Yves Mersch: Policy needs, knowns and unknowns in the aftermath of the crisis

Keynote speech by Mr Yves Mersch, Member of the Executive Board of the European Central Bank, at UBS, Zurich, 4 February 2016.

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I would like to thank Valerie Jarvis for her assistance in preparing this speech.

Ladies and Gentlemen,

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Coming out of a crisis, one of the biggest challenges that policymakers face is uncertainty about the state of the economy. We can respond to this, of course, by looking at stylised indicators, such as inflation or employment. But for a forward-looking monetary policy, that's not sufficient. We need to know the strength of the inflation pressures building up over the medium-term – that is, whether the economy is over-heating or under-cooking relative to its underlying potential.

It is for that reason that central banks have traditionally used the concept of potential output – the level of output consistent with price stability – to gauge inflationary pressures.[1] If actual output is above potential output, there is a positive "output gap" and we can expect upward pressures on inflation. And if actual output is below potential, the opposite will be the case and disinflation will follow.

In general terms, I see nothing wrong with this way of thinking. The economy is vastly complex and we need simplifying frameworks for assessing "how it's doing" overall. In particular, it's self-evident that central bankers need some way of judging the degree of slack in the economy and its effect on prices. If there are either ample underused resources or binding capacity constraints, monetary policy may need to respond pre-emptively.

But the concept of the output gap becomes less useful, in my view, if it morphs from being a broad signpost for policy into a de facto intermediate target for policy. If policymakers start to believe that they can steer the output gap towards zero – effectively, to "fine-tune" policy in order to achieve that – they are liable to come unstuck. And our recent experience in the euro area, coupled with my assessment of how the economy is evolving, only reinforces that view. There are three main reasons why I say this.

The first is that estimating the output gap in real time is fraught with uncertainty, and the misleading signals this can give to policymakers have been painfully exposed by the crisis.

In 2007, real time estimates from a range of international institutions – the European Commission, the IMF, the OECD – envisaged the euro area output gap at that time to be in the range of minus 0.6% to minus –0.2%. According to the most recent estimates, however, we now think that the euro area output gap in 2007 was in the range of plus 2.6% to 3.3%.

This shows how wrong real-time estimates can be. Not only was the size of the output gap significantly mis-measured – with real-time estimates subsequently revised up by some 3–4 percentage points – but, more importantly, even the sign of the gap was wrong.

This example is not just an aberration: large errors are inherent in the concept of the output gap. And worse still, at the critical moments when policymakers need to understand what's

[1] See Potential Output from a euro area perspective (ECB Occasional Paper series No 156, November 2014).

happening in the economy – in the build-up to and aftermath of crises – measures of output gap are often at their least dependable.[2]

So that poor track record in the run up to the crisis is one reason why I'm sceptical of fine-tuning. But there's also a second one: such difficulties are only likely to increase given current trends in the economy and society – and not just in estimating potential output, but in measuring actual output too.[3]

We're living through an era where the nature of production and consumption is changing rapidly. And that has profound implications for our ability to understand the economy – or, at least, our ability to adequately measure what is actually being produced and how efficiently this is achieved.

Consider, for example, the difficulties that the digital economy creates for measuring labour input. As highlighted in a recent statistical study, the growth of the "sharing economy" is creating new opportunities for self-employment: people who work on a shift pattern in a retail store might spend their off-days driving an Uber taxi. This kind of "micro" activity might be less simple to measure than the services of traditional taxi firms, as it may be less likely to show up in earnings data.[4]

Measuring investment in a digital economy is equally tricky, as much of it concerns intangible capital. We have now started classifying R&D as investment, which is welcome, but it's only the most tangible part, i.e. technological innovation, which is typically recorded. Business model innovation is excluded. What's more, investment in organisational capital and human capital are not recorded in national accounts, even though this will become ever more important part of capital growth as more jobs become automated and skill premia rise.

Even more complex is how to measure the value of digital innovations in terms of, say, the time they save for consumers or for national output. How should we value the ability to conduct banking via a smart phone? Or get directions through Google maps?[5]

This isn't just a question of the so-called "consumer surplus", which is about welfare. It's a question of whether improvements in quality are being properly valued. And as more and more services are provided in this intangible way, the likelihood of significant mis-measurement of the full value of goods and services in our economies rises.

The flipside of digital services is that more activities that were previously part of the market economy can now be produced at home. A person wanting to arrange a holiday, for example, no longer needs to visit or phone a travel agent, but can research and book the whole trip herself online. The sales of hotels and flights still contribute to GDP. But the work formerly done by the travel agent, which has now effectively been outsourced to the consumer, disappears. This also raises questions for how we measure productive activity.

These examples highlight the difficulties of understanding how the economy is developing – let alone estimating its potential growth rate. To be sure, we should aim to rise to that challenge and update our statistics to capture such changes. But clearly, as policymakers, we also have to be humble about what can know. And in that context, imagining that we can reliably hold the output gap around zero is simply hubris.

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[2] See: Olivier Blanchard, Eugenio Cerutti and Lawrence Summers, Inflation and Activity – Two Explorations and their Monetary Policy Implications", *IMF Working Paper WP/15/230* (November 2015).

[3] See: Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (W. W. Norton & Company, 2014), especially Chapter 8.

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/481452/Bean_review__Interim_Report_web.pdf.

[5] See Erik Brynjolfsson and Joo Hee Oh, "The Attention Economy: Measuring the Value of Free Digital Services on the Internet", *Thirty Third International Conference on Information Systems* (Orlando: 2012).

However, the fine-tuning mindset is not only a problem because we don't know exactly the size of the output gap. It's also a problem because it sustains huge expectations about the ability of monetary policy to steer the economy wherever it wants. And such expectations, in my view, are becoming less and less appropriate given the environment we will likely face coming out of the crisis.[6]

This is the third reason for my scepticism.

We may well be entering a world where established macroeconomic relationships no longer hold with the regularity we once thought. We face an outlook of ageing populations, high savings, persisting weak investment, increasingly interlinked economies at the global level and, potentially, lower real equilibrium interest rates. In that environment, monetary policy transmission may become less predictable, and monetary policy itself might end up stuck at lower bound more often.[7]

Some go as far as pretending that unconventional policies might even end up becoming conventional.

All this wouldn't necessarily make monetary policy ineffective. But it would make the way in which it works less regular. And in that context, sustaining the belief that we can hold the economy on a string – that if we introduce X amount of stimulus it will affect economic growth by Y% and lead to Z% inflation – would likely backfire and damage our credibility. It would be preferable, in my view, for policymakers to admit the uncertainties they face in this new environment and be humble about what they can achieve within it.

The productivity challenge

Even if the economy is changing in ways that we do not yet fully grasp, there are certain facts that remain immutable. Most importantly, we know that what ultimately matters for long-term prosperity – and increases in standards of living – is productivity. That's the case in any economy with limited resources. But it's even more important in an economy with demographic challenges, where a shrinking workforce has to support a growing retired population. And that is, of course, the case in the euro area today.

It's well documented that productivity growth in the euro area has long been lacklustre in an international context. Since the early 1990s euro area labour productivity growth per person employed has been falling behind the US, and that has continued during the crisis. Since 2008, euro area productivity has averaged only 0.2% per year, while US it has increased by around 1.0% a year over the same period.[8]

In the US this is also seen as a low figure, and recently it's been debated there whether the productivity slowdown seen in the US over recent years isn't simply the outcome of the mis-measurement I highlighted earlier. This is based on the observation that the productivity slowdown has been associated with marked declines in employment, whereas typically the latter would tend to raise productivity.[9]

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6 Similar arguments are made by Marvin Goodfriend Mervyn King in their *Review of the Riksbank's Monetary Policy 2010–2015*, (Stockholm: 2015).

7 Claudio Borio, Magdalena Erdem, Andrew Filardo and Boris Hofmann, "The costs of deflations: a historical perspective," *BIS Quarterly Review, March 2015*, pp. 31–54.

8 See the box entitled "A tale of two crises: recent developments in euro area and US employment," in the December 2015 issue of the ECB *Economic Bulletin*, and, for a longer term analysis, the article entitled, "Productivity developments and monetary policy," in the January 2008 issue of the ECB *Monthly Bulletin*.

9 Lawrence Summers, "Reflections on the Productivity Slowdown," Keynote Address to the Conference: Making Sense of the Productivity Slowdown, Peterson Institute for International Economics (Washington, D.C.": 16 November, 2015): http://www.iie.com/publications/papers/transcript-20151116keynote.pdf.

There may well be some truth in this. After all, it's well-known that the national accounts often take a long time to fully count the effects of innovations in technology. For example, US national accounts did not reflect the output from automobiles for nearly 15 years after the Ford Model T was available.[10]

But even if we are mis-measuring productivity, we still need to raise it: the euro area is still lagging considerably behind others. And worse still, we only seem to be able to achieve productivity growth if it's traded-off against employment.

In recent years, much of the (meagre) productivity growth seen in the euro area has come through labour shedding rather than from strong value added growth. And if those displaced don't have the right skills to find another job, structural unemployment is likely to increase further, or they will be forced to consider low productivity sectors, and then aggregate productivity growth will stagnate once more. Neither scenario is desirable or sustainable.

So our aim must be to achieve high productivity growth at full employment. But how can that be achieved? Essentially, there are two channels towards higher productivity growth, and to combine productivity growth with full employment we need to employ both.

The first is within-firm productivity growth, which is about investing in or adopting new technology. There's quite some debate, led by scholars like Robert Gordon, as to whether the great waves of technological innovation are now behind us.[11]

But whether or not that's the case, I don't see it as a barrier to productivity growth in the euro area. In fact, we still have a long way to go to capitalise on the last wave of innovation – the ICT revolution – which many firms have not yet incorporated into their business models.

Indeed, a large part of the difference in productivity performance between the US and the euro area can be attributed to the fact that US firms have invested more in ICT capital, and crucially, in the human and organisational capital necessary to full reap the benefits of it.[12]

There's a lot of scope for European firms to catch-up in terms of improving management quality, to make the organisational changes required by new technologies, and in terms of improving ICT skills, so that workers can operate those technologies effectively.[13]

But looking further ahead, it's clear we need to reflect on what types of skills will be needed for the next phase of the ICT revolution: the replacement of routine service occupations by robotics.[14]

There will obviously have to be larger human capital investment in people who will design robots. But greater upskilling and professional polyvalence will also be needed in the people who use them: those who work in automated warehouses, for example, may have to have

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[10] http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0developm0000digital0dividends.pdf. Similarly, Diane Coyle notes that the UK's Statistical Abstract for 1871–85 – in retrospect, the height of the industrial revolution – devoted just 12 of the 200 pages on the economy's output and trade to manufacturing and transport "Commentary: Modernising Economic Statistics: Why It Matters," *National Institute Economic Review*, No. 234 (November 2015).

[11] Robert J. Gordon, *The Rise and Fall of American Growth* (Princeton UP; 2016). See also: Juan F. Jimeno, Frank Smets and Jonathan Yiangou, "Secular stagnation: A view from the Eurozone," *Secular Stagnation: Facts, Causes and Cures,* ed . Coen Teulings and Richard Baldwin (CEPR, 2014).

[12] Bart van Ark, Mary O'Mahony and Marcel P. Timmer, "The Productivity Gap between Europe and the United States: Trends and Causes", *The Journal of Economic Perspectives,* Vol. 22, No. 1 (Winter, 2008), pp. 25–44.

[13] Carol Corrado, Jonathan Haskel, Cecilia Jona-Lasinio and Massi miliano Iommi , Innovation and intangible investment in Europe, Japan, and the United States, Oxford Review of Economic Policy, Vol: 29 (Oxford, 2012), pp. 261–6.

[14] Carl Frey and Michael Osborne, The Future of Employment: How susceptible are jobs to computerisation? (Oxford, September 2013).

skills in logistics, (re-)programming, and routine or basic maintenance. Are our education systems ready for that challenge?

Moreover, what will happen to those who are displaced by new technologies?

Economic theory tells us that technological gains raise disposable income and hence create new demand somewhere in the economy. But as the literature on "hollowing out" has shown, technological advances may lead to a polarisation of jobs – at the expense of the middle-skilled.[15]

And this seems to be evident also in recent employment growth seen in the euro area, with the bulk of the recent employment growth seen concentrated in the lower productivity sectors.[16] So the risk is that the one effect offsets the other: technological advances in some sectors are neutralised by gains in employment in other, lower productivity ones. That might be damaging for social cohesion.

This is why the second channel is crucial: across-firm productivity growth.[17]

To combine productivity growth with full employment, it's essential that labour can flow to the most productive firms, rather than being bottled up in the least productive. That in turn requires that the most productive firms are able to grow and create new jobs. And it requires that workers have the incentives, skills and means to move to them. In an average mature economy, around 50% of productivity growth comes from such reallocation.

When people think about reallocation, they tend to think in terms of people moving across sectors. But typically, that only accounts for a small share of productivity growth.[18]

What's more important for mature economies is within-sector reallocation, which means shifting resources towards the most productive firms within each sector of the economy. That's encouraging because expecting, say, steel workers to become bankers is not realistic. But expecting them to move to better firms within their sector is.

For this to happen, however, the structural conditions have to be right. Product markets have to allow market entry, to challenge unproductive firms; they have to support firm growth, so that the most productive can reach their optimal size; and they have to facilitate quick bankruptcy, so that the weakest firms can exit. Similarly, labour markets have to set incentives for mobility; support retraining and upskilling where needed; and allow wages to match productivity at the firm level, creating proper market signals.

Clearly, for firms to prosper in this environment, they need to be agile. Increased agility would enable firms to switch production towards the higher quality, distinctive, more customised goods and services increasingly demanded by ever more sophisticated customers, which has long been the strategy of Europe's leading exporters.[19] And since such goods and services typically command a price premium in the market, that would in turn lift the value of output, raise national income and secure and expand employment.

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15 David Autor and David Dorn, The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market, American Economic Review, 2013, 103(5): 1553–1597.

16 See the article entitled, "What is behind the recent rebound in euro area employment?", ECB *Economic Bulletin*, No. 8 (December 2015).

17 Ulf Lewrickb, Lukas Mohlera and Rolf Weder, When firms and industries matter: understanding the sources of productivity growth, *BIS Working Papers* No 469 (October 2014).

18 Among several other papers, see e.g. Krizan, C.J., Foster, L. and Haltiwanger, J.C. (2006), "Market selection, Reallocation, and Restructuring in the U.S. Retail Trade Sector in the 1990s", The Review of Economics and Statistics, MIT Press, Vol. 88(4), pp. 748–758, November.

19 Valerie Jarvis and S.J. Prais, "The Quality of Manufactured Products in Britain and Germany," *International Review of Applied Economics,* Vol. 11:3 (1997), 421–438.

Indeed, even with the technological advances at our disposal, advanced economies such as the euro area cannot afford to try to out-compete the lower cost producers on price – not if we want to maintain the benefits of our welfare states and less precarious patterns of employment. Competing against lower cost producers would require either wages having to fall to the levels of the least-cost producers or some substitution of higher-cost labour with capital. Both effects would have adverse consequences for euro area workers.

This is not to say that cost containment is not a necessary condition for competitiveness. Rather it is saying that cost considerations should not be the only element on which we should aim to rebuild our economy in the aftermath of a severe crisis. All this raises many questions for policy makers: what kinds of investments do we need for future growth? What are the implications for workforce skills? How can we increase the degree of entrepreneurship to realise innovative activity?

At the same time, policymakers cannot lose sight of the social consequences of such changes. A world where jobs are being created and destroyed with ever greater speed, and where people are expected to move regularly between them, is a world of greater insecurity. So we need also to consider the readiness of our societies to cope with these changes, and ask what type of new social models we will need to adapt to them. And crucially, so as not to lose more time, we need to start today.

Conclusion

We are experiencing a period a transition.

Economically, we haven't recovered fully from the after-pains of the crisis.

Technologically, the jury is still out on whether the IT-driven transformation of work has ended or will continue, and what this means in terms of productivity. What is clear however is that we have to overhaul our traditional ways of measuring, assessing and reacting to productivity and welfare indicators.

Socially, uncertainty will weigh heavily on people's shoulders in the years to come amid these structural changes.

How should policymakers react? The fact that our established gauges have lost their assumed precision does not mean that we have become clueless. In spite of the elevated uncertainty, it is still possible to grasp the obvious.

Potential output may not the most reliable benchmark in the current environment. Moreover, perhaps it misses the broader structural changes, which are of paramount importance in the longer run pursuit of improvements in standards of living.

So it is crucial that policy makers pay heed to broad and thorough analyses, coupled with an understanding of the limitations to our understanding we face at this time. In this way, modest judgment and prudent action will provide the indispensable preconditions for policymakers to live up to their responsibilities.