies) need to match the yield they promised on their liabilities with the return on their assets. When interest rates are high, they can generate the necessary revenue by investing in safe assets. When rates are low, they are forced to invest in riskier assets to continue to match the yield on their liabilities.³
- Assume now that financial institutions target constant or perhaps even pro-cyclical leverage ratios. If monetary easing boosts asset prices, then bank equity will increase and banks will respond to the fall in leverage by increasing their demand for assets. This reaction reinforces the initial boost to asset values, and so on. The result of this “leverage channel” is a more fragile banking system.⁴
- Finally, monetary policy could also affect risk-taking through the expectation of a strong policy response to negative shocks. Since the 1990s, central banks have repeatedly provided liquidity to financial markets following market tensions. This channel has sometimes been called the “Greenspan put”. Of course, it can be objected that the asymmetric pattern of booms and busts in asset prices prompts an asymmetric monetary policy response. But it remains true that central bank liquidity provision, while necessary in crisis time, can distort the price signals and therefore the incentives of financial market participants. Financial players can afford to take *ex ante* extra risks, as they can rely on central banks to mitigate the consequences in case those risks materialise *ex post*.

The bottom line of these four arguments is that lax monetary policy has the potential to reduce the market price of risk and thereby trigger a higher degree of risk-taking by financial institutions. Some recent empirical studies by ECB staff members lend support to these ideas.^{5, 6}

² See, e.g., de Nicolò G. et al., 2010, Monetary Policy and Bank Risk Taking, IMF research department mimeo.

³ See Rajan, R.G., 2005, Has Financial Development Made the World Riskier? Proceedings, Federal Reserve Bank of Kansas City, August, 313–69.

⁴ See Adrian T. and Shin H.J., 2009, Money, Liquidity. and Monetary Policy, Federal Reserve Bank of New York Staff Report No 360.

⁵ One study used the volatility index (VIX) to test for the dynamic links between monetary policy, stock market volatility and risk aversion. It finds that lax monetary policy decreases risk aversion in the stock market after about nine months. This effect is persistent, lasting for more than two years. Moreover, monetary policy shocks appear to account for a significant proportion of variation in risk aversion. See Hoerova M., Bekaert G., Lo Duca M., 2013, Risk, Uncertainty and Monetary Policy, Journal of Monetary Economics, forthcoming.

Of course, under certain circumstances, reducing the market price of risk and freeing up the risk-taking capacity of financial institutions is actually an outcome desired by monetary policy. Consider, for instance, the various non-standard monetary policies undertaken globally after the financial crisis broke out in 2009. They were designed to remove risk from balance sheets so as to avoid destructive fire sales and at the same time to enable banks to continue providing credit to the real economy by taking new risks.

The concern is, however, that persistent liquidity sows the seeds for market turmoil. Unexpected events such as a shift in monetary policy or a change in economic growth prospects will inevitably affect the yield curve. Since banks carry out maturity transformation by borrowing short and lending long, and there are limits to their ability to hedge against interest rate risk, the result could well be an abrupt unwinding of risk-taking positions, putting financial market under renewed stress.

These risks are further exacerbated by the fact that banks operating under asymmetric information and limited liability will tend to take more risk than is socially optimal, since they do not internalise the losses they may eventually impose on taxpayers. A clear and consistent framework for bank recovery and resolution, including “bail-in” rules with a clear pecking order and limited exemptions, will be conducive to a stricter monitoring of risks by bank creditors.

In fact, as I mentioned before, many of the most severe financial crisis since the Great Depression broke out after prolonged periods of exceptionally easy monetary conditions. Apart from the 2009 financial crisis, similar developments occurred in relation to the burst of the New Economy bubble in 2001, the collapse of LTCM in 1998, and the burst of the bond market bubble in 1994.

Search for yield in bond markets

Let me now turn to the current situation by showing you some evidence on the search for yield in the euro area, taking corporate bond markets as an example. (CHART 1) Let me start with some recent developments in European bond markets. Since early 2012, we have seen pronounced shifts towards bond holdings in investment funds and a general decline in yields across all risk categories. As Chart 1 shows, equity holdings of euro area investment funds slightly declined compared with 2011, whereas net flows into fixed income funds increased substantially.

(CHART 2) As in the US, the search for yields in corporate bond markets in the euro area has intensified in recent months: corporate bond spreads are at historical lows. Chart 2 compares the historical evolution of yields on high-yield bonds with default probabilities. Yields are generally back to pre-crisis levels, but default probabilities are still significantly higher. One noticeable exception is provided by German corporate bonds, which have reverted to low default probabilities. The decline in yields of high-yield bonds is even more remarkable as the supply of those bonds has been shooting up recently. Total issuance of euro area non-financial corporate debt in 2012 was 60% higher than issuance in 2011, and it remained strong in the first months of this year. The share of high-yield debt in total issuance rose from one-quarter in 2012 to one-third in the first quarter of 2013, above the average recorded from 2006 to 2012.

Overall the evidence for the euro area on corporate bonds parallels the one for the US and the two markets appear closely linked to each other. As I have discussed before, an abrupt

⁶ Another study found similar effects for loans. Low short-term interest rates soften credit standards for household and corporate loans, but especially for mortgages. This softening can be amplified by securitisation activity and weak supervision of bank capital and is more pronounced if policy rates remain low for a prolonged period. See Maddaloni, A. and Peydró, J.-L., 2012, Bank risk-taking, securitization and low interest rates, ECB Working Paper No 1248.

unwinding of these searches-for-yield – perhaps triggered by highly leveraged investors rushing for the exit – would be a source of concern for financial stability. However, the extent of the risk also depends on the degree of maturity transformation and the stability of funding.

Specific challenges in the euro area

The unwinding of search-for-yield may emerge as a global phenomenon. However, there are specific issues related to the current heterogeneity of economic and financial conditions in the euro area. Let me focus on government bond and money markets.

(CHART 3) Euro area government bond markets have appeared resilient recently. The dispersion of yields was low in the first quarter of 2013, and volatility remained close to its 2009 (pre-sovereign debt crisis) levels. Pivotal developments in reversing the deteriorating trend in confidence included the ECB's announcements on the Outright Monetary Transaction (OMT) programme and European leaders' commitment to establishing a banking union, along with noteworthy national developments, including the recapitalisation and restructuring of the Spanish banking sector.

These are all positive developments, but there is certainly no room for complacency. Progress towards a genuine Economic and Monetary Union should be confirmed along the lines of President Van Rompuy's report, starting with clear and predictable rules for bank resolution and with the establishment of a single resolution mechanism, complementing the single supervisory mechanism as the second pillar of the banking union.

The continuation of the current low level of government bond spreads cannot be taken for granted, and countries efforts towards sustainable fiscal positions should thus continue unabated. A sudden re-pricing of risks may lead to an increase in spreads, despite the ongoing fiscal consolidation efforts, and even more so in countries where consolidation has been delayed.⁷ This would put renewed pressures on governments and revive the fragmentation of euro area bond markets. One possible strategy to mitigate this risk is to increase the average maturity structure of the debt, but the best remedy is to cut on the quantity of risk by swiftly improving government solvency.

Money markets have also been affected by the low rate environment, but an increase in short term interest rates may have an ambiguous impact. Since 2010, we have observed a significant decline in activity in these markets. Trading volumes in overnight interbank loans continued to decline in 2012 and are at very low levels by historical standards, some 60% below pre-crisis levels.

This may not only reflect continued fragmentation, but also the effects of ECB liquidity operations, which have partly replaced market activities. In principle, there are various reasons for assuming that a rise in policy rates would revive interbank market activity. First, very low levels of interest rates may drive financial intermediaries, such as the money market funds, out of the market. Second, institutions without access to the deposit facility have to place funds with Eurosystem counterparties at interest rates below the deposit facility rate. At the current very low rates, these institutions may try to withdraw the funds from the accounts with their custodian bank, thereby reducing the supply of funds and potentially increasing banks funding costs,. Therefore a rise in the policy rate may help to revive money markets, by bringing back important financial intermediaries.

At the same time, as I have argued before, higher rates may negatively affect the balance sheet positions of some banks. If this reintroduces asymmetric information in the interbank

⁷ This is best understood if one decomposes the risk premium into a price and a quantity of risk. The quantity of risk reflects the country-specific economic and fiscal situation. The price of risk instead reflects the general conditions on financial markets. Even if the quantity of risk remains constant, an increase in the price of risk may lead to a generalised increase in spreads. See, e.g., Manganelli, S and Wolswicjk, G, 2009, What drives spreads in the euro area government bond market?, *Economic Policy*, 58: 191–240.

market and adverse selection through the exclusion of less reputable counterparties, the current market fragmentation and relatively low trading volumes may persist or even be magnified. Funding costs in the wholesale market may increase asymmetrically across euro area constituencies. Here, the best remedy is to restore full confidence in bank balance sheets through appropriate supervisory action.

A quantitative assessment of the impact of selected macro-financial scenarios

Let me turn to the final part of my presentation and look at some quantitative assessments of the various risks related to the current low-interest-rate environment. These assessments are based on the regular forward-looking solvency analyses conducted at the ECB. (CHART 4): I would like to discuss the results for four scenarios including a current baseline scenario. The three alternative scenarios are related to a possible return of risk aversion and a rise in interest rates in various market segments:

1. *A worsening of the sovereign debt crisis.* This scenario assumes a permanent rise in euro area long-term sovereign bond yields due to low growth and delays in the implementation of fiscal and structural reforms. The increases are country specific and range from zero impact to 370 basis points across countries. Further effects on the entire yield curve and other asset prices, notably equities, are taken into account.
2. *Funding stress scenario.* This scenario assumes the emergence of funding difficulties for banks in stressed countries that would arise from deposit outflows and reduced access to wholesale funding markets. This would imply higher interbank and customer loan rates. It would also induce banks to restrain their lending in order to comply with loan-to-deposit ratio targets - also in the light of the upcoming Basel III liquidity requirements.
3. *Increased risk aversion.* This scenario investigates the risks arising from a global unwinding of the search for yield. It assumes an abrupt increase in investor risk aversion worldwide, which results in stock price declines and a marked increase in corporate bond spreads, thereby raising interest rates in the more risky market segments. This would trigger a recession in the United States with negative implications for the global economic outlook.

The details of these scenarios and the underlying methodologies are discussed in detail in the latest ECB Financial Stability Review from May 2013. Just let me say that they are designed to account for a number of transmission channels and the size of the shock is based on historical evidence.

(CHART 5) The scenarios generate a rich set of results, but let me focus on the implications for bank capital. Under the baseline scenario, the core Tier 1 capitalisation of euro area large and complex banking groups would increase from 11.2% in the fourth quarter of 2012 to 11.3% by the end of 2014.

Certainly, with regard to the findings of the adverse scenarios, they crucially depend on the implementation details of the individual scenarios. Nevertheless, we observe that a scenario configuration involving a rise in interest rates and asset price declines would in general tend to exert a negative influence on banks' solvency positions.

This being said, the decline in the large and complex banking groups core Tier 1 capital ratios under the adverse scenarios is found to be relatively mild, which is a sign of resilience among the largest euro area banks also reflecting significant capital raising efforts in recent years. Specifically, the average core Tier 1 capital ratio would decline by 0.4 percentage points in the funding stress scenario, by 0.6 in the sovereign debt crisis scenario and by 1.1 in the global risk aversion scenario. However, the average numbers mask some dispersion across euro area countries.

This analysis is focused on the banking sector. The situation in the euro area insurance sector differs somewhat. Insurance companies are also to some extent exposed to risks from shifts in sovereign bond yields and global risk aversion. Forward-looking analysis of the assets and liabilities of the euro area insurance sector indicates that the impact of these risks would remain limited due to comfortable capital buffers. For the euro area insurance sector, low yields on highly rated government bonds can constitute a solvency risk in the medium term. This holds in particular for those jurisdictions where a market-consistent approach to the treatment of liabilities is pursued. In this case, balance sheets are not only squeezed by the low profitability of assets, but also by the high value of liabilities. Although currently limited to only a few euro area countries, the liability effect will gain in importance on the eve of the introduction of the Solvency II regime.

Conclusion and lessons for policy

Let me conclude.

Monetary policy has to support the economic recovery while avoiding another build-up of excessive financial imbalances, and there should be no trade-off between these two objectives.

The monetary policy stance of the ECB will remain accommodative for as long as needed, and we will look with an open mind at standard and non-standard monetary policy tools if warranted by the outlook for price stability. In particular, we have to ensure that our effective monetary policy stance, as measured, among other indicators also by the term structure of money market rates, remains aligned with the Governing Council's assessment, and with the outlook for price stability.

The financial system should however be able to operate under a different constellation of yields. The current period of low interest rate should be used to prepare for it. A number of actions are needed, that cut across policy domains and in many cases will take time to bear results. They should be high on the policy agenda.

Let me highlight three of them, for which monetary policy cannot substitute.

First, bank capital and liquidity buffers should be sufficient to withstand a normalisation of yields in all market segments. In Europe, this can be achieved within the framework of the banking union. Before the start of the single supervisory mechanism, the ECB and national supervisory agencies will conduct a balance sheet assessment that provides a health check of euro area banks, with adequate peer review and drawing as necessary on third-party expertise. A comprehensive stress testing exercise will then be launched in cooperation with the European Banking Authority that covers a wide range of scenarios. Prior to these exercises, a credible backstop facility needs to be in place that can address potential capital shortfalls in banks' balance sheets.

Second, regulatory measures aimed at curtailing excessive bank leverage, mitigating duration risk and avoiding excessive maturity transformation are needed to complement capital adequacy rules. Both the leverage ratio and the net stable funding ratio (NSFR) of Basel III are still under review, but the leverage ratio will be disclosed from 2015 and the Basel Committee on Banking Supervision remains committed to introducing both ratios as minimum requirements in 2018, subject to a review period and proper calibration. I look forward to the outcome of the relevant work of the Committee.

Third, governments that are lagging in their effort to consolidate debt and deficits should keep in mind that the current levels of yields cannot be taken for granted and that yield normalisation could take place in a differentiated way across jurisdictions, renewing the fragmentation of euro area capital markets.

Thank you for your attention.

Chart 1: Assets of euro area investment funds

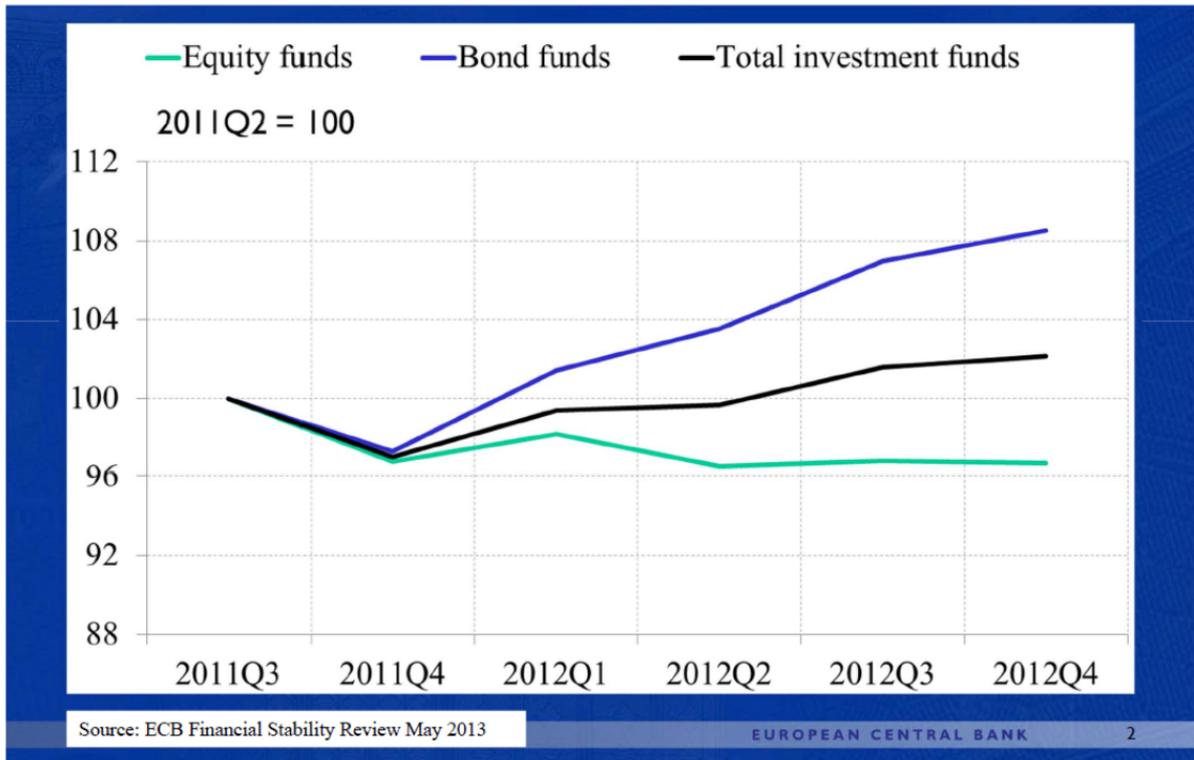


Chart 2: High yield bonds - yields and EDFs

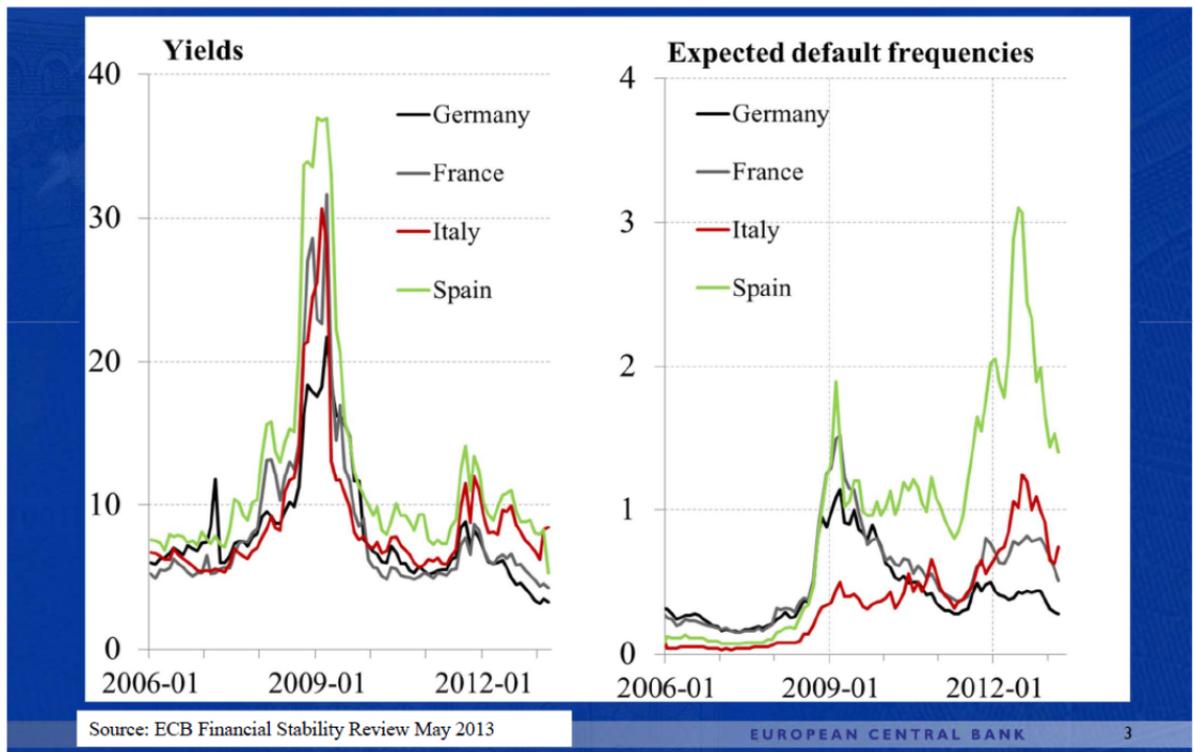


Chart 3: Sovereign bond yields Spreads to overnight index swap

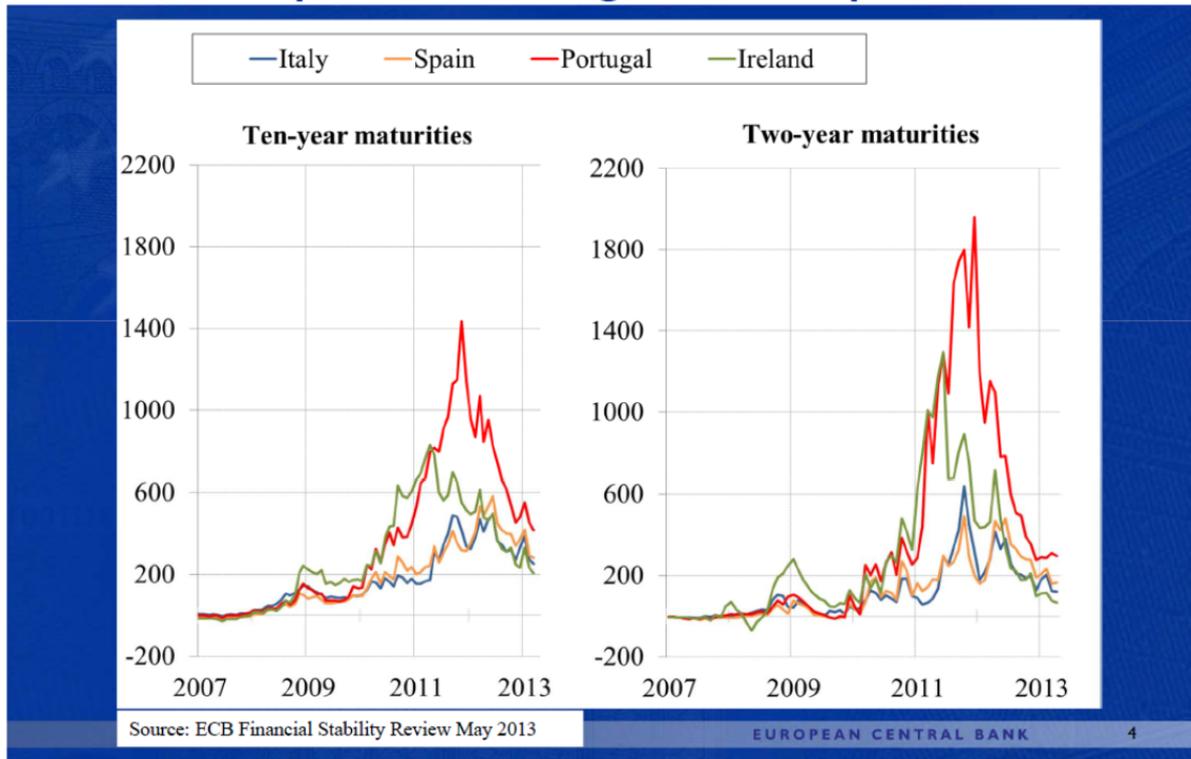


Chart 4: Solvency analysis - scenario design

Scenario	Description
Sovereign debt crisis	Renewed tensions in euro area sovereign debt due to low growth reform slack.
Funding risk	Restricted access to funding → deleveraging and restricted loan supply
Global risk aversion	Rise in risk aversion → lower equity prices and higher corporate bond spreads.

EUROPEAN CENTRAL BANK 5

Chart 5: Solvency analysis – results core Tier I capital ratio

