Vítor Constâncio: Growing out of the crisis – is fixing finance enough

Speech by Mr Vítor Constâncio, Vice-President of the European Central Bank, at the Annual Hyman P. Minsky Conference on the State of the US and World Economies, Washington DC, 10 April 2014.

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Introduction

In the wake of the financial crisis which started in 2008 and two years later evolved into a sovereign debt crisis, there is little evidence that the European economy will soon be returning to robust growth.

Risks for growth remain tilted to the downside. Many European countries are facing low growth prospects and are plagued by record high unemployment, especially among the young, pointing to a considerable slack in the labour market, lack of demand and subdued inflationary pressures, which in turn complicate the deleveraging process of sovereigns and households.

There is now a real but mild recovery going on, and there are, of course, a number of narratives about what can and should be done to restore growth on the European continent. Foremost among these is the idea that the economic recovery is hindered by weaknesses in bank balance sheets, and that if the weak European banks were to be fixed, growth would inevitably return.

Naturally, policy-makers have been aware of the negative effect that weak bank balance sheets and deleveraging have had by restricting the normal flow of credit to the economy. The ECB has gone to great lengths to support the bank lending channel, and we are now conducting an asset quality review coupled with stress tests to ensure that banks complete the process of repairing their balance sheets. Furthermore, the banking union, consisting of genuine supervision and resolution at the European level, will be the most far-reaching change introduced since the inception of the euro. European countries participating in this project can rest assured that systemic risks will be better addressed in the future, enhancing financial stability and boosting the credibility of banks.

Nevertheless, I would like to sound a note of caution and pose two questions about the benefits of restoring a well-functioning banking sector in Europe, and its contribution to growth:

- First, how can we take advantage, in terms of growth, of a dynamic and sophisticated financial industry without running into the risks it tends to create?
- Second, is restoring a well-functioning financial system sufficient for robust long-term growth?

The first question is important because even though financial intermediation undoubtedly contributes to economic growth, the crisis has reminded us that finance can breed instability too, and that the welfare costs of instability can be very high. It is important that we are aware of the trade-off between growth and stability when designing an institutional framework for the future in which finance is not excessive.

The second question is even more important, as it refers to the degree to which we can expect robust financial sector-driven growth in Europe once the banking union becomes operational and all the problems related to bank balance sheet weaknesses have been properly addressed. It is my contention that the European economy is gripped by problems that are more serious than bank deleveraging and also of greater consequence, because it is not immediately clear how to address them. I will argue that even when bank balance sheets have been fully repaired, structural problems related to the slowdown in emerging markets,

to weak domestic demand, and to structural phenomena such as the ageing population will continue to hamper European growth prospects.

Finance and growth: an overview

The empirical literature on finance and growth has accumulated a substantial body of evidence on the positive relationship between financial development and long-term economic growth over the past 20 years. From the academic literature, we have learned that countries with higher levels of financial development grow at a faster rate. Industries which have a greater need for external finance and face better growth opportunities grow faster in countries with a higher level of financial development.[1] This positive effect has a well-known microeconomic underpinning: financial deepening alleviates financing constraints at the firm level, allowing firms to grow by engaging in higher capital investment and R&D investment, among other things.[2] This large body of evidence strongly supports the view that by inducing a positive resource reallocation and by supporting the creative destruction-driven process of technological innovation, financial deepening has a transformational effect on the real economy.

At the same time, the global financial crisis of 2008–09 reminded us of the perils of finance. Academic research has suggested that financial development does not have a uniformly positive effect on economic growth, at all levels of financial intermediation. The evidence points to the fact that there is a threshold beyond which the positive effect of finance on growth starts petering out.[3] A BIS paper puts that threshold at 100% to 150% of GDP.[4] There are different reasons for this concept of a threshold. For example, an excessively large financial industry can lead to a migration of talented individuals away from productive sectors.[5] Alternatively, as the financial sector grows too large, financial intermediaries can start taking on excessive risk, and this behaviour can expose the economy to large macroeconomic contractions.[6]

In other words, while we know that we need a well-functioning financial sector, we have to pay attention to its evolution. At reasonable levels, finance is essential for growth, but once it grows to an excess, the damage it can do can easily wipe out its positive contribution. This is why we should resist the efforts of the industry to push back on regulatory reform with the argument that more finance is always good for growth and jobs. Fortunately, we will have now a leverage ratio that will be an important instrument to control possible excesses of the

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[1] King, R., and R. Levine, 1993, "Finance and growth: Schumpeter might be right", *Quarterly Journal of Economics* 108, 717–7137; Rajan, R. and L. Zingales, 1998, "Financial dependence and growth", *American Economic Review* 88, 559–586; Fisman, R., and I. Love, 2007, "Financial dependence and growth revisited", *Journal of the European Economic Association* 5, 470–479.

[2] Love, I, 2003, "Financial development and financing constraints: Evidence from the structural investment model", *Review of Financial Studies* 16, 765–791; Brown, J., Fazzari, S., and M. Petersen, 2009, "Financing innovation and growth: Cash flow, external equity, and the 1990s R&D boom", *Journal of Finance* 64, 151–185.

[3] Rioja, F., and N. Valev, 2004, "Does one size fit all? A re-examination of the finance and growth relationship", *Journal of Development Economics* 74, 429–447; Manganelli, S., and A. Popov, 2013, "Financial dependence, global growth opportunities, and growth revisited", *Economics Letters* 120, 123–125.

[4] Cecchetti, S. and E. Kharroubi, 2012, "Reassessing the impact of finance on growth", BIS Working Paper No 38.

[5] Tobin, J., 1984, "On the efficiency of the financial system", *Lloyds Bank Review* 153, 1–15; Philippon, T., 2010, "Financiers vs. engineers: Should the financial sector be taxed or subsidized", *American Economic Journal: Macroeconomics* 2, 158–182.

[6] Rajan, R., 2006, "Has finance made the world riskier?", *European Financial Management* 12, 499–533; Brunnermeier, M., and Y. Sannikov, 2014, "A macroeconomic model with a financial sector", *American Economic Review* 104, 379–421.

financial system, especially if its level will be set above the 3% of the initial proposal as it has been done recently in the US.

Finance and growth in the post-crisis world

During the financial crisis, financial intermediation in Europe was greatly impaired, and the recovery in credit supply has been slow at best. Credit standards for loans to enterprises were reported to have been tightened by a net percentage of around 40% of euro area banks, on average, in each quarter between the third quarter of 2007 and the second quarter of 2009. After a period of stabilisation, they started tightening rapidly again in the summer of 2011.[7] This process reflects the rapid deleveraging that banks have been engaged in. For example, just between May 2012 and November 2013, the size of the collective balance sheet of euro area banks dropped by €3.5 trillion. Households and firms in the euro area have been strongly affected by this contraction of credit. Over the same period, lending to non-financial corporations dropped by €361 billion, or 7.5%.

In the light of my discussion of the effect of finance and growth, this is not necessarily an unnatural development. The euro area financial sector was overextended before the crisis, with the balance sheets of the euro area's largest banks remaining even today among the largest in any region of the world. Contraction is the only way to bring the financial sector to a more "reasonable" size which is relatively more conducive to long-term economic growth. Of course, we do not fail to recognise that in a recession environment, bank deleveraging makes policy-makers' goal of encouraging lending to non-financial corporations, and especially to SMEs (which provide the bulk of employment in Europe), very problematic.

Many countries have in the past experienced boom-bust episodes brought about by some sort of financial market excess. The three major types of such excess are asset price booms, credit booms and real estate booms. The recessions that follow any of these episodes are deeper than standard business cycle contractions; they are even deeper when two of these excesses take place at the same time; and they are deepest when all three are present.[8] The global financial crisis was preceded by all three, and so the sluggish recovery of the European economy simply reinforces conventional wisdom.

The resulting state of affairs is a so-called "creditless" recovery in the euro area. Right now we are witnessing the co-existence of low levels of credit to the private sector and three consecutive quarters of positive GDP growth. Such creditless recoveries are far from unusual: one out of five recoveries is "creditless", and output growth during creditless recoveries tends to be lower than output growth during recoveries when the financial sector is not impaired. Such recoveries are particularly common after financial crises, and are often preceded by high levels of private sector indebtedness.[9] Nevertheless, it seems that declining bank credit to the private sector does not necessarily constitute a constraint on economic recovery once output has bottomed out. Moreover, credit growth and output growth tend to be uncorrelated in the aftermath of financial crises that were preceded by credit booms, suggesting that private sector deleveraging does not necessarily pose a threat to the post-crisis recovery. A recent BIS paper extends earlier evidence for emerging

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[7] See the ECB's bank lending survey.

[8] Claessens, S., Kose, A., and M. Terrones, 2008, "What happens during recessions, crunches, and busts?", *Economic Policy* 24, 653–700.

[9] 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 No 1358.

economies to advanced economies.[10] International evidence suggests that recoveries following financial crises are often not just creditless, but also jobless.[11]

In other words, following a financial crisis, it is not uncommon to have a recovery without finance. This is an important observation, and one that is at odds with the conventional wisdom that finance is indispensable for economic growth. Numerous voices these days urge European policy-makers to repair the balance sheets of banks so that they can lend again and in the process jump-start GDP growth. There will be no growth without finance, the narrative goes, and the fact that the United States has returned to robust economic growth faster than Europe is to a large degree put down to policy-makers acting quickly to repair the balance sheets of US banks.

This narrative, while intuitively compelling, is missing two crucial points. The first is that bank balance sheets in the euro area have to a large degree already been repaired. For instance, since the onset of the global financial crisis until last year, the top 20 European banks have increased their capital in absolute amounts net of shares buybacks by 60% more than the top 20 American banks. As a result, large parts of the sector now fully comply with the minimum capital requirements under Basel III well ahead of 2018. The remaining weakness will be addressed in the near future, and once the architecture of the banking union is operating after our comprehensive assessment of banks' situation, I expect that the European banking sector will be in a solid shape.

But even if we were to agree that finance is a *necessary* condition for growth (a conclusion that is called into question by the prevalence of creditless recoveries), it is far from clear that finance is a *sufficient* condition for jump-starting growth in Europe. I will argue that even a complete rehabilitation of the euro area's banking system (which is well on its way thanks to the various policy steps related to the banking union) will not guarantee a quick return to high growth and low unemployment. In fact, the euro area economy faces a number of issues which are potentially more serious than the damage inflicted by the financial crisis and the subsequent euro area crisis on the euro area banking sector. These issues are also far more difficult to address.

Short-run non-financial impediments to growth in Europe

Let me now talk briefly about what I believe are the chief obstacles to growth in the future. I want first to highlight three short-term impediments in Europe: the slowdown in emerging markets, the fall in domestic private investment, and weak domestic demand. I will then move on to longer-term considerations.

In my view, chief among these short-term impediments is the remarkable ***slowdown in emerging markets***. Take as an example the four BRIC countries (Brazil, Russia, India and China). While in 2007 these countries grew at an average rate of 9.8%, in 2013 they managed a rate of growth of only about 4%, on average, the lowest growth rate in more than a decade if we exclude the crisis in 2009. This was largely due to country-specific factors, such as excessive investment in China and infrastructure and regulatory bottlenecks in Brazil and India, to mention just a few. This process is necessarily accompanied by a reduction in demand for foreign goods, including euro area exports. This is bad news for the euro area, whose recovery so far has been largely driven by export strength. In addition to structural issues, there are a number of potential risk factors that have not materialised. For example, there is a risk of a real estate bubble in Brazil, where house prices have doubled in three years.

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[10] Takats, E., and C. Upper, 2013, "Credit and growth after financial crises", BIS Working Paper No 416.

[11] Calvo, G., Coricelli, F., and P. Ottonello, 2013, "Jobless recoveries during financial crises: Is inflation on the way out?", NBER Working Paper 19683.

A second important factor is ***the large drop in domestic private investment*** following the onset of the global financial crisis. Between 2007 and 2011, private investment in the then 27 countries of the EU fell by €354 billion, a 15% decline relative to its 2007 level. This compares with a mere €17 billion (or 0.2%) drop in private consumption. While it is not unusual for private investment to fall sharply during a contraction in real GDP, its contribution to the latest contraction in the EU is among the largest on record, and some countries have seen unprecedented declines (for instance, over the same period private investment declined by 27% in Spain, by 47% in Greece and by 64% in Ireland). Today, private investment is almost 20% below a 25-year trend that came to an end with the financial crisis.[12]

The third important factor is ***weakness in domestic demand***. This is often left out of the public discourse, but micro evidence suggests that it is a problem that cannot be underestimated. For example, SMEs interviewed for the ECB's "Survey on the access to finance of small and medium-sized enterprises in the euro area" have consistently cited "finding customers" as their most pressing concern. This suggests that euro area corporations face serious problems on the demand side which seem to be more pressing than the problems stemming from the bank lending channel. By way of comparison, while in the latest wave of the survey 24% of euro area SMEs cite demand concerns as the most limiting factor in their operations, only 16% cite "access to finance" as their most pressing concern.

Of course, this is not to say that financial sector weaknesses are not important, or that they are not recognised. The massive Comprehensive Assessment of banks' balance sheets is proof enough that we take the matter very seriously. My point is rather that while the ongoing deleveraging in the banking sector certainly plays an important role in the inadequate current levels of credit supply to the real economy, factors related to the demand side are even more important. The weak demand outlook combined with slack industrial capacity is the most important explanation for the drop in private investment during the crisis, and the most important limiting factor for future investment.

Long-term trends in growth: the global economy

Let me now turn to the other fundamental challenges for growth that lie ahead of us, for the world economy and, in particular, for the euro area. After almost a decade of relatively fast-paced economic growth and subdued inflationary pressures in the period preceding the crisis, the "Goldilocks era", we thought that the potential growth rate of the world economy could continue along the same trends. The global financial crisis has shaken our certainties about the sources of global growth, namely: (i) an endless growth of the world population, global trade and financial integration; (ii) the contribution of emerging markets as a separate engine of world growth; and finally (iii) the impact of technological progress, largely driven by the information technology and communication revolution.

Let's assess the solidity of these pillars of global growth, five years after the start of the global financial crisis.

According to a recent report that has been produced by the Centre for European Policy Studies (CEPS), the global population may peak by 2030. The negative impact that this has on future growth has to be weighed against the positive effects stemming from contained pressures on natural resources and energy. There is evidence that trade globalisation may have already reached a peak, and the potential for further financial globalisation is likely to stem mainly from developments in emerging markets.[13]

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[12] McKinsey and Co., 2012, "Investing in growth: Europe's next challenge".

[13] "The Global Economy in 2030: Trends and Strategies for Europe", European Strategy and Policy Analysis System and Centre for European Policy Studies, April 2014.

The ***global value of trade*** as a ratio of world GDP peaked at 64% in 2008, compared with an average of less than 40% in the 1980s. Over the intervening period, from the 1990s to 2007, the trade volume of goods and services grew, in real terms, at a remarkable pace of around 7% per year, on average, while it has posted a meagre rate of less than 3% in the past two years. Overall, according to IMF projections, world trade seems to have stabilised relative to world GDP around a plateau close to the level reached in 2008.

The financial crisis has been accompanied by a significant ***retrenchment in cross-border financial flows***, concentrated in particular in banking flows and, to a lesser extent, in portfolio and FDI flows.[14] Across advanced economies, a revival of the boom in financial integration that we experienced in the first decade of this century is unlikely.[15] Nevertheless, the scope for financial deepening and capital account liberalisation is still large across emerging markets. This represents an opportunity and, at the same time, a significant challenge for emerging markets, the second pillar of the growth of the world economy.

Let me then briefly discuss the role played by emerging markets. For the first time, at the end of last year, emerging markets and developing economies accounted for more than 50% of world GDP, when measured at purchasing power parity. From now on, it is legitimate to expect that the value added produced by emerging and developing economies every year will be larger than that produced by advanced economies. Moreover, emerging markets are expected to grow at a pace of more than 5% on an annual basis, more than twice the pace of advanced economies, so that their share in the world economy is bound to grow further.

Can emerging markets represent an independent source of world growth? It is questionable that this will be the case. Much of the catching-up potential that emerging markets had at the beginning of the 1990s, in terms of capital accumulation, innovation and employment growth, has already been realised. Over the medium to long term, the growth path of emerging markets may remain bumpy, in particular if emerging markets fail to manage the process of financial and capital account liberalisation or, as in the case of China, the needed rebalancing from investment to consumption as a main driver of domestic growth.

The third pillar of long-term growth is further technological progress. Recent work by one of the leading scholars of growth theory, Robert Gordon, offers a particularly downbeat assessment of the future of innovation. His main tenet is that innovation is not a continuous process, but a discrete one where waves of inventions are followed by their application and refinement to extract their full potential. Against this metric, though, the latest ICT revolution, having generated a rather short-lived increase in productivity, ranks well below previous industrial revolutions.[16]

Even if the rate of technological progress were to continue at the same pace of recent years, according to Gordon, the US economy in any case faces severe "headwinds" due to demography, education, inequality, globalisation, energy/environmental factors, and the overhang of consumer and government debt.

Gordon's pessimism seems to have been rather contagious. Late last year, first Paul Krugman and then Lawrence Summers wondered whether advanced economies were slipping into a state of "secular stagnation".[17] This could be depicted as a condition where the

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[14] Milesi-Ferretti G. and C. Tille, 2011, "The great retrenchment: international capital flows during the global financial crisis", Economic Policy 26, 285–342.

[15] See, for instance, R. Dobbs and S. Lund, "Is financial globalisation in retreat? And if so, does it matter?", 19 June 2013, http://www.voxeu.org/article/financial-globalisation-retreat-or-reset.

[16] Gordon, R., 2012, "Is U.S. economic growth over? Faltering innovation confronts the six headwinds", NBER Working Paper 18315.

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

natural and equilibrium interest rate, the rate equalising desired savings and investment at full employment, is negative and economies are forced to generate bubbles and an overhang of private or public debt to support aggregate demand. Research at the BIS shows that, accounting for the financial cycle – including in particular information on the growth of credit and property prices – potential output estimates are much lower before the crisis and display less volatility during the crisis. This can be reconciled with a view reflecting the unsustainable nature of the pre-crisis financial cycle, leading to a rethinking of the potential output measurement to include the effects of the financial cycle.[18]

The main concern is that this potential "secular stagnation" severely curtails the scope for using traditional policy levers, hampering the growth of advanced economies so that it remains below potential. On the one hand, the zero lower bound to nominal interest rates constrains monetary policy; on the other hand, after governments have absorbed the liabilities of the private sector following the bursting of the bubble and public debts have swollen, the room for expansionary fiscal policies is severely limited.

Long-term trends in growth: the euro area

Is the euro area at risk of ending up in secular stagnation? Looking ahead, what are then the growth prospects and challenges for the euro area?

On the back of the fall in capital accumulation and labour utilisation, euro area potential output growth declined from a level close to 2% in the years preceding the crisis to less than 1% on average between 2008 and 2012. Notably, total factor productivity, which gauges the efficiency of the use of the factors of production, even though subdued, contributed only marginally to this decline.[19] However, over the medium to long term, cyclical factors dragging down potential output are expected to fade, with investment recovering through the normalisation of the credit channel and net immigration, which also has an indirect impact through an increase in the fertility rate, providing renewed support to the employment contribution. According to the estimates of the European Commission's Ageing Working Group, euro area potential output growth is expected to rebound to around 1.5% until 2025, mainly on the back of a positive contribution from labour input, and then to even out to 1.3% over the long run.

For the euro area, the main structural challenge is posed by the ageing of the population and the ensuing decline in the share of the working age population. According to the CEPS report already mentioned, the European working age population will decline annually by 0.6% until 2030, meaning that the contribution of labour to potential output is projected to become negative. Potential output is expected to be supported by capital deepening, around half a percentage point, and, crucially, total factor productivity, assuming that it resumes growing at an annual pace of close to 1%, the rate prevailing at the beginning of the previous decade.

Unfortunately, since the start of the crisis, euro area total factor productivity growth has remained subdued, falling behind productivity growth in the United States, where it rebounded after reaching a trough in 2009. The crisis and the persistent low levels of capacity utilisation led to a destruction of human capital in those firms and sectors experiencing the most dramatic downsizing. In the euro area, the greater rigidity of labour and product market regulation as compared with the United States is likely to have hampered the needed reallocation of resources towards the most productive sectors. I will come back to this later; the point I want to make now is that there are downside risks to the long-term

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[18] Borio, C., P. Disyatat and M. Juselius, 2013, "Rethinking potential output: Embedding information about the financial cycle", BIS Working Papers 404.

[19] ECB Monthly Bulletin, November 2013 article: "Potential output, economic slack and the link to nominal developments since the start of the crisis".

projections for the growth of euro area total factor productivity, unless the euro area implements reforms that foster innovation, competitiveness and the reallocation of resources towards the most productive sectors.

What can policy do?

During the financial crisis and the ensuing sovereign debt crisis, policy was mostly focused on stabilisation. Restoring confidence in the banking system and repairing excessive indebtedness were the two most pressing concerns, and they were addressed forcefully. Today, the euro area's economies have largely been stabilised relative to three or five years ago.

On the basis of current trends, the euro area is facing a medium-term future of stable but low growth, with unemployment evolving to lower levels in 15 years as a result of a declining active population. Europe has to react swiftly if it wants to avoid a whole generation being wasted and sacrificed. Can structural reforms provide a solution in the long run? There is not much we can do about the ageing of the population because European politics is refusing immigration and going Malthusian. In this context, can policy address the dual problems of weak demand and slack industrial capacity?

Regarding demand, only a few countries have financial scope to stimulate consumption and, more importantly, to increase public investment in a context of very low interest rates. That is the answer that Bernanke and Blanchard suggest to dispel the risks of secular stagnation. The reality is nevertheless that Europe as a whole is still pursuing consolidation to achieve a reduction of debt ratios. In this context, the challenge is to counter the structural impediments driving potential growth down, above all the negative demographic trends, in a situation in which the scope and effectiveness of conventional macroeconomic policies is reduced. I will contend that it is of paramount importance to carry out those structural reforms that may increase the participation rate of the labour force and lead to a more efficient use of the factors of production. Reforms aimed at increasing investment and employment in the most productive sectors are particularly needed at the current juncture.

The preliminary findings of the Eurosystem's CompNet network, which has collected competitiveness indicators across a huge sample of about 700,000 firms from 11 EU countries, show a strong heterogeneity of firm labour productivity within and across countries. The distribution of firms' productivity, or cost structure, is not only very dispersed but also very asymmetric: there are few champions and a high proportion of low-performance firms. For policy-makers, this has two major implications. First, when talking about the competitiveness or productivity of a country, we must look much deeper than simple average indicators, such as unit labour costs or market shares. The same policy intervention may produce different results, depending on the initial distribution of firms' productivity, even if average productivity is the same. Second, the dispersion and skewness of firms' distribution have important implications for aggregate productivity growth. A recent strand of literature has shown that aggregate productivity in a country may be lagging behind partly because inputs are not allocated efficiently across firms or industries. This suggests that there is significant scope to increase productivity through targeted policies, such as product market reforms, that facilitate the reallocation of resources across sectors and firms. For instance, the work of the CompNet network shows that better regulated industries are able to channel resources more efficiently to the most productive firms. Moreover, it can be shown that the contribution of the reallocation of resources to productivity growth has been reduced during the crisis period in some countries, such as Italy and Spain. This evidence may be viewed as an indicator of structural rigidities which have become binding in the great recession.[20]

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[20] See CompNet Task Force, 2014, "Micro-based evidence of EU competitiveness: the CompNet database", ECB Working Paper No 1634, February.

Labour market reforms have also been advocated by many commentators. A widely held view during the 1990s was that labour market institutions were too rigid and that the common currency would make reform of these markets even more urgent. In the absence of country-specific monetary policy, and with national fiscal policy bound by rules, labour market flexibility needed to become an important channel of adjustment.[21]

This is added to the fact that labour mobility across national borders is traditionally low, with migration responding considerably more slowly to regional labour shocks than in the United States.[22] The crisis itself had a more pernicious and long-lasting effect on the euro area labour market through the increase in "structural unemployment" and "skills mismatch", with the unemployment rates of those staying out of work for longer and those with lower skills increasing more in relation to the average unemployment rate. Participation rates have been negatively influenced by "discouraged" worker effects.

Pressed against the wall, however, governments have recently acted to provide a legal framework for more growth. For example, Greece, Portugal and Spain have reformed their legislation to reduce the burden on firms and to encourage hiring and labour mobility. More can be done to reduce the corporate labour burden further and to ensure a level playing field that does not hinder young people and favours insiders. Encouraging a more flexible governance structure of labour market institutions accompanied by an appropriate social safety net and active labour policies can also contribute to a reallocation towards more productive sectors.[23]

While a well-functioning safety net reduces the short-run consequences of high unemployment, the fact that so many (in particular young and educated) workers are out of work today could have serious implications for long-term growth prospects in Europe. Persistently high unemployment diminishes the economy's ability to cope with more turbulent economic developments, such as the restructuring from manufacturing to the services industry, the adoption of new information technologies, and a rapidly changing international economy.[24] It is important to recall that Europe still has a lot of improvements to make in terms of increasing the segment of the population with a complete tertiary education, a measure on which we lag well behind the United States and which is so important to foster total factor productivity.

Policy-makers can tackle the negative long-term consequences by enacting policies aimed at reducing the negative impact of long-term unemployment on human capital. One such policy that has proved effective in the past is training. On-the-job training provides workers with general skills, but especially with the industry-specific skills that are indispensable in today's knowledge economies. Training has been shown to have a significant positive effect on firm-level value added growth, productivity and innovation. At the same time, it is costly; for example, overall expenditure on professional training in the United States amounts each year to almost one-third of overall expenditure on formal education. So even though the benefits to the firm of training are obvious, workers are less likely to receive it in an environment where access to external finance is constrained.[25] And the unemployed are obviously

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[21] Arpaia, A., and G. Mourre, 2009, "Institutions and performance in European labor markets: Taking a fresh look at evidence", European Economy – Economic Paper 391, Directorate General Economic and Monetary Affairs, European Commission.

[22] Decressin, J., and A. Fatas, 1995, "Regional labor market dynamics in Europe", *European Economic Review* 39, 1627–1655.

[23] Dustmann, C., Fitzenberger, B., Schonberg, U., and A. Spitz-Oener, 2014, "From sick man of Europe to economic superstar: Germany's resurgent economy", *Journal of Economic Perspectives* 28, 167–188.

[24] Ljungqvist, L., and T. Sargent, 1998, "The European unemployment dilemma", *Journal of Political Economy* 106, 514–550.

[25] Popov, A, 2014, "Credit constraints and investment in human capital: Training evidence from transition economies", *Journal of Financial Intermediation* 23, 76–100.

completely shut out of firm-provided on-the-job training. This is where policy can help, by subsidising various active labour market programmes aimed at equipping unemployed workers with professional skills. There is much evidence that such programmes are beneficial not only for the overall economy, as they increase its skill intensity, but also for the workers themselves, whose employment and earnings increase in the medium and long run. These benefits are greater when overall unemployment is high, as is the case in a number of euro area countries right now.[26]

Subsidising R&D is another policy that can be used to target an improvement in long-term productivity in a low-growth environment. Contrary to theoretical prediction, recent evidence suggests that R&D investment tends to be pro-cyclical. So, rather than picking up during a recession, when the opportunity cost of innovation is lower – as a number of theories have suggested in the past – R&D investment tends to fall dramatically when demand is low.[27] If the market allocates an inefficiently low fraction of innovation-promoting activities to recessions, then there is a clear role for policy in the form of countercyclical R&D subsidies.

Finally, there is evidence that policies aimed at increasing self-employment and small firm creation, such as the reduction of corporate tax rates and barriers to entry, can have a substantial positive effect on new business creation and firm dynamism.[28]

Conclusion

Let me conclude. I have argued that while finance is important for growth, and completing the repair of the euro area's financial system is an essential condition, it will not be sufficient to jump-start the economy. Europe has turned a corner after a dangerous period of turmoil. The sovereign debt crisis has been stabilised, redenomination tail risks have been overcome and financial markets have recovered their buoyancy. ECB decisions and the painful adjustment in stressed countries were mostly responsible for those achievements. We are now experiencing a period of financial stability, but we face the double risk of short-term high unemployment with low inflation that aggravates the burden of the debt overhang with a long-term risk of quite low potential growth. The aftermath of the financial crisis and the policies with which it was countered left behind a labour force weakened by hysteresis effects, and this, combined with low levels of investment, has reduced potential growth. In the long term it is also negatively affected by weak demographics. Policies to foster total factor productivity are crucial to improve growth prospects and to help absorb the high unemployment and reduce the debt overhang.

Monetary policy has been accommodative and has helped to stabilise the economy, but after a banking crisis that weakened economic agents' balance sheets, we all know that monetary policy loses some of its effectiveness. Nevertheless, monetary policy will continue to provide some stimulus, as has been confirmed several times by our forward guidance and by the recent statement by the ECB's Governing Council that it was unanimous in its "commitment to using also unconventional instruments within our mandate to cope effectively with risks of a too prolonged period of low inflation". The ECB will also do its best, in its role as the Single Supervisory Mechanism, to fix the bank-lending channel.

[26] Lechner, M., and C. Wunsch, 2009, "Are training programs more effective when unemployment is high?", *Journal of Labor Economics* 27, 653–692.

[27] Barlevy, G., 2007, "On the cyclicality of research and development", *American Economic Review* 97, 1131–1164.

[28] Klepper, L., Laeven, L., and R. Rajan, 2006, "Entry regulation as a barrier to entrepreneurship", *Journal of Financial Economics* 82, 591–621; Da Rin, M., Di Giacomo, M., and A., Sembenelli, 2010, "Corporate taxation and the size of new firms: Evidence from Europe", *Journal of the European Economic Association* 8, 606–616.

However, it is important to caution that monetary policy cannot do everything and that people seem to expect too much from central banks. Governments have to accept responsibility for measures that favour investment and increase demand, foster R&D and technological innovation, improve education levels and implement active labour market reforms and policies. All advanced economies, albeit to different degrees, seem to have been caught in a trap of relative low growth and low inflation. Many commentators seem just to be waiting for the Godot of a new wave of technical innovations that will save the day. Maybe it will come, but I am sure that we also need active policies and new economic thinking to deal with the income distribution problems that the coming technology will aggravate as well as the role of finance and demand in monetary economies where it is wrong to try to reduce macroeconomics to narrow real and long-term supply-side considerations, as our present predicament so impressively demonstrates.