# Mario Draghi: Structural Reforms, inflation and monetary policy

Introductory speech by Mr Mario Draghi, President of the European Central Bank, at the ECB Forum on Central Banking, Sintra, Portugal, 22 May 2015.

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*Accompanying charts can be found at the end of the speech.*


## Summary

*Structural and cyclical policies – including monetary policy – are heavily independent. Structural reforms increase both potential output and the resilience of the economy to shocks. This makes structural reforms relevant for any central bank, but especially in a monetary union.*

*For members of monetary union resilience is crucial to avoid that shocks lead to consistently higher unemployment, and over time, permanent economic divergence. It therefore has direct implications for price stability, and is no less relevant for the integrity of the euro area. This is why the ECB has frequently called for stronger common governance of structural reforms that would make resilience part of our common DNA.*

*Structural reforms are equally important for their effect on growth. Potential growth is today estimated to be below 1% in the euro area and is projected to remain well below pre-crisis growth rates. This would mean that a significant share of the economic losses in the crisis would become permanent, with structural unemployment staying above 10% and youth unemployment elevated. It would also make it harder to work through the debt overhang still present in some countries. Finally, low potential growth can have a direct impact on the tools available to monetary policy, as it increases the likelihood that the central bank runs into the lower bound and has to resort recurrently to unconventional policies to meet its mandate.*

*The euro area's weak long-term performance also provides an opportunity. Since many economies are distant from the frontier of best practice, the gains from structural reforms are easier to achieve and the potential magnitude of those gains is greater. There is a large untapped potential in the euro area for substantially higher output, employment and welfare. And the fact that monetary policy is today at the lower bound, and the recovery still fragile, is not, as some argue, a reason for reforms to be delayed.*

*This is because the short-term costs and benefits of reforms depend critically on how they are implemented. If structural reforms are credible, their positive effects can be felt quickly even in a weak demand environment. The same is true if the type of reforms is carefully chosen. And our accommodative monetary policy means that the benefits of reforms will materialise faster, creating the ideal conditions for them to succeed. It is the combination of these demand and supply policies that will deliver lasting stability and prosperity.*


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In every press conference since I became ECB President, I have ended the introductory statement with a call to accelerate structural reforms in Europe. The same message was also conveyed repeatedly by my predecessors, in three quarters of all press conferences since the introduction of the euro. The term "structural reforms" is actually mentioned in approximately one third of all speeches by various members of the ECB Executive Board. By comparison, it features in only about 2% of speeches by governors of the Federal Reserve.

Our strong focus on structural reforms is not because they have been ignored in recent years. On the contrary, a great deal has been achieved and we have praised progress where it has taken place, including here in Portugal. Rather, if we talk often about structural reforms it is because we know that our ability to bring about a lasting return of stability and prosperity does not rely only on cyclical policies – including monetary policy – but also on structural policies. The two are heavily interdependent.

So what I would like to do today in opening our annual discussions in Sintra is, first, to explain what we mean by structural reforms and why the central bank has a pressing and legitimate interest in their implementation. And second, to underline why being in the early phases of a cyclical recovery is not a reason to postpone structural reforms; it is in fact an opportunity to accelerate them.

## The importance of structural reform

Structural reforms are, in my view, best defined as policies that permanently and positively alter the supply-side of the economy. This means that they have two key effects.

First, they lift the path of potential output, either by raising the inputs to production – the supply and quality of labour and the amount of capital per worker – or by ensuring that those inputs are used more efficiently, i.e. by raising total factor productivity (TFP). And second, they make economies more resilient to economic shocks by facilitating price and wage flexibility and the swift reallocation of resources within and across sectors.

These two effects are complementary. An economy that rebounds faster after a shock is an economy that grows more over time, as it suffers from lower hysteresis effects. And the same structural reforms will often increase both short-term flexibility and long-term growth.

For example, reforms aimed at encouraging reallocation will not only support faster adjustment, but also higher productivity through raising allocative efficiency.[1] Reforms aimed at strengthening competition will not just encourage greater price flexibility, but also higher investment as young firms are able to enter new markets and expand more quickly.[2]

A comprehensive package of structural reforms will therefore tend to increase both *resilience* and *growth*. These are clearly issues in which any central bank has a keen interest. But this is especially true for the central bank of a monetary union – and even more so in the conditions we face today. Let me explain why.

### *Increasing resilience to shocks*

In terms of resilience, the ability of each economy in a monetary union to adjust quickly to shocks is essential for price stability and, over time, for the long-term viability of the union.

This is because, faced with a negative demand shock, a more flexible economy will tend to react by immediately lowering prices, but agents will then expect inflation to rise again as the shock fades, ensuring a firm anchoring of inflation expectations. By contrast, an inflexible economy is more likely to adjust through higher unemployment, which exerts a more prolonged downward pressure on inflation and is therefore more likely to weigh on inflation expectations. This in turn can lead to higher real interest rates and compound the effect of the shock.

Whereas in a single country setting the central bank could respond directly to such a contractionary effect, in a monetary union monetary policy cannot be tailored to developments in particular countries. There are also no large-scale fiscal transfers across countries in the euro area to play a compensating role in supporting demand. This implies that economies with insufficient flexibility risk more prolonged disinflation, consistently higher unemployment, and over time, permanent economic divergence.

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[1] Bartelsman, E., J. Haltiwanger, and S. Scarpetta (2013), "Cross-Country Differences in Productivity: The Role of Allocation and Selection." *American Economic Review*, 103(1): 305–34.

[2] Haltiwanger, J. (2012), "Job Creation and Firm Dynamics in the United States." *Innovation Policy and the Economy*, vol. 12. April 2012.

The way different euro area economies have reacted to the crisis bears this point out. Labour and product market rigidities contributed to a more painful adjustment process in the stressed economies, which was initially driven more by compression of demand than by a reduction of costs relative to other economies, albeit with differences across countries based on their initial degree of flexibility (Chart 1).[3] As a result, we now face a situation of significant divergence in unemployment across the euro area (Chart 2).

This has direct implications for price stability: slow adjustment has contributed to the protracted disinflation we have witnessed since 2011 and to making inflation expectations more fragile. But it is also directly relevant for the ECB through its effect on the integrity of the currency. Like any political union, the cohesion of the euro area depends on the fact that each country is permanently better off within the union than without. Convergence is therefore essential to bind the union together, while permanent divergence caused by structural heterogeneity has the opposite effect.

For this reason, that every national economy is sufficiently flexible should be accepted as a part of our common DNA. It has to be a permanent economic feature that comes with participation in the euro area, in the same way that the Copenhagen Criteria are permanent political features of membership of the EU.

And this is why, as I have said many times, I believe there is a strong case for governance of structural reforms to be exercised jointly at the euro area level: to help each country to achieve the necessary level of resilience; and to ensure that they maintain that resilience permanently.[4] Since structural reforms in any euro area country are a legitimate interest of the whole union, there needs to be stronger ownership of reforms not just at the national level, but at the European level as well.

Several countries have however made significant progress with structural reforms during the crisis, and we can already see how this has altered the relationship between inflation and unemployment. Various estimates of the euro area Phillips curve show that, while the slope has varied over time, it has steepened in recent years. In particular, there is evidence that inflation has become increasingly responsive to cyclical conditions in countries that have reformed their product and labour markets, such as Spain[5] and Italy[6].

### *Raising potential growth*

Besides this issue of resilience, as the central bank of the euro area we also have another, equally direct interest in structural reforms. This is related to their effect on growth – or more specifically, the challenges posed by a period of low potential growth.

International institutions currently estimate potential growth to be below 1% in the euro area, compared with above 2% in the US (Chart 3).[7] This is in part a result of the effects of the crisis on investment and, via hysteresis, structural unemployment. But it also reflects weak underlying trends in productivity growth and labour supply. Consequently, while some of the

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[3] Bartelsman, E., F. di Mauro and E. Dorrucci (2015),“Eurozone rebalancing: Are we on the right track for growth? Insights from the CompNet micro-based data.” www.voxeu.org.

[4] Draghi, M. “Stability and Prosperity in Monetary Union.” Speech at the University of Helsinki, 27 November 2014. See also keynote address at the Süddeutsche Zeitung Führungstreffen Wirtschaft, November 2013.

[5] Banco de España (2013), “Variation in the cyclical sensitivity of Spanish inflation: an initial approximation.” *Economic Bulletin*, July–August 2013.

[6] Riggi, M., and F. Venditti (2014), “Surprise! Euro area inflation has fallen.” *Banca d’Italia Occasional Papers* No. 237, September 2014.

[7] European Commission, Winter 2015 projections; IMF, April 2015 WEO; OECD, November 2014 Economic Outlook.

effects of the crisis on investment and employment are expected to unwind, potential growth is projected to remain well below pre-crisis growth rates.

This is problematic for at least three reasons.

First, it would mean that the output gap would close at a notably lower level of output, at which point monetary policy would have to return to a more neutral stance (Chart 4). A significant share of the economic losses suffered across countries would therefore become permanent. Structural unemployment would stay around 10%. Youth unemployment would also remain elevated, with devastating effects for individuals in terms of labour market "scarring".[8] And this would ultimately affect society as a whole as, given our demographics, realising the potential of the young and their capacity for innovation is essential for long-term sustainability.

Second, a situation of persistently low potential growth would make it even harder to work through the debt overhang that still exists in parts of the euro area. For firms that took on debt based on pre-crisis growth expectations, low potential growth acts as a major barrier to new investment, as any profits generated will likely be absorbed by servicing existing debt. And we do see signs that this effect has been operative in euro area: there is a clear negative correlation between corporate debt-to-GDP levels in different countries at the beginning of the crisis and the evolution of business investment since.

Third, low potential growth can have a direct impact on the tools available to monetary policy to deliver its mandate. The reason is that low potential growth implies a lower equilibrium real interest rate, which in turn means that, faced with a negative output gap, nominal policy rates need to go lower still to steer output back to potential. This materially increases the likelihood that central bank policy runs into the constraint set by the effective lower bound for interest rates, which is not far below zero. It therefore also increases the likelihood that we have to resort recurrently to unconventional policies to meet our mandate.

When in 2003 we clarified our objective to keep inflation below but close to 2%, we assumed an equilibrium real interest rate of 2% on average.[9] The probability of hitting the effective lower bound under this assumption was very low. Today, imperfect indicators of the equilibrium real rate, such as real forward rates at long horizons, suggest that it may have fallen to much lower levels. In this context, higher potential growth would facilitate the stabilisation task of monetary policy by allowing the equilibrium real rate to rise.

### *The untapped potential of the euro area*

For all these reasons, structural reforms that reverse the downward drift in potential growth are now vital for the euro area, which is why I believe, as the guardian of the currency, we have a legitimate interest in talking about them. But we should recognise that our weak long-term performance also provides an opportunity. Since many economies are distant from the frontier of best practice in at least some policy areas, the gains from structural reforms are easier to achieve and the potential magnitude of such gains is greater.

To give just one example, research by the OECD suggests that committed convergence towards best practice across labour and product markets, tax policy and pensions would

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[8] Arulampalam, W., P. Gregg, and M. Gregory (2001), "Unemployment Scarring." *The Economic Journal*, vol. 111, November 2001.

[9] Coenen, G. (2003), "Zero lower bound: is it a problem in the euro area?" *ECB Working Paper Series No. 269*, September 2003.

raise GDP per capita by about 11% after ten years for the average EU country. In the US, which starts from a more favourable position, the benefit would be under 5%.[10]

And it is not difficult to understand why the benefits of reform could be so high in the euro area. High levels of structural unemployment, compounded by high numbers of underemployed and discouraged workers, imply a latent potential in our economies for a major positive shock to labour supply (Chart 5). We also have scope for a large catching-up in terms of productivity growth. TFP has increased by only 1.5% between 2000 and 2014 in the euro area, far below the 10.9% increase in the US over the same period (Chart 6).

The type of policies that could release this upward shock to potential growth are not just those focused on price flexibility. They include, on the labour supply side, policies aimed at providing job search support for the long-term unemployed and requalification for the low skilled. And on the TFP side, policies that encourage the reallocation of resources – which could be powerful in the euro area given the wide and skewed distribution between the least and most productive firms[11] (Chart 7) – and policies that accelerate the diffusion of new technology, where the euro area on the whole lags some way behind the US (Chart 8).

There are many other examples one could give. The important point, however, is that in the euro area today structural reforms are not about creating minor efficiencies or marginal gains. They are about unleashing an untapped potential for substantially higher output, employment and welfare. And in the current environment, this would play a crucial role in ensuring that the ongoing cyclical recovery becomes a stronger, structural recovery.

## Structural reform in a fragile demand environment

This discussion on the importance of structural reforms leads in principle to only one conclusion: the earlier they take place, the better.

However, while most of us might agree with this statement in normal times, the fact that interest rates have reached the effective lower bound, coupled with the still fragile cyclical situation, makes the situation less straightforward. In particular, the question has been raised as to whether implementing structural reforms when the economy is still weak would be counterproductive, in the sense that it would make it harder to achieve our mandate by further reducing short-term demand.

One argument that has been put forward in this context is that, if reforms lead to a credible increase in aggregate supply, they will exert downward pressure on inflation expectations. And if nominal interest rates cannot fall because monetary policy is at the lower bound, real interest rates will then rise, creating contractionary short-term effects.[12]

A parallel argument in favour of postponing structural reforms relates to their short-term effects on employment. The reasoning is that reforms implemented at the trough of the cycle or too early in the recovery may increase job insecurity among workers, which may in turn result in a rise in precautionary savings and thereby reduce consumption. Factors such as a

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[10] Bouis, R., and R. Duval (2011), "Raising the Potential Growth after the Crisis: A Quantitative Assessment of the Potential Gains from Various Structural Reforms in the OECD Area and Beyond." *OECD Economics Department Working Papers* No. 835, January 2011.

[11] Lopez-Garcia, P., F. di Mauro, and the CompNet Task Force (2015), "Assessing European Competitiveness: The new CompNet micro-based database." *ECB Working Paper* No.1764.

[12] Eggertsson, G., A. Ferrero, and A. Raffo (2014), "Can Structural Reforms Help Europe?" *Journal of Monetary Economics*, 61, January 2014.

depressed housing market would also exacerbate these effects by hindering geographical mobility and the reallocation of resources.[13]

There is some empirical foundation to these concerns. For example, research suggests that reforms that increase employment flexibility, such as reducing employment protection, are more likely to depress demand during downturns.[14] I would however reject the conclusion that this means all structural reforms should be postponed.

The reason is that the short-term impact of structural reforms does not just depend on *when* they are implemented, but *how* – namely, the *credibility* of reforms, the *type* of reforms and their *interaction* with other policy measures. And if structural reforms are well-designed along these parameters, they can in fact have a largely neutral, if not positive impact on short-term demand – and even in adverse cyclical conditions.

### *Credibility of reforms*

First, if reforms are *credible* their positive effects on short-term demand, via confidence, can more than compensate for any negative effects on inflation via increased supply.

This is because, for firms, an upward shift in potential growth implies higher expected revenues and higher future profitability, which should in turn encourage them to bring forward investment into the present. And investment, remember, raises both supply tomorrow and demand today. It can therefore in no way be construed as being detrimental to our monetary policy objective.

A similar logic applies to households and their life-cycle income. Reforms that raise expectations of life-cycle income should immediately support current consumption. To give just one example of this effect, an extension of the retirement age should lift not only medium-term supply – by expanding the active population – but also short-term demand, by reducing the need for precautionary savings ahead of retirement.

But credibility is crucial in determining how quickly these positive effects materialise. If there is uncertainty about the timeline over which reforms will be implemented, or about the commitment of successive governments to maintaining them, it will take longer for firms and households to adjust their expectations and the benefits of reforms will be delayed.[15] Moreover, if reforms are not perceived to be sustainable under a wide variety of conditions Moreover, if reforms are not perceived to be sustainable under a wide variety of conditions – for example, if a pension reform is unrealistic over the longer-term – agents will anticipate a reversal in the future and refrain from adjusting their behaviour today.– for example, if a pension reform is unrealistic over the longer-term – agents will anticipate a reversal in the future and refrain from adjusting their behaviour today.

We have used our Euro Area and Global Economy (EAGLE)[16] model to analyse for a medium-sized euro area country the effect of credibility and timely implementation[17] – in this

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[13] Andrews, D., A. Caldera Sanchez, and A. Johansson (2011), "Housing Markets and Structural Policies in OECD Countries." *OECD Working Papers*, No. 836, January 2011.

[14] Gnocchi, S., A. Lagerborg, and E. Pappa (2014), "Do labor market institutions matter for business cycles?", *Journal of Economic Dynamics and Control*, vol. 51, February 2015.

[15] Giavazzi, F., and M. McMahon (2008), "Policy Uncertainty and Precautionary Savings." NBER Working Papers 13911, National Bureau of Economic Research.

[16] Gomes, S., P. Jacquinot, and M. Pisani (2010), "The EAGLE. A model for policy analysis of macroeconomic interdependence in the euro area." *ECB Working Paper Series* No. 1195, May 2010.

[17] Under full credibility, firms anticipate the full amount of the implied long-run increase in output, which leads to an immediate increase in asset prices and, hence, firms' net worth, triggering more investment already in the short term. Similarly, households anticipate an increase in real wages and, hence, life-cycle income which in turn supports current consumption. In the case of imperfect credibility, firms and households instead partially

case for a structural reform in the services sector – and we find the benefits of reforms are clearly brought forward, even in a situation where monetary policy is constrained by the zero lower bound (Chart 11). This provides a strong rationale to implement reforms in a way that is committed, credible and consistent.[18] And such an approach is in fact And such an approach is in fact *even more* important for reforms to yield short-term benefits in the special environment we face today.

Following seven years of crisis marked by several false dawns, firms and households have become more hesitant about taking on economic risk. This is mirrored in the fact that medium-term growth expectations among forecasters have not only shifted downwards in that period, but the distribution of possible outcomes has also widened (Chart 9). In this uncertain context credibility is key, as the strength of the reform signal has an even stronger determination over the magnitude of the short-term benefits.

### *Type of reforms*

Those short-term benefits can also be maximised, however, if the *type* of reforms is carefully chosen. How structural reforms affect the economy is of course complex, but the evidence suggests that the short run gains can be amplified if reforms are well designed, packaged and sequenced[19], with a focus on measures that minimise short-term costs.

For example, the experience of Germany during the crisis suggests that reforms aimed at adjustment through the intensive margin – that is, working hours and wages – are less likely to have negative short-term effects than reforms that operate through the extensive margin – i.e. dismissals.[20] This is supported by new micro level research from the Eurosystem which shows that, for a larger sample of countries, firms with flexibility at the plant-level have reduced employment less during the crisis than those bound by centralised wage bargaining agreements, partly because they have been more able to adjust wages to economic conditions.[21]

Moreover, if reforms are targeted specifically at frictions that hold back investment demand, their short-term effects should be largely positive, even at the bottom of the cycle. For instance, reforms directed at sectors with large pent-up demand, such as professional services and retail trade, could be expected to elicit a rapid investment response.[22] Indeed, our EAGLE simulations show that the short-term benefits from structural reform in the service sector arise mainly via a strong reaction of investment.

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adjust over time their knowledge of the favourable long-run effects. The analysis also captures the notion that credibility is endogenous and adversely affected by delaying reform implementation.

[18] For more on the importance of front-loading structural reforms see speech by Cœuré, B., on "Structural reforms: learning the right lessons from the crisis", at the Bank of Latvia Economic Conference 2014, Riga, 17 October 2014.

[19] Blanchard, O., and F. Giavazzi (2003), "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets." *Quarterly Journal of Economics*, Vol. 118, February 2001.

[20] See for example Burda, M., and J. Hunt (2011), "What Explains the German Labour Market Miracle in the Great Recession?" *NBER Working Papers* No. 17187, June 2011; and Brenke, K., U. Rinne, and F. Zimmermann (2013), "Short-Time Work: The German Answer to the Great Recession." *International Labour Review* Vol. 152, Issue 2, June 2011.

[21] Di Mauro, F., and M. Ronchi (2015), "Centralisation of wage bargaining and firms' adjustment to the great recession: A micro-based analysis." *CompNet Policy Brief*, No. 8. May 2015.

[22] See for example Forni, L., A. Gerali, and M. Pisani (2010) "Macreconomic Effects of Greater Competition in the Service Sector: the case of Italy." *Macroeconomic Dynamics*, 2010; or Faini, R., J. Haskel, G. Navaretti, C. Scarpa and C. Wey (2006), "Contrasting Europe's Decline: Do Product Market Reforms Help?" in Boeri, T., M. Castanheira, R. Faini, and V. Galasso (eds.), *Structural Reforms Without Prejudices*, Oxford University Press.

Similarly, reforms designed to reduce bottlenecks to new investment that come from onerous business conditions should also have mainly benefits in the short-term. This would include measures such as reducing the administrative burden on young firms, or speeding up insolvency proceedings that raise the opportunity cost of investment by tying up capital for years longer than initially assumed. For many euro area countries there are several "low hanging fruit" that can still be picked in this area (Chart 10).

The EAGLE simulations show that if reforms are also well coordinated across the euro area, the short-term benefits for a medium-sized country can be further maximised, especially in terms of limiting the downward effects on inflation (Chart 12). This reinforces what I have said about the need for stronger common governance of structural reforms in the euro area: if all countries reform together, then all countries benefit more. And these findings hold even under the assumption that monetary policy is constrained.

### *Interaction with other policy measures*

But it is also important to underline that this assumption is in fact inaccurate for the euro area today. Contrary to models in the literature, monetary policy is not constrained because we have reached the lower bound. Rather, as I laid out in a recent speech in Washington, I think we have demonstrated in recent months how effective monetary policy can be when it has to resort to unconventional measures.[23]

The difference this makes in terms of the short-term effects of reforms is clearly visible in our EAGLE simulations. With monetary policy able to respond to any negative inflation shocks consumer price inflation is barely affected (Chart 13).

What has been constrained in the euro area in recent years is fiscal policy, as some countries faced a loss or near loss of market access. But we should remember that, in these circumstances, structural reforms are in fact crucial to support fiscal stabilisation. Insofar as they raise expectations of future government revenue, they make public debt more sustainable, lessen the constraint of market discipline, and thereby reopen fiscal space.

In any event, demand is today being meaningfully buttressed in the short-term by monetary policy, and the stance of fiscal policy is broadly neutral. The arguments for postponing structural reform therefore become less convincing still. Any reforms undertaken now will in fact have an *improved interaction* with macroeconomic stabilisation policies. And I would go even further: I would argue that our current monetary stance in fact makes *accelerating* structural reforms desirable, because it brings forward their positive demand effects.

For example, the literature suggests that a well-functioning banking sector is key to reap the short-term benefits of reforms, as it ensures that funds flow quickly to the new investment opportunities they create.[24] In this context, the combination of our interest rate and credit easing policy, together with the recently completed Comprehensive Assessment of bank balance sheets, can be seen as creating the ideal conditions for reforms to succeed.

By bringing real interest rates well below the medium-term growth rate, this policy package is creating strong price incentives to invest. And by improving the transmission of those low real rates into actual borrowing conditions, it ensures that the financial sector can quickly reallocate finance to firms that capitalise on those incentives.

In this way, accommodative monetary policy supports structural reform by ensuring that the investment and employment benefits materialise faster. And structural reform, by reducing

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23 Draghi, M. "The ECB's recent monetary policy measures: Effectiveness and challenges." Camdessus Lecture at the International Monetary Fund, 14 May 2015.

24 Bouis, R., O. Causa, L. Demmou, R. Duval, and A. Zdzienicka (2012), "The Short-Term Effects of Structural Reforms: An Empirical Analysis." *OECD Working Papers*, no. 949.

uncertainty about the future macro- and microeconomic outlook, supports monetary policy by releasing the pent-up investment demand that accommodative policy creates.

It should therefore be clear that the argument that accommodative monetary policy constitutes an excuse for governments and parliaments to postpone their reform efforts is incorrect. In fact, I would submit it actually makes reforms less socially and politically costly, as it reduces the time it takes for reforms to produce positive effects. All this confirms my main contention that the current environment, *per se*, creates no reason for delay.

**Conclusion**

Let me conclude.

The economic outlook for the euro area is brighter today than it has been for seven long years. Monetary policy is working its way through the economy. Growth is picking up. And inflation expectations have recovered from their trough.

This is by no means the end of our challenges, and a cyclical recovery alone does not solve all of Europe’s problems. It does not eliminate the debt overhang that affects parts of the Union. It does not eliminate the high level of structural unemployment that haunts too many countries. And it does not eliminate the need for perfecting the institutional set-up of our monetary union.

But what the cyclical recovery does achieve is to provide near perfect conditions for governments to engage more systematically in the structural reforms that will anchor the return to growth. Monetary policy can steer the economy back to its potential. Structural reform can raise that potential. And it is the combination of these demand and supply policies that will deliver lasting stability and prosperity.

## Increasing resilience to shocks

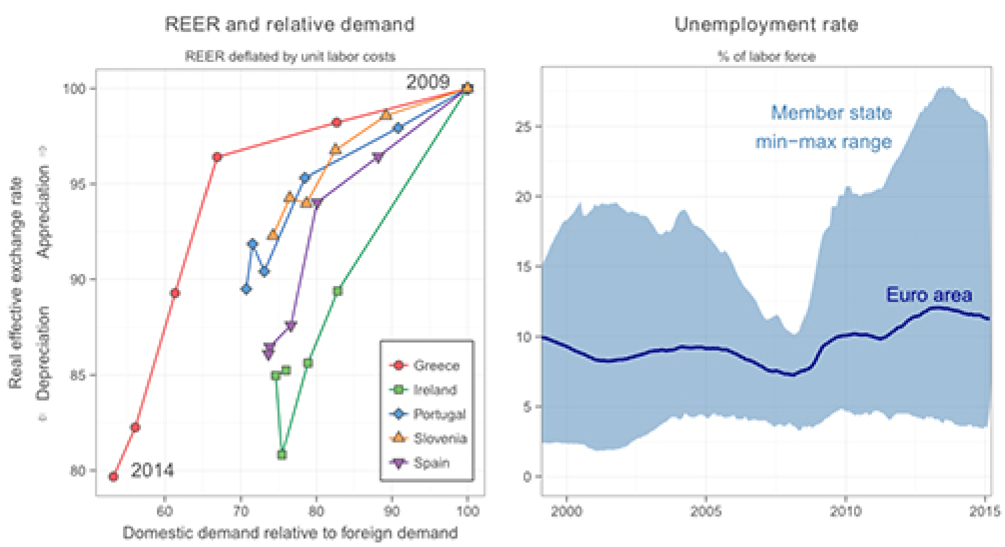


Chart 1 Chart 2

Sources: ECB and European Commission (left); Eurostat (right).

# Raising potential growth

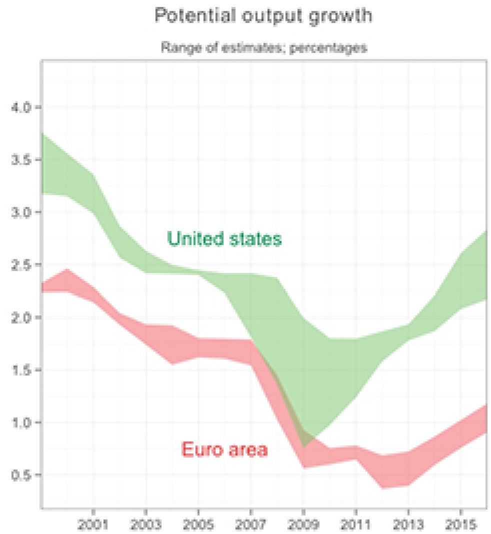


Chart 3

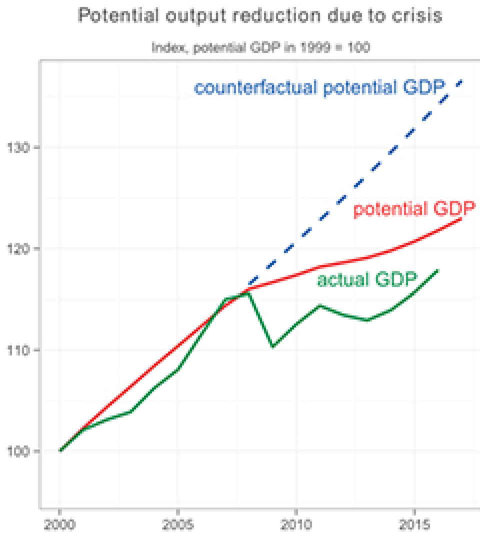


Chart 4

Sources: IMF, OECD, and EC (left); EC Spring 2015 forecast, Output Gap Working Group (right).

# The untapped potential of the euro area

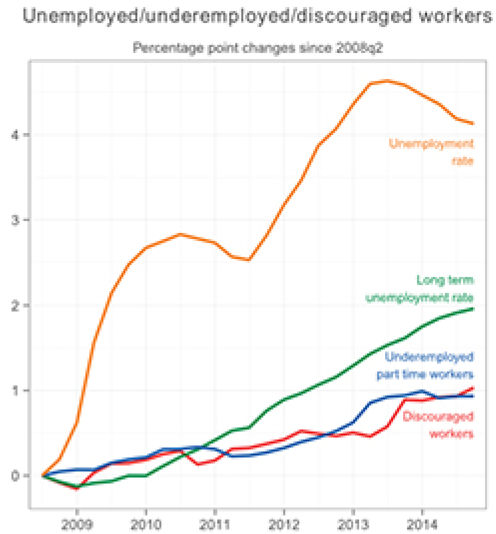


Chart 5

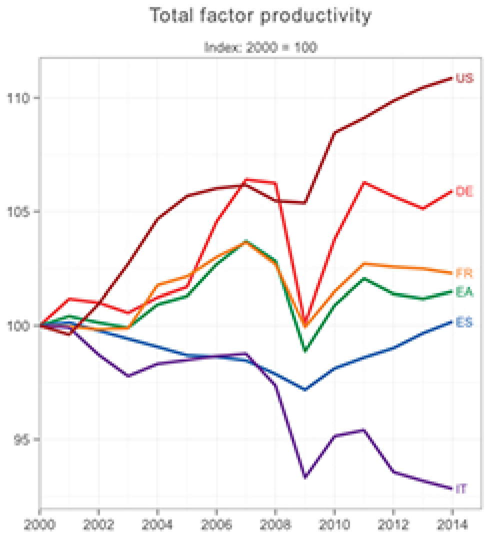


Chart 6

Sources: Labour Force Survey, ECB staff calculations (left); European Commission (right).

# The untapped potential of the euro area

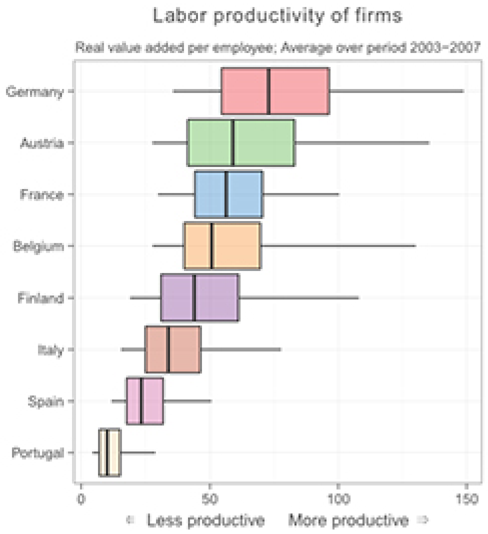


Chart 7

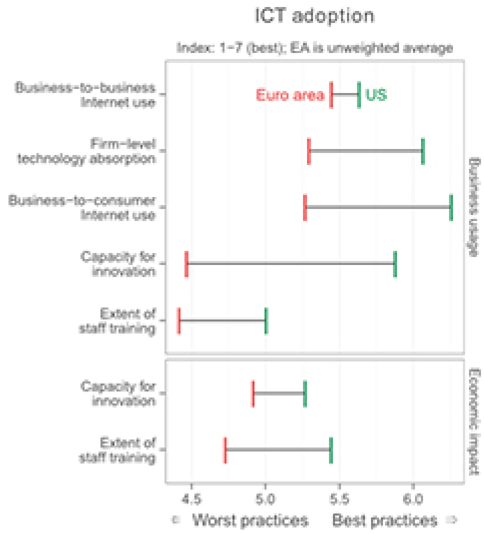


Chart 8

Sources: CompNet (left); World Economic Forum Networked Readiness Index 2015 (right).

# Credibility and type of reforms

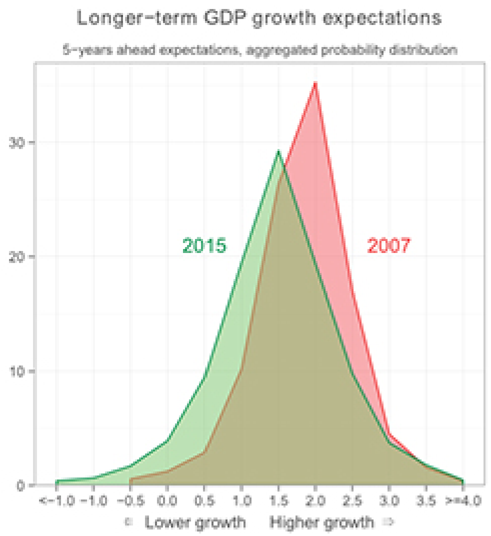


Chart 9

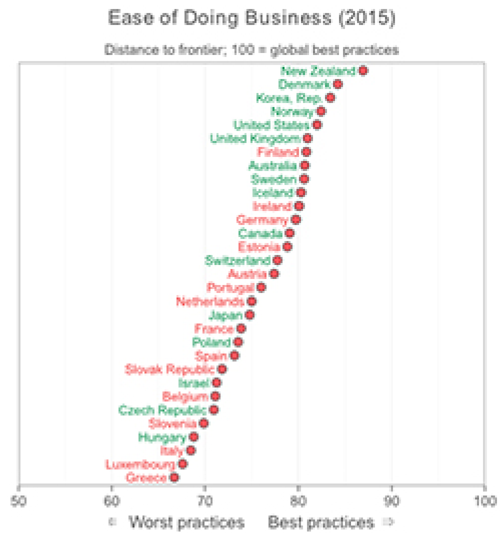


Chart 10

Sources: ECB Survey of Professional Forecasters (left); World Bank (right).

# Modelling the short-term effects


Chart 11 Chart 12 Chart 13

Sources: ECB staff calculations.