Analysis

Weak productivity a drag on global economy

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Labour productivity growth has slowed in many of the advanced economies, though the precise reasons for this have yet to be pinpointed. Optimists believe that the causal factors are temporary or that the slowdown is due to measurement inaccuracies, whereas the pessimistic view is that the slowdown will be more permanent.



Slowdown in productivity growth in advanced economies

Labour productivity is measured as output per hour worked.[1] The weak trend in productivity is one of the key factors underlying the present sluggish growth in the global economy.

Chart 1 shows that annual labour productivity growth in developed economies converged close to 2 % in the 1970s. Nevertheless, productivity growth did accelerate for a while in the late 1990s and early 2000s as a consequence of the development and adoption of information and communication technologies (ICT). Labour productivity growth in the United States was exceptionally rapid during this period. This productivity leap has been specifically attributed to

developments in ICT.[2]

The peak in productivity growth had already begun to tail off before the financial crisis struck in 2008. Since the crisis, the rate of labour productivity growth in many of the advanced economies has plummeted to a record low. In the euro area, Japan and the United States the pace of growth has slowed to around 1% from its pre-crisis level of about 2% in each case. In the United Kingdom, the decline in productivity growth has been even more marked.

Chart 1.

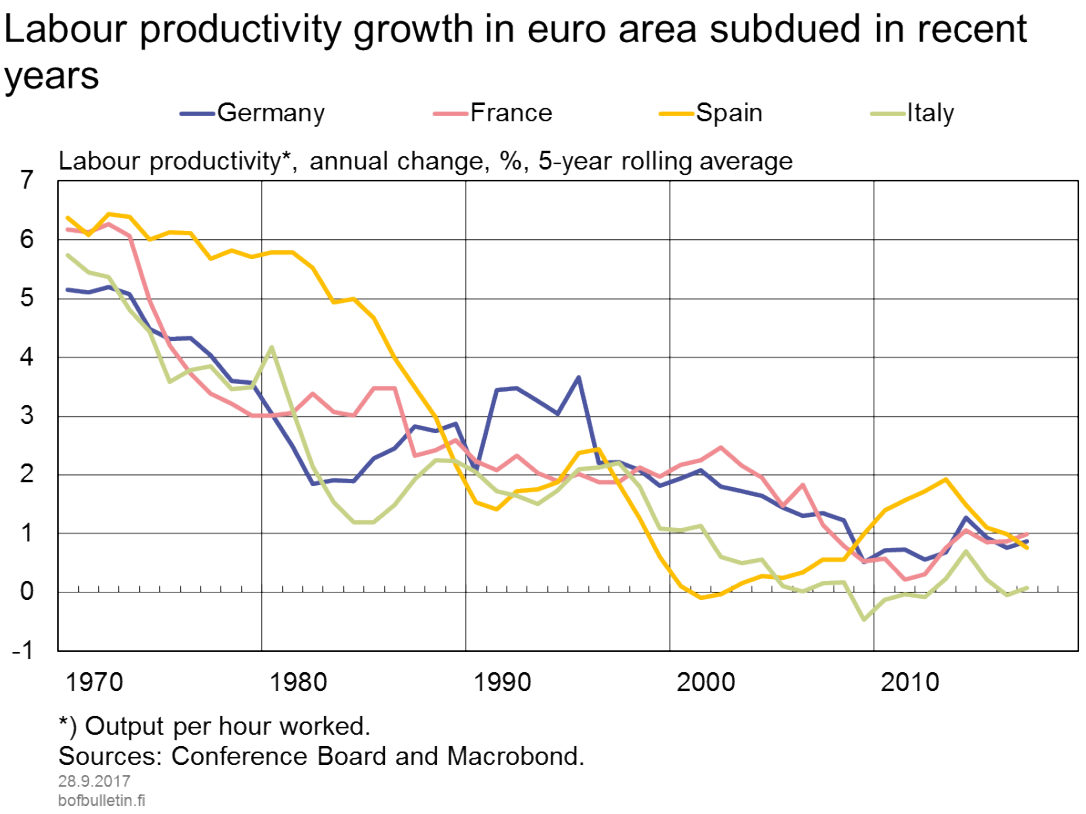


Chart 2 illustrates that labour productivity growth has a declining trend in each of the four largest euro area economies as well. It also shows that productivity growth in recent years has remained subdued at a level below that of the early 2000s. The trend in labour productivity nevertheless differs from country to country in the euro area. In France and Germany, as well as in many smaller economies, labour productivity growth has declined gradually, and there has only been a slight recovery from the lows reached during the financial crisis. By contrast, productivity growth in Italy was already slowing as the new Millennium began and has stayed close to zero since 2006. In Spain, labour productivity growth has picked up a little, as the deterioration in the employment rate during the financial crisis has become reflected in the productivity growth rate.

Chart 2.



Is the weak trend in productivity permanent or temporary?

Views concerning the reasons behind the slowdown in labour productivity growth can be divided roughly into the pessimistic and the optimistic. The former see the causes as being lasting, whereas the optimists consider them to be short-lived or attributable to measurement inaccuracies.

Some suggest that the reason is the increasing difficulty in coming up with new ideas and innovations for significantly boosting total factor productivity, and that this also requires an increasing amount of resources.[3] The steam engine, the combustion engine and ICT all brought substantial productivity gains, but today the challenges in developing new inventions that would lead to a similar productivity leap are greater. There are critics of this view, however, who assert that advances in technology have also brought more efficient tools for generating innovations.[4]

New efficiency benefits obtained from ICT in particular have probably diminished since the early 2000s. Up to that point, most industrial sectors had already adapted their activity so as to take more effective advantage of the opportunities offered by ICT.[5] Indeed, it has been shown that productivity growth in the United States has slowed dramatically in ICT-intensive sectors.[6] The productivity benefits gained with ICT may also have diminished somewhat in other sectors, too,

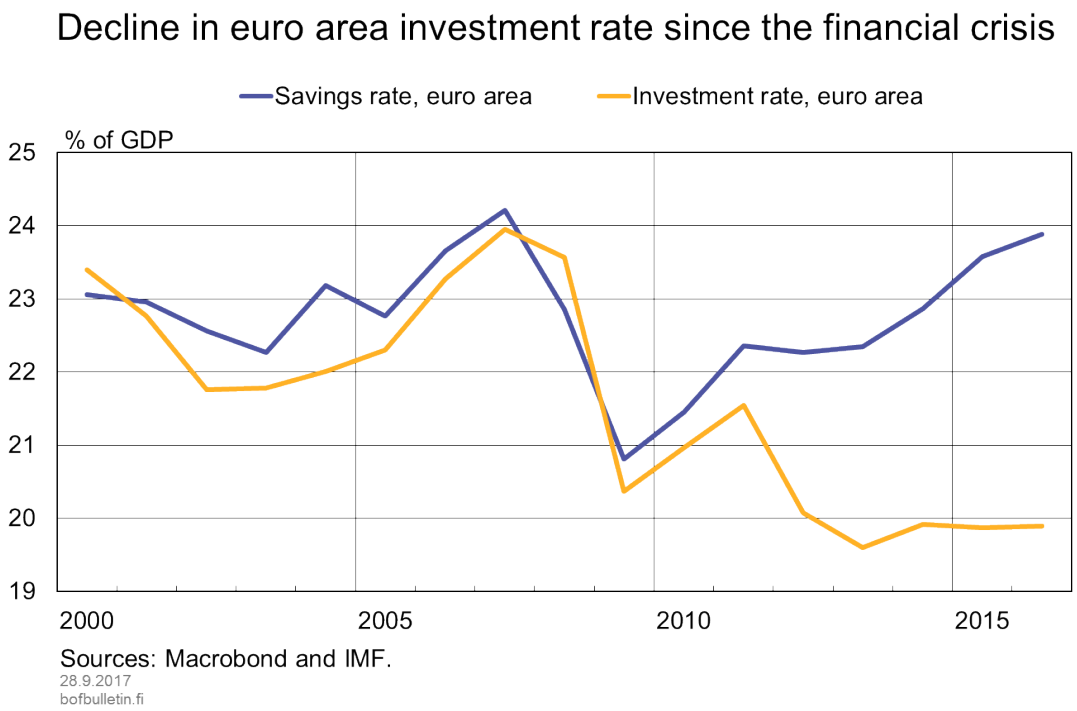
and this may well explain the slower productivity growth across a broad front in various sectors. Even so, the next wave of digitalisation – making use of robotisation and more efficient artificial intelligence systems – could return productivity growth to its immediate post-2000 level.

According to one view, the slower growth in productivity is attributable to a reduced level of investment in research and development (R&D) in the advanced economies.[7] In both Japan and the United States, the growth in the number of R&D personnel has tailed off significantly since 2000. The growth in R&D personnel in Europe has remained almost constant, however. In the United States, in particular, the educational level of the population has no longer been improving in recent decades at the rate previously seen, and this may have served to impede productivity growth.[8]

A possible, more positive reason for the weak productivity growth could be that there are measurement inaccuracies that have arisen in association with digitalisation that could have led to an underestimation of the real growth rate in output and productivity. In particular, it is difficult in the compilation of national accounts data to take into consideration factors such as productivity growth in free-of-charge services and improvements in quality.[9]

Growth in productivity may also have been restrained by the exceptionally protracted aftermath of the global financial crisis that began in 2008. Both the private and public sectors have reduced their debt burden by cutting back on investment. In the euro area, the investment-to-GDP ratio has fallen by almost three percentage points in comparison with the pre-recession period (see Chart 3). As a result, total demand has also decreased. It has also been argued that the subdued level of demand has had a negative impact on GDP growth and on productivity growth.[10, 11]

Chart 3.



Notes

1. Labour productivity can also be measured as output per person employed. The recent growth trend is not significantly different in either of these two measures of labour productivity, however. ↑
2. Gordon, R. (2015) Secular Stagnation: A Supply-Side View. American Economic Review, 105(5): 54–59. ↑
3. Bloom, N., Jones, C., Reenen van, J. & Webb, M. (2017). Are Ideas Getting Harder to Find? Stanford University, mimeo, 4 January 2017. ↑
4. Mokyr, J., Vickers, C. & Ziebarth, N. (2015). The History of Technological Anxiety and the Future of Economic Growth: Is This Time Different? Journal of Economic Perspectives, 29(3), 31–50. ↑
5. Fernald, J. (2015), Productivity and Potential Output before, during, and after the Great Recession, NBER Macroeconomics Annual 29. ↑
6. Fernald, J., Hall, R., Stock, J. & Watson, M. (2017) The Disappointing Recovery of Output after 2009. NBER Working Paper No. 23543, summer 2017. ↑
7. Jones, C. (2017) Discussion: Long-Term Growth in Advanced Economies. ECB Sintra Forum, 28 June 2017. ↑
8. Gordon (2015) Secular Stagnation: A Supply-Side View. American Economic Review, 105(5): 54–59; Acemoglu, D. & Autor, D. (2012) What Does Human Capital Do? A Review of Goldin and Katz's 'The Race between Education and Technology'. Journal of Economic ↑

Literature, 50(2): 426–63.

9. Itkonen, J. (2017). How can we measure the economy in the digital era? Bank of Finland Bulletin 3/2017. ↑
10. Rogoff, K. (2015). Debt supercycle, not secular stagnation. VoxEU, 22 April 2015. ↑
11. Yellen, J. (2016) Macroeconomic Research after the Crisis. Speech at 60th Annual Economic Conference Sponsored by the Federal Reserve Bank of Boston, Boston, Massachusetts, 16 October 2016. ↑

Keywords

advanced economies, labour productivity, productivity growth