Vítor Constâncio: Financial regulation and the global recovery

Speech by Mr Vítor Constâncio, Vice-President of the European Central Bank, at the 24th Annual Hyman P. Minsky Conference "Is financial reregulation holding back finance for the global recovery?", Washington DC, 16 April 2015.

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Ladies and gentlemen,

Let me begin by thanking the Levy Institute and specially its President, Dimitri Papadimitriou, for inviting me to speak again at the Annual Conference honouring Hyman Minsky. This year's theme is quite topical and opens the door to a lively debate about the role of finance and regulation, both in the crisis period and in the moderate recovery underway. The recovery is however still to achieve the closing of negative output gaps on both sides of the Atlantic. It could then be expected that different views emerge about the regulatory reform efforts that are not yet concluded. Let me mention four.

According to one view, the crisis and its recessionary effects result from the excesses of finance and insufficient regulation. This implies that the main effort should be to tame finance in order to avoid future crises of the same type. In this vein, it could be expected that deep reforms of the international financial regulation would follow the acknowledged failure of the legal framework in place before the crisis. Two well-known specialists in the field, Barry Eichengreen and Eric Helleiner have very recently published two books[1] explaining why a transformative reform of the international system has indeed not occurred. Eichengreen explains it the following way: "…depression and financial collapse were avoided, if barely. This fostered the belief that the flaws of the prevailing system were less. It weakened the argument for radical action […]. Success thus became the mother of failure."

This sounds perhaps too harsh because good work has been done in adopting measures in the domains of capital, liquidity and resolution of banks in order to increase the resilience of the banking sector, within the financial system. Much less has been achieved beyond banks, notably in what regards OTC derivatives or non-bank entities, including activities of the so-called shadow banking.

However, as remarked by Helleiner, financial reform saw the emergence of a promising innovation in the form of macro-prudential policy: a policy that uses regulatory measures to deal with system-wide financial risk and the smoothing of the financial cycle, i.e. the fluctuations of credit financing, leverage and asset prices. This goal is essential. Nevertheless, some economists and policy makers continue to view this with scepticism. Monetary policy cannot simultaneously cope with two different objectives and the need for macro-prudential policy has become more acute with the realisation that advanced economies are very likely to face a prolonged period of low real and nominal growth. In such an environment, monetary policy has to remain accommodative, with low interest rates which foster search for yield and froth in asset markets, making the use of macro-prudential policy – to strengthen institutions, to smooth the financial cycle and to pre-empt asset bubbles – more necessary. Without an effective macro-prudential policy, advanced economies will not be able to avoid financial instability. This means that regulatory reform has to continue until appropriate instruments are put in place to deal with the non-bank financial sector, which is increasingly taking the role of credit intermediation previously performed by banks. The

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1 Eichengreen, B. (2015), "Hall of mirrors: The great depression, the great recession and the misuses of history", Oxford University Press USA; Helleiner, E. (2014), "The status quo crisis: Global financial governance after the 2008 meltdown" Oxford University Press USA.

concentration of reform measures on the banking sector has led to an expansion of shadow banking or the market-based financing sector. The investment fund industry doubled in size in the last five years in Europe. The financial system is expanding in new dimensions and new risks are emerging in terms of maturity transformation and leverage, especially synthetic leverage.

Another view on the regulatory reform is rooted on a sceptical perspective about the possibility of taming finance, accepting that booms and busts are simply unavoidable. After adopting some measures to increase the resilience of financial institutions in terms of capital and liquidity, the policy concern is about how macroeconomic policy should be used to mitigate the effects on the real economy stemming from endogenous financial crises. Monetary policy would "mop-up the mess" via liquidity provision after the bust and would help the recovery. For the more Keynesian-inclined minds, this should extend to the use of fiscal policy, especially in an environment of low interest rates near the zero lower bound.

It is true that monetary policy is nowadays considered the most powerful of the macro policies to stabilise the economy, but it is important to be aware of its limitations, especially near the zero lower bound. It is sometimes said that the world avoided the worst in 2008 only because central banks made bold use of their tools, notably by cutting rates and providing abundant liquidity. But the truth is that without the significant use of fiscal policy in 2008 and 2009, stimulating our economies and supporting the banking sector, the meltdown of the financial system would perhaps not have been avoided. At the meeting in Toronto in 2010, the G20 decided to reverse this policy and embarked in fiscal consolidation, to different degrees, leaving monetary policy alone to deal with macroeconomic stabilisation. In this context, the double dip suffered by the euro area economy after 2011 is easier to explain by fiscal policy short-term effects, than by the behaviour of monetary policy. In a European Commission (EC) working paper[2] using the EC Quest model, Jan Veld finds that the cumulative impact from simultaneous fiscal consolidation in 2011 to 2013 (taking into account spillover effects among seven euro area countries), ranged from 8.1 % in Germany or 9.7% in Spain to 18% in Greece, in terms of GDP losses in relation to baseline. In the same vein, Rannenberg, Schoderand and Strasky (2014)[3] find a cumulative negative effect of consolidation for the euro area in 2011–2013 of 14%, using a variant of the Quest model, and of 15% using a variant of the ECB's New Area-Wide Model (NAWM). Despite the fact that several European countries had to implement deficit reductions, these model-based calculations, with all their caveats, illustrate the importance of macroeconomic policy in determining the outcome of financial crises for the real economy.

Coming back to the conference theme, a third view about the regulatory reform, supports a positive answer to the question: "Is financial reregulation holding back finance for the global recovery?". It concludes that regulatory reform has gone too far and that by constraining finance it is hampering the recovery. However, it would first have to be proven that investment and growth are being significantly affected by financing supply constraints in order to validate this view.

This does not seem to be the case. Evidence points more in the direction of a general lack of demand and weak growth prospects to explain low investment and the modest recovery. The desperate search for growth and jobs by governments and policy makers, following seven years of gradual reforms, could give some credence to this view amidst feelings of reform fatigue. However, I argue that it would be wrong to listen to these opinions. The pace of the

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2 Veld, J. (2013), "Fiscal consolidations and spillovers in the euro area periphery and core", European Economy Economic Papers 506, October.

3 Rannenberg, A., C. Shoder and J. Strasky (2014), "The macroeconomic effects of the European Monetary's Union fiscal consolidation from 2011 to 2013: a quantitative assessment", mimeo.

recovery is not being affected by lack of finance. Finance would be abundant if there were investment projects with prospects of good return.

A fourth possible answer to the conference's question relates to a "liquidationist" view that amazingly surfaced again, in spite of the lessons from the 1930's. Its defenders claim that macroeconomic policies, aimed at mitigating the recessionary consequences of the crisis, do more harm than good in the medium-term. However, some accept that reforms to strengthen capital and liquidity buffers in credit institutions were necessary. According to this view, the crisis stemmed from excessive credit, debt and bad investments and thus, deleveraging and liquidation of bad capital must happen. Applying a very accommodative monetary policy to fight recession would risk inflation or, in the more modern guise of the doctrine, would lead to asset price bubbles and future crises. Consequently, monetary policy, in view of the alleged ineffectiveness of macro-prudential policy, should have become restrictive since 2011 or 2012. According to this reasoning, precedence should be given to the financial cycle over the stabilisation of the business cycle or, in more telling terms, precedence should be given to the risk of asset price bubbles over the risks of deflation and unemployment.

Acknowledging that my description of these four different opinions has hardly been neutral, in my view, a combination of the first and second approaches is the appropriate response to the question setting the conference theme. Nevertheless, I want to clearly state that the financial regulatory reform has to be completed and extended through further efforts to contain risks in the so called shadow banking sector and to strengthen macro-prudential policies. Believing that advanced economies face a protracted period of low growth that requires accommodative monetary policy, I see no alternative to regulatory macro-prudential instruments to mitigate financial instability and crises by smoothening the financial cycle. Naturally, we should be aware that taming finance is a challenging, if ever achievable task. As Minsky put it in the last sentence of his book "Stabilizing an unstable economy": "There is no possibility that we can ever set things right once and for all; instability, put to rest by a set of reforms will, after time, emerge in a new guise". Nevertheless, our countries have experienced long tranquil periods, without financial crises in the past, and we should now aim to return to that.

I already stated that re-regulating finance is, in my view, not an obstacle to the ongoing recovery. In last year's conference, I argued that "fixing finance" was not enough to ensure higher economic growth.[4] This does not mean that I do not consider finance vital for a healthy economy. A well-functioning financial system is essential to foster long-term economic growth. In this respect, last autumn was characterised by two milestones in Europe: the completion of the asset quality review and stress tests and the start of the Single Supervisory Mechanism, which went live on 4 November. Repairing banks' balance-sheets, together with the advancements in the design of the new resolution framework, the regulatory reforms improving capital and liquidity standards, as well as those concerning the shadow banking system (like securitisation and OTC reforms), constitute clear evidence of the commitment of the ECB and other EU policy makers to restore a well-functioning financial sector and create the conditions for an adequate flow of credit to the real economy.

These successes took place against the background of slow growth and subdued inflation. Despite recent encouraging signs, the recovery in Europe remains gradual and moderate. In the European context, the subject of this conference is therefore very pertinent. I already gave my general answer in favour of completing the regulatory reform. In what follows, I will further substantiate my arguments in favour of that position and will express my concern with the insufficient attention paid so far to the growing risks in the shadow banking sector.

[4] Constâncio V. (2014), "Growing out of the crisis: Is fixing finance enough?" Speech at the Annual Hyman P. Minsky Conference on the State of the US and World Economies Washington D.C., 10 April 2014.

A defence of regulatory reform

The beneficial impact of regulation on growth

Financial institutions support and foster economic growth by intermediating savings and allocating them to productive activities.[5] These functions are also their inherent sources of financial fragility. Regulation plays a key role in reducing the scope of financial fragility and limiting the costs of financial instability. Hence, a well-designed regulatory framework can actually lead to *faster* average economic growth over time.

There is vast academic literature that tries to empirically identify the impact of financial deepening (measured by the ratio of credit to GDP) on long-term economic growth.[6] The pre-crisis evidence largely pointed to a positive relationship between financial deepening and long-term economic growth. However, recent evidence has cast doubt on such a simple monotone relationship. Several studies have shown that at high level of financial development, the effect of finance on growth becomes negative or insignificant.[7] Cecchetti and Kharroubi (2012)[8] put the peak of the effect of credit on GDP growth per worker at a 100% ratio of private credit to GDP. In other words, letting the financial system grow too much may harm the economy's growth prospects. Correspondingly, regulating finance may stimulate rather than retard economic development.

Regulation, like any form of public intervention, is justified by the existence of market failures. Financial regulation is not an exception to this, even though it is somewhat "unique" given the special role that banks perform in the economy and the high (social) costs associated to the failure of a financial institution.

Financial regulation is meant to correct financial institutions' incentives toward risk, to induce them to internalise the costs and the externalities associated to their failures, thus reducing both the occurrence of crises and the associated costs.

Limiting the occurrence of crises has a positive effect on growth for several reasons. Crises affect growth asymmetrically: activity falls much more sharply during a crisis than it increases during credit booms.[9] Their negative effect on growth is very long-lasting.[10] An empirical investigation focusing on a large cross section of countries shows that output losses

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5 Diamond D., and Dybvig, P. H. (1983), "Bank runs, deposit insurance and liquidity", *Journal of Political Economy*, 91, pp. 401–419; Holmstrom, B., and Tirole, J. (1997), "Financial Intermediation, loanable funds and the real sector", *Quarterly Journal of Economics*, 112(3), pp. 663–691; Diamond D., (1984), "Financial intermediation and delegated monitoring", *Review of Economic Studies,* 51(3), pp. 393–414.

6 It started with Gurley, J. G and Shaw, E.S. (1955) "Financial aspects of economic development" *American Economic Review*, 45, pp. 515–538; Goldsmith, R W (1969) Financial Structure and development" Yale University Press; Shaw, E. (1973): "Financial deepening and economic development", Oxford University Press, New York, and McKinnon, R.I. (1973) "Money and capital in economic development", Brookings Institute. More recently, see King R., and R. Levine, (1993), "Finance and growth: Schumpeter might be right", *Quarterly Journal of Economics*, 108, pp. 717–737; Rajan, R. and L., Zingales, (1998), "Financial Dependence and growth", *American Economic Review*, 88, pp. 559–586; Fisman, R., and I., Love, (2007), "Financial Dependence and growth revisited", *Journal of European Economic Association*, 5, pp. 470–479.

7 Cecchetti S. G., and E. Kharroubi, (2012), "Reassessing the impact of finance on growth", BIS Working Paper 381 and Arcand J. L., Berkes E. and Panizza U., (2012) "Too Much Finance?", IMF Working Paper 12/161.

8 Cecchetti S. G., and E. Kharroubi, (2012), "Reassessing the impact of finance on growth", BIS Working Paper 381.

9 Popov A., (2013), "Credit constraints, equity market liberalization and growth rate asymmetry", *Journal of Development Economics*, 107, pp. 202–214; Beckaert G., and Popov A., (2015), "On the kink between the volatility and the skewness of growth", mimeo.

10 Reinhart C.M., and Rogoff K. S, (2009), "This time is different. Eight centuries of financial follies", Princeton University Press.

associated with financial crises are highly persistent and may range from 4% to 16%.[11] When the financial sector is in distress, entrepreneurs' access to credit is impaired with negative effects on the investment of existing firms as well on new business creation.[12] Recoveries from financial crises tend to be slow, 'creditless' and 'jobless'.[13] Even if regulation reduces economic growth in normal times, its impact on average economic growth can still be positive over time.

But there is a further argument as to why regulation may have a positive effect on growth: without regulation, the financial sector may become excessively large and displace other, more productive activities.

Recent growth in the financial system has not necessarily led to more credit availability for innovative businesses. In the last two decades, banks in developed economies have channelled an increasing amount of funds to households rather than firms. More and more savings have flowed into low productivity growth sectors like real estate rather than into growth enhancing activities such as technology.[14] In addition, the growth of the financial sector and the high remuneration it offers may have drawn talented individuals away from other productive sectors in the economy since financial and non-financial sectors compete for the same scarce supply of human capital.[15]

The need to limit its excessive growth applies not only to the financial system as a whole but also to individual institutions. I am referring here to the well-known too-big-to-fail problem. The recent crisis highlighted the risk of letting individual institutions grow excessively. Some of the recent regulatory changes (Total Loss Absorption Capacity, extra capital charges) can play a crucial role in solving such a problem, as I will discuss in detail below.

In short, the long-term relationship between finance and growth is complex and non-linear. But the theory and evidence suggests that effective regulation is likely to be beneficial in the long run.

What about the short-term impact of regulation? There are good theoretical reasons to believe that capital ratios' effect on growth should not be overly large. The famous Modigliani-Miller (MM) 'irrelevance' result[16] states that firms' (and banks) business decisions are independent of their capital structure. Of course, the MM insight is developed in a highly idealised setting. For example, the tax advantages of debt and the liquidity services performed by short-term bank liabilities do drive a wedge between the cost of debt and equity

[11] Cerra V., and Saxena S. C.,(2008), "Growth dynamics: the myth of economic recovery", *American Economic Review*, 98(1), pp. 439–457.

[12] Queralto A., (2015), "A model of slow recoveries from financial crises", mimeo.

[13] Abiad, A., Dell'Ariccia, G., and B., Li, (2011), "Creditless recoveries", IMF working paper 11/58; Bijsterbosch, M. and T. Dahlhaus, (2011), "Determinants of credit-less recoveries", ECB working paper 1358; Calvo, G., Coricelli, F. and P. Ottonello, (2013), "Jobless recoveries during financial crises: Is inflation on the way out?", NBER Working Paper 19683.

[14] Benigno G., and Fornaro L., (2014), "The financial resource curse", *The Scandinavian Journal of Economics*, 116 (1), pp. 58–86; Benigno G., Converse N., and Fornaro L., (2015), "Large capital flows, sectoral allocation and economic performance", *Journal of International Money and Finance*, forthcoming; Jorda, O., Schularick M., and Taylor A. M., (2015),"The great mortgaging, crises and business cycle", NBER Working Paper 20501.

[15] Philippon, T., (2010), "Financiers versus Engineers: Should the Financial Sector be Taxed or Subsidized?", *American Economic Journal: Macroeconomics*, 2(3), pp. 158–182.

[16] Modigliani, F. and Miller, M. (1958), The Cost of Capital, Corporation Finance and the Theory of Investment". *American Economic Review* 48 (3) pp. 261–297.

for banks. But the empirical papers that have estimated this wedge have found it to be small.[17]

Regulators have gone to considerable length to assess the impact of the various regulatory initiatives. The regular quantitative impact assessments undertaken by the Basel Committee show that most reporting banks have made significant progress to meet the new regulatory requirements for capital and liquidity.[18] The European Commission has published a comprehensive study that aims to estimate the joint economic impact of many regulatory initiatives.[19] This study comes to the conclusion that the expected costs of the reforms will be compensated by the wider economic and societal benefits. Moreover, specific assessments have been made with regard to the macroeconomic impact of stronger capital, liquidity requirements and OTC derivative reforms. In the European context, the European Banking Authority and the Commission have assessed the macroeconomic impact of the regulatory reform for insurance companies and broadened the assessment with regard to the Liquidity Coverage Ratio and currently with regard to the Net Stable Funding Ratio.[20] Overall, the evidence available from these studies demonstrates a positive or neutral impact on GDP growth.

Slow growth in Europe has many structural causes

So what is the cause of slow economic growth if not regulation? GDP growth comes from three main sources: greater productive efficiency (otherwise known as Total Factor Productivity or TFP), labour force increases and capital deepening (the increase in the amount of capital per worker). The contribution of all three factors has been declining over time and across countries as part of what has been termed ‘secular stagnation’.

The main reason why labour force growth has declined is population ageing. As the number of older retired people grows, the labour force is expected to decline at a rate of around 0.6% per annum by 2030.[21]

TFP growth has remained subdued at a rate of expansion of around 1% per annum. The determinants of TFP growth are not fully understood but among others, Robert Gordon[22] has argued that TFP growth occurs in waves, driven by major innovations. So far, despite its great promise, the ICT revolution of the 1990s has not led to a pronounced and sustained pick-up in productivity growth in any of the major industrialised countries.

Finally, the rate of capital deepening (the increase in the amount of capital per worker) has been weak in recent years reflecting low aggregate demand, financing constraints and weak business confidence. The contribution of this growth driver is expected to return to more normal levels as the economic recovery proceeds.

Compared to these structural reasons for the slowdown in growth, the impact of financial regulation has been modest, at best.

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17 Hanson, S. Kashyap, A. and Stein, J. (2011), ‘A Macroprudential Approach to Financial Regulation’, *Journal of Economic Perspectives* 25(1), pp. 5–28, Miles, D. Marcheggiano, G. and Yang, J. (2013), ‘Optimal Bank Capital’, *Economic Journal*, vol. 123(567), pp. 1–37.

18 See BIS/FSB (2010) Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements; BIS (2013), Macroeconomic impact assessment of OTC derivatives regulatory reforms.

19 European Commission, Economic review of the financial regulation agenda, May 2014.

20 See DG ECFIN (2007) Impact Assessment: Possible macroeconomic and financial effects of Solvency II and EBA (2014) Second report on impact assessment for liquidity measures under Article 509 (1) of the CRR.

21 “The Global Economy in 2030: Trends and Strategies for Europe”, European Strategy and Policy Analysis System and Centre for Policy Studies, April 2014.

22 Gordon, R. (2012), “Is US economic growth over? Faltering innovation confronts the six headwinds”, NBER Working Paper 18315.

Another related consequence of secular stagnation may be that the natural real interest rate (the real interest rate consistent with full employment and stable inflation) has fallen. Population ageing has shifted the balance between older households who are likely to save and younger households who are likely to borrow. As a result, real interest rates have declined substantially in the last two decades.[23] Nominal interest rates have also fallen in line with the real, leaving the 'normal' central bank policy rate much closer to the zero bound, thus increasing the likelihood of hitting it during deep recessions.

Without getting into a discussion about the merits and risks of unconventional monetary policy, it is probably fair to say that the zero lower bound on nominal interest rates complicates the task of monetary policy in trying to stabilise large shocks. Financial crises are some of the largest peace-time negative shocks to hit market economies and our ability to use monetary policy in order to deal with them 'ex-post' would be impaired in a secular stagnation world.

This makes the role of regulation in avoiding financial crises more important than ever. When it comes to dealing with financial crises, prevention is always better than cure but especially so when 'mopping-up after the crash' is complicated by the inability to cut short-term interest rates sufficiently far below zero.[24]

What has been achieved and what is in the pipeline?

We have seen that, far from damaging growth, a strong regulatory framework is essential in ensuring strong long-term economic performance. Let me now briefly touch upon the key achievements of the efforts to reform the financial system.

We have increased capital requirements well above the levels in force before the financial crisis. This will make banks more resilient to shocks and reduce their incentives to take excessive risks. We have identified the most systemically important institutions and require them to have additional capital buffers reflecting the significant externalities their failure would impose on the financial system and the economy as a whole. The introduction of the two liquidity ratios will make banks more resilient against sudden liquidity and funding shocks.

These reforms were changes necessary to the regulatory framework but are, in my view, not yet sufficient for a stable financial system. In view of the current rhetoric of reform fatigue, it is important stress that we still need to finalise several important initiatives that are currently under way. They are all needed in order to effectively correct market failures and with the minimum of cost to the real economy. TLAC, the leverage ratio and the review of risk weights would help underpin the effectiveness of capital regulation in avoiding excessive risk-taking and protecting the real economy from the consequences of bank failure. The attempts to broaden non-bank funding sources in Europe via improved and safer securitisation practices, as well as capital markets union, should reduce the negative consequences of bank deleveraging now as well as in the future.

Total Loss Absorption Capacity Let me begin with the TLAC initiative targeting the most systemically important banks. Too-big-to-fail is a very important source of market failures and

[23] Krugman, P., September 2013, "Bubbles, Regulation and Secular Stagnation" in http://krugman.blogs.nytimes.com/2013/09/25/bubbles-regulation-and-secular-stagnation, followed by Summers, L., Speech at the IMF Economic Forum on 8 November 2013.

[24] A number of central banks in Europe have managed to cut certain interest rates below zero. The ECB's deposit facility rate is at –0.2% and the Swiss National Bank has cut its main policy rate to an unprecedented –0.75%. Nevertheless, there exists a limit on how low interest rates can go because at sufficiently negative yields, storing physical cash will become attractive to banks and households.

I consider TLAC as an important element in effectively tackling this distortion. Allow me to highlight three elements of the proposal.

First of all, the Financial Stability Board (FSB) is right in proposing a global Pillar 1 requirement with the possibility to apply additional Pillar 2 requirements. A pillar 1 requirement delivers a robust international standard for globally systemic important banks and ensures, at the same time, a global level playing field.

Second, I agree with a Total Loss Absorbency approach with the capital buffers on top. Having the buffers sit on top of TLAC ensures that they can function as intended, regardless of the TLAC calibration. Additionally, it allows for a very strict intervention mechanism for TLAC non-compliance as for the duration of the breach of the buffer requirement, the automatic distribution restrictions specified in Basel III would apply.

Third, I agree with benchmarking TLAC eligible liabilities against a non-risked weighted measure (the leverage ratio exposure) in addition to risk-weighted assets. Under the assumption that TLAC is appropriately calibrated, this ensures that for a failing bank, when risks have materialised and risk-weights do not matter anymore, the actual loss can be compensated and the bank successfully recapitalised.

Nevertheless, I acknowledge that industry has raised several important issues to the TLAC proposal, in particular relating to the size of the required TLAC market, the impact on bank funding costs, the calibration and the link with the leverage ratio. Let me assure you that we take these issues seriously. This is why the FSB is performing a thorough impact assessment in close collaboration with the ECB and other members of the Basel Committee (BCBS). This assessment includes a shortfall analysis, a market survey to obtain estimates on investor base and pricing/spread of eligible liabilities, a micro- and macro-economic impact analysis and a verification of historical losses and recapitalisation – to analyse the proposed calibration.

Having said this, all regulatory reform, and TLAC in particular, have an impact on the cost of doing business for banks. And insofar as the increase in funding costs is the result of the effective removal of the implicit state guarantee this is, in principle, welcome. The benefits of the removal of the implicit guarantee outweigh the individual increase in costs for society as a whole. Tax payers and their elected representatives have no appetite for another bail-out. TLAC will significantly reduce the externalities of a failure of systemically important institutions that are imposed on the real economy and will therefore have an overall positive effect on growth.

The Leverage Ratio

The finalisation of the Leverage Ratio (LR) framework should also be a key priority on the global regulatory reform agenda. Leverage was undoubtedly one of the root causes of the financial crisis. The 20 largest banks in Europe had built-up significant leverage before the financial crisis, as their ratios of Book Equity to Total Assets (a reasonable proxy for the new definition of the Basel Leverage Ratio) had fallen from 6% in the late 1990s to around 3% in 2008.[25]

Hence, a comprehensive and well-calibrated leverage ratio is an important tool for addressing such risks that might be circumvented or not captured by the risk-based framework. I therefore strongly support the migration of the LR to a Pillar 1 requirement, as foreseen by the Basel Committee. I also see a need to complement the micro-prudential minimum LR requirement by a macro-prudential LR framework. In particular, further work should be undertaken on the pros and cons of adding a buffer for systemically important

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[25] See ESRB ASC Report: https://www.esrb.europa.eu/pub/pdf/asc/Reports_ASC_4_1406.pdf.

banks to the LR framework. Large banks contribute most to excessive leverage with their greater costs of failure and their greater reliance on internal models.

Further work looking at the relationship between the LR and the risk-based framework should be undertaken. For example, policy makers could consider adding a time-varying buffer. Such a buffer could help maintain the relative role of the LR in the capital framework once the countercyclical buffer is activated in the risk-based framework.

There are some concerns about a negative impact of a binding LR requirement on lending to the real economy. Critics of the LR often argue that it would trigger significant additional capital requirements and, as a consequence, may make it more costly for banks to finance the real economy. However, I believe that these concerns are overstated for three reasons.

First, as already mentioned, there are many reasons to believe that the impact of the higher capital requirements on growth in normal times should not be overly large. In any case, the latest Basel QIS study shows that the large majority of banks already satisfy the currently envisaged 3% minimum requirement. Any additional impact would be modest. Second, even if the LR leads to some contraction in lending, it may still be good for long-run growth if it helps to avoid costly crises. Finally, there is a more subtle effect by which the LR may actually help improve lending to the real economy. Recent evidence on risk-weights for SME lending in Europe[26] shows that the average capital cost for this activity in the risk-based framework is higher than under the LR. This would imply that in a situation where the LR becomes the binding measure for a subset of banks, banks may potentially increase SME lending at the expense of other activities, which have a preferential treatment in the risk-based framework relative to the LR framework. I would encourage further work on this matter that would present evidence on the significance of this effect.

Risk weights

Let me now turn to another key lesson we learnt in the aftermath of the financial crisis. The BCBS has shown that significant differences exist in the way banks estimate PDs and LGDs[27] resulting in the reported capital ratios varying by as much as 2 percentage points for banks with similar exposures. We must address this variability of risks-weights, and bank's overreliance on internal models that produce them.

Variability of risk-weights may arise because of data scarcity and complexity of models, but may also be a consequence of banks gaming the risk-weights. Behn et al (2014)[28] provide an example of recent empirical work that clearly reveals this gaming behaviour within banks' use of internal models. By exploiting the staggered introduction of the model-based approach in Germany, Behn et al. show that (1) internal risk estimates employed for regulatory purposes systematically underpredict actual default rates by 0.5 to 1 percentage points; (2) both default rates and loss rates are higher for loans that were originated under the model-based approach, while corresponding risk-weights are significantly lower; and (3) interest rates are higher for loans originated under the model-based approach, suggesting that banks were aware of the higher risk associated with these loans and priced them accordingly. Fortunately, the BCBS has stepped up its efforts in this area. First, it has recently published a consultation paper on its new capital floor framework based on standardised approaches. These floors will limit the extent to which internal models can lower capital requirements relative to the standardised approach and therefore ensure that the level of capital across the banking system does not fall below a certain level. Second, the BCBS has recently

[26] See EBA, Third interim report on the consistency of risk-weighted assets, 2013.

[27] See Basel Committee, Regulatory consistency of risk-weighted assets in the banking book, July 2013.

[28] Behn, M., Haselmann, R. and V. Vig, (2014), "The limits of model-based regulation", SAFE Working Paper Series, No. 75.

established the high-level Task Force on Simplicity and Comparability mandated to undertake a strategic review of the capital framework in order to reduce reliance on models for some risks and portfolios.

I expect both strands of work not only to improve the resilience of financial institutions but also to have a positive impact on lending to the real economy. Empirical evidence on the behaviour of German banks during the crisis suggests that loans subject to internal model capital charges were reduced significantly more than loans under the standardised approach to capital regulation, supporting the view that internal models are relatively more pro-cyclical than the standardised approach.[29] The cited paper shows that, for the German banking system, loans subject to model-based, time-varying capital charges were reduced by 3.5 percent more than loans under the traditional approach to capital regulation, during the financial crisis. Hence, increasing the relative importance of the standardised approach should help to smooth the credit cycle, in particular by making deleveraging episodes less severe.

Securitisation

Another important strand of work, strongly pushed by the ECB in collaboration with the Bank of England, is the revitalisation of the securitisation market. When performed with proper regard to loan underwriting standards, securitisation can play a very important role in diversifying bank funding sources, freeing bank capital and allocating risk more efficiently within the EU financial system. This is particularly important in the current stage of bank balance sheet deleveraging when other funding sources must replace shrinking traditional banks.

For securitisation to work in stimulating lending to the real economy, we need it to be simple and transparent. This would reduce the post-crisis stigma associated with securitised products and would improve non-bank investors' confidence in securitisations leading to higher demand. In turn this would free-up bank capital and allow banks to expand their own lending to the real economy.

Capital Markets Union

Finally, let me briefly touch upon a very recent initiative in Europe also aimed at improving financing of the real economy by broadening access to non-bank funding sources.

This initiative follows the fashionable title of Capital Markets Union or CMU. Its objectives are very broad and the benefits may only materialise over the long-term. However, in a recently published Green Paper, the European Commission has highlighted a number of reforms which can improve enterprises' funding access also in the short-term.[30]

For example, lowering barriers to capital market access as well as the development of a European private placement market can make a difference in providing finance to the real economy. The shift in financing of the real economy from the banking system to markets and non-bank entities is already taking place. The role of CMU is to foster the effective and efficient allocation of financial resources at the European level while avoiding the vulnerabilities experienced during the recent episodes.

As I said before, it is important to finalise these initiatives to address all the lessons we learned from the financial crisis. The current – indeed difficult – environment is the result of the crisis and the pre-crisis regulation. In order to leave this transitory environment and move into a new and more resilient steady state for the good of the financial sector, we need to

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[29] Behn, M., Haselmann, R, and P. Wachtel, "Pro-cyclical capital regulation and lending", Deutsche Bundesbank Discussion Paper 32/2014.

[30] European Commission Green Paper, Building Capital Markets Union, 2015.

complete the regulatory reform. Ultimately, this will have a positive effect on the real economy and lead to more sustainable growth.

Missing elements: what about the rest of the system

We had to make the banking system safer and I believe that, subject to the successful implementation of the measures discussed in the previous section, we are close to achieving this goal. But does this make the financial system as a whole less crisis-prone and more conducive to sustainable economic growth? Have we eliminated the market failures that make financial crises so costly for the real economy?

So far, the regulatory reform has largely focused on the banking sector with the effect of pushing activities to less regulated and supervised parts of the financial system. Going forward, we need more information, and need to develop a monitoring framework and macro-prudential tools for the rest of the financial system. Non-banks can also exert costs on the wider financial system and can, just as easily as normal banks, become excessively risky and too-big-to-fail (just think AIG for example).

Our regulatory framework must evolve in two key aspects. First, we need to have in place permanent tools for the more systemic players. Second, we need a toolbox for the less significant financial firms who could jointly destabilise the financial system. This essentially mirrors the macro-prudential approach that we have followed for the banking sector.

Identifying systemic non-bank non-insurers

In this respect, the current work of the FSB on a methodology for identifying Systemic Non-Bank Non-Insurers, in my view, addresses the first aspect of the remaining challenges. In this regard, let me highlight the importance of developing a framework that captures a wide-set of entities with this methodology. This is necessary for two reasons.

First, it sends a signal to the industry that authorities stand ready to apply macro-prudential tools when systemic risks are identified. Second, we need to have a broad set of policy tools ready to address the risks stemming from financial firms at large. Focusing on a limited set of entities will not allow us to fully understand what instruments are needed in our toolbox.

Going beyond systemic financial firms, it is necessary to develop appropriate macro-prudential tools to address the systemic risk of the remaining non-bank financial system. This is in the spirit of what has been done for the banking sector, where a range of policy tools is now available to address risks to banks from developments in specific markets and activities.

The FSB's work on asset management goes in this direction and shows the road ahead. The build-up of leverage and the growing exposure to illiquid assets in the asset management sector are clearly relevant developments for macro-prudential supervisors. These need to be carefully monitored and assessed. However, macro-prudential policy cannot stop at this point. It is well-known that the liabilities of asset managers are subject to short-term redemption. Moreover, some asset managers hold a significant share of their assets in illiquid securities and use derivatives and short-term financing transactions to increase leverage and returns. The combination of these factors makes asset managers more prone to runs and asset fire-sales, which may spill-over to other parts of the financial system.

A comprehensive toolkit to target these risks is therefore needed. More specifically, additional liquidity requirements and minimum redemption and load fees[31] are potential tools that should be part of the macro-prudential toolbox.

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[31] Fecht, F. and M. Wedow (2014), " The dark and the bright side of liquidity risks: Evidence from the open-ended real estate funds in Germany" *Journal of Financial Intermediation,* 23, pp. 376–399.

Haircuts for Secured Financial Transactions (SFT) and margin requirements for OTC derivatives

Haircuts for securities financing transactions are a further tool that could prove to be effective. With countercyclical haircuts, as opposed to a regime with flat minimum requirements, the effects on volatility and leverage in financial markets may turn out to be stronger.[32] Authorities should therefore consider using haircuts as a macro-prudential tool, e.g. by raising the numerical haircut floors and varying them over time in a countercyclical manner. Macro-prudential haircuts for SFTs could be complemented by similar tools that allow authorities to set countercyclical add-ons to margin requirements applied by CCPs, as well as for OTC derivatives. I would encourage further work to understand the effects of these tools and how to apply them in practice.

Concluding remarks

To kick-start growth in Europe is one of the most important challenges at present. I believe that the enhanced regulatory framework in place since the crisis can play a positive role in achieving this goal. We want a healthy and competitive financial system that supports sustainable long-term economic development rather than a return to deregulation and boom-bust cycles.

As I have discussed, we still have to finish various initiatives, some of which are well under way. I expect these initiatives to help foster an environment of stable and healthy real economy.

Challenges remain, of course. In view of the global problem posed by ageing populations, growth may not necessarily pick-up without further structural reforms. Low interest rates brought about by secular stagnation further complicate the tasks of both monetary policy and financial stability. A strong regulatory framework is essential in dealing with these challenges and avoiding future financial crises. However, an effective regulatory framework requires continued vigilance. We are currently experiencing a significant shift away from bank intermediated finance and this process will continue in the future. This requires a broadened toolkit, the ability to take decisive and intrusive macro-prudential policy actions as well as a framework that is capable of expanding, in order to encompass all relevant systemic institutions and activities. This becomes even more critical when monetary policy needs to be accommodative, as I expect will be the case for the foreseeable future in the euro area.

Thank you for your attention.

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32 Brumm, J., M. Grill, F. Kubler and K. Schmedders, (2015) "Margin Regulation and Volatility", *Journal of Monetary Economics,* forthcoming.