

Which new path for raising labour productivity?

By [Bruno Ducoudré](#) and [Eric Heyer](#)

The industrialized countries are experiencing what seems to be a persistent slowdown in the growth of labour productivity since the second oil shock. This has been the subject of a great deal of analysis in the economic literature[\[1\]](#) that considers the possible disappearance of the growth potential of the developed economies, and consequently their inability to return to a level of activity in line with their pre-crisis trajectories. In other words, could the industrialized countries have entered a phase of “secular stagnation”, making it more difficult to reduce public and private debt? The exhaustion of gains in productivity would also modify any diagnosis made of their conjunctural situation, particularly as regards their labour markets.

Trend productivity gains are inherently unobservable; it is therefore necessary to decompose observed productivity into a trend component and a cyclical component that is linked to the more or less rapid adjustment of employment to changes in economic activity (the productivity cycle). In a [recent study published in the Revue de l'OFCE](#), we seek to highlight the slowdown in trend productivity gains and the productivity cycle in six major developed countries (Germany, Spain, the United States, France, Italy and the United Kingdom) using an econometric method – the Kalman filter – so as to allow the estimation of an equation for labour demand based on explicit theoretical underpinnings and the estimation of trend productivity gains.

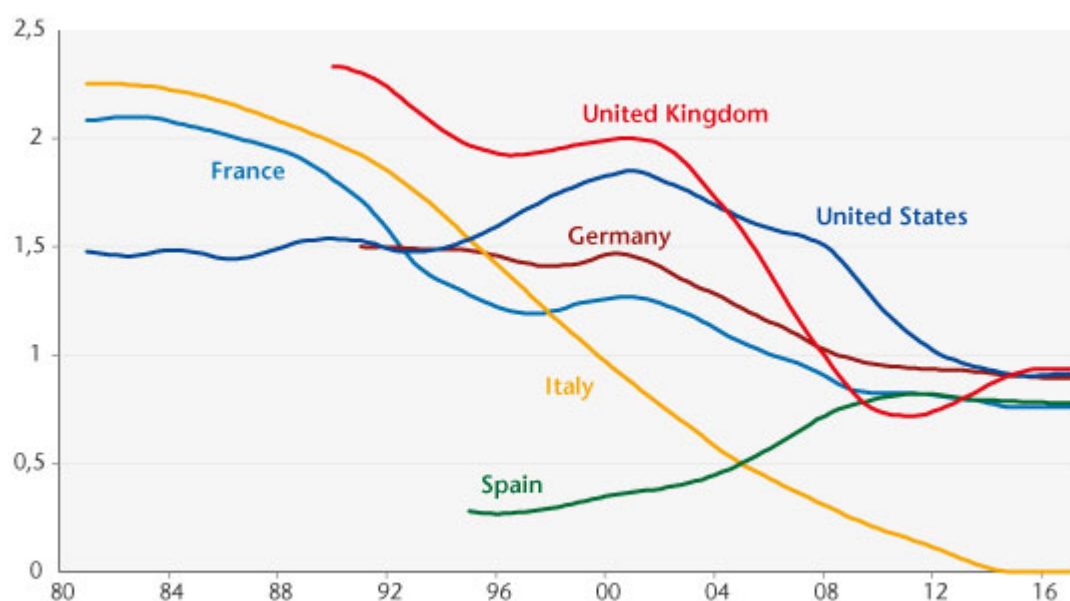
After reviewing the various possible explanations for the slowdown described in the economic literature, we present the theoretical modelling of the equation for labour demand and

our strategy for an empirical estimation. This equation, derived from a CES-type production function [\[2\]](#), is based on the assumption of maximizing the profit of firms in monopolistic competition and on the assumption of a stable long-term capital-to-output ratio. This makes it possible to break down the trend and cyclical components in a single step, but makes productivity gains depend solely on labour [\[3\]](#).

The existing empirical studies usually rely on a log-linear estimate of the productivity trend and introduce fixed-date trend breaks [\[4\]](#). We propose an alternative method that consists of writing the employment equation in the form of a state-space model representing the underlying productivity trend. This model has the advantage of allowing a less bumpy depiction of trend productivity gains since it doesn't rely on ad-hoc break dates.

We then evaluate the new growth path for labour productivity and the productivity cycle for the six countries considered. Our results confirm the slowdown in trend productivity gains (Figure 1).

Figure 1. Labour productivity growth

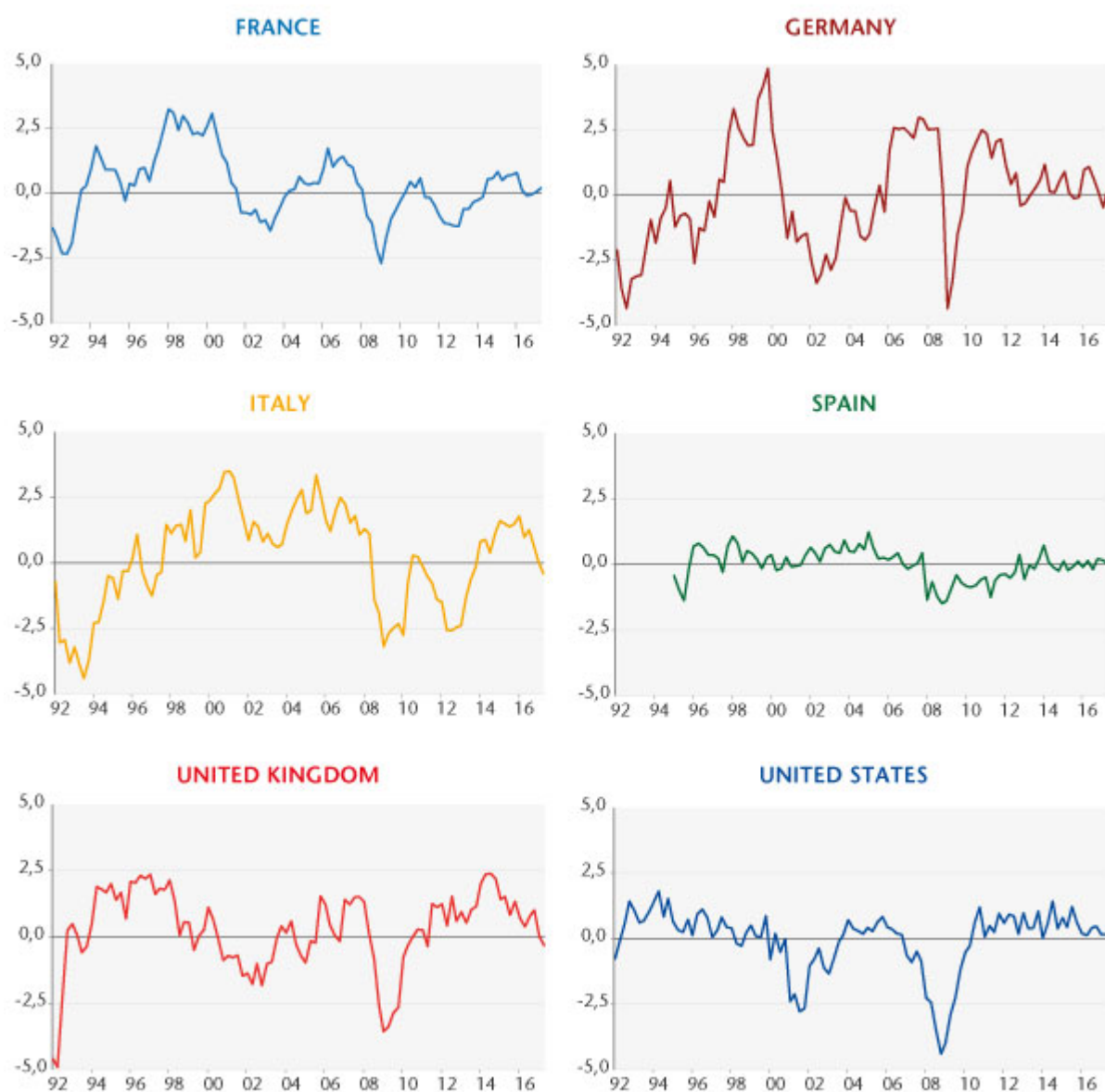


Note: year-on-year hourly trend productivity gains.
Source: authors' calculations.

The growth rate for trend productivity for five countries (France, Germany, Italy, the United States and the United Kingdom) shows a slow decline since the 1990s. Trend productivity, estimated at 1.5% in the United States in the 1980s, increased during the 1990s with the wave of new technologies, then gradually decreased to 0.9% at the end of the period. For France, Italy and Germany, the catch-up stopped during the 1990s (during the 2000s for Spain), even though the slowdown in trend productivity gains was interrupted briefly between the mid-1990s and the early 2000s. Leaving aside Italy, whose estimated trend productivity gains were zero at the end of the period, the trend growth rates converged in a range of between 0.8% and 1% in annual trend productivity gains.

The estimated productivity cycles are shown in Figure 2. They show the greatest fluctuations for France, Italy and Germany and the United Kingdom. A calculation of the average times for the adjustment of employment to demand indicates an adjustment period of 4 to 5 quarters for these countries. The cycle fluctuates much less for the United States and Spain, indicating that the speed of adjustment of employment to economic activity is faster for these two countries, which is confirmed by the average time of adjustment to demand (respectively 2 and 3 quarters). Finally, the estimates indicate globally that the productivity cycle will have closed for each of the countries considered in the second quarter of 2017.

Figure 2. Productivity cycles



Source: authors' calculations.

[1] See, for example, A. Bergeaud, G. Clette and R. Lecat, 2016, "[Productivity Trends in Advanced Countries between 1890 and 2012](#)", *The Review of Income Wealth*, (62: 420-444) and N. Crafts and K. H. O'Rourke, 2013, "[Twentieth Century Growth](#)", *CEPR Discussion Papers*.

[2] See C. Allard-Prigent, C. Audenis, K. Berger, N. Carnot, S. Duchêne and F. Pesin, 2002, "[Présentation du modèle MESANGE](#)", French Ministère de l'Economie, des finances et de l'industrie, Forecasting Department, MINEFI, Working document.

[3] The equation for labour demand is based on a production function and an assumption of neutral technical progress in Harrod's sense.

[4] See M. Cochard, G. Cornilleau and E. Heyer, 2010, "[Les marchés du travail dans la crise](#)" [Labour Markets in Crisis], *Économie et Statistique*, (438: 181-204) and B. Ducoudré and M. Plane, 2015, "[Les demandes de facteurs de production en France](#)" [The Demand for Production Factors in France], *Revue de l'OFCE* (142: 21-53).

Social action, but no end of the crisis

Evaluation of the five-year economic programme (2012-2017)

By [Eric Heyer](#), [Mathieu Plane](#), [Xavier Timbeau](#)

The initial decisions of the five-year programme are coming amidst an extremely difficult and very uncertain economic situation. In a recent [OFCE Note](#) (No. 23 of 26 July 2012), we first analyze the macroeconomic context for François Hollande's five-year programme and the XIVth legislature. This analysis details the likely consequences for the next five years of the strategy currently being implemented in Europe. We evaluate both the cost to the public finances as well as the impact on economic activity, employment and the distribution of income. In part two, we analyze the public policy choices being given priority by the new government, including both those aimed at the young (generation contracts, jobs of the future), at some seniors (revision of the pension reform), and at the middle and lower classes (allowance for the start of school, boost to the minimum wage, Livret A bank

accounts, rent control, revised taxation of overtime), as well as those intended to revive certain public expenditures that are deemed essential (public jobs in education, the justice system and the police in the “public finance” section, and public early childhood services).

François Hollande was elected President of the French Republic at a time when France and Europe are going through an unprecedented crisis. Unemployment in metropolitan France has increased by over 2 percentage points since the crisis began and is now (in ILO terms, 9.6% of the workforce in first quarter 2012) approaching the record levels of 1997 (10.5%). Gross domestic product per capita in terms of purchasing power has fallen since 2008 by 3%. If the growth trend for the five years preceding the crisis had continued at that same rate from 2008 until early 2012, GDP per capita would now be 8% higher than it is. The current account has deteriorated during the crisis by 1.5 GDP points (25.7 billion euros, 10 billion of which is for the oil bill), thus worsening France’s net balance of trade by 7.8 GDP points. The public debt increased by 577 billion (nearly 30 GDP points), and at the beginning of 2012 represented almost 90% of GDP. Industry has paid a heavy price for the crisis (almost 300,000 jobs lost), with all signs indicating that the job losses and closures of industrial sites might be irreversible.

Yet this dire situation, which can be chalked up to the crisis that began in 2008, is not over. Due to the impact of austerity policies implemented at a time of panic at seeing financing of the public debt dry up, the sovereign debt crisis is threatening the euro zone with a prolonged recession in 2012 and 2013. And the even worse scenario looming on the horizon – the disintegration of the euro zone – would transform the threats of recession into the risk of a major depression.

Assessments of the situation differ depending on the elements available. Some measures have been implemented by decree,

while others are being discussed by the legislature, but the proposed bills do permit a quantitative analysis. Others are in the planning stage, with the main trade-offs still to be made, so our assessment tries to explore the main points.

Our assessment of the economic strategy for the five-year programme does not stop there. The outlines of the premises for a strategy to end the crisis can now be seen. The deficit reduction commitments and the initial steps taken in this direction in the budget packages in July 2012, such as those announced during the budget orientation debate of June 2012, point to a strategy whose first step is the achievement of a reduction in the public deficit to 3% of GDP by the end of 2013, regardless of the cost. Based on this fiscal virtue, this amounts to a strategy to end the crisis by stabilizing the state of the public accounts, thereby reassuring the financial markets and other economic agents and establishing the conditions for a strong future recovery. This strategy is based on cutting public expenditures and raising taxes (see the “public finance” section, government tax proposals and the taxation of the oil companies).

This strategy for ending the crisis is risky, to say the least, because it does not take full account of the crisis facing Europe today. It might be justified if we were already on course to end the crisis and if the point were simply to set priorities. But Europe remains in a situation of extreme uncertainty, living in the expectation of a massive failure of one or another Member State in the euro zone, fearing the collapse of this or that financial institution, and suffering the consequences of a spiral of austerity that is being fueled by rising sovereign interest rates. In this situation, everything is coming together to strengthen the existence of a liquidity trap and to generate high fiscal multipliers. Given this, *ex ante* reductions in the deficit through tax hikes and spending cuts is weighing heavily on activity, and thus limiting or even cancelling out any actual deficit reductions.

The factors pushing up the public debt are not being reversed, and the reduction in activity is heightening the risk that the unsustainable private debt will be socialized. The increase in sovereign interest rates is being fueled by an inability to meet deficit reduction targets and by rising public debt, and is thus pushing public deficits higher, forcing even more austerity.

One response to this dynamic that is bringing about the collapse of the euro would be one form or another of pooling public debts in Europe. This would require relatively complete control of the budgets of member countries by a federal body with strong democratic legitimacy. A response like this would therefore mean “more Europe”, and would make it possible to define “more moderate” austerity policies for France as well as its major trading partners. It would make putting an end to involuntary mass unemployment and the liquidity trap prerequisites to an improvement in the public finances. It would also make it possible to ensure the sustainability of public finances without leading to the lost decades that are now gestating.

In the first part of the Note, we analyze the macroeconomic context for François Hollande’s five-year programme and the XIVth legislature. This analysis details the likely consequences for the next five years of the strategy currently being implemented in Europe. The value of the fiscal multiplier is a critical parameter, and we show that the current strategy is valid only if the multipliers are low (*i.e.* on the order of 0.5). However, a slew of empirical evidence indicates that, in the exceptional situation we are experiencing today, the budget and fiscal multipliers may be larger than 0.5 (between 1 and 1.5, see the Note). We detail in a second part the measures taken in the Supplementary Budget Act of July 2012 (for 2012) and the elements outlined in the budget orientation debate in preparation for the Budget Act for 2013 and for the period 2012-2017. To succeed in

reducing the public deficit to 3%, it seems that there must be over 10 billion euros in additional tax revenue or in savings on expenditure, *ex ante*.

We then present an evaluation of eleven measures. Guillaume Allègre, Marion Cochard and Mathieu Plane have estimated that the implementation of the *contrat de génération* ["generation contract"] could create between 50,000 and 100,000 jobs, at the cost of a strong deadweight effect. Eric Heyer and Mathieu Plane point out that in the short term, subsidized *emplois avenir* ["jobs for the future"]-type contracts can help to reduce unemployment. Eric Heyer shows that the revision of taxation on overtime will help to cut the public deficit by 4 billion euros, without hurting the labour market. Guillaume Allègre discusses the consequences of increasing the *Allocation de rentrée scolaire* [allowance for the start of school] and shows that it mainly benefits the lowest five deciles in terms of standard of living. Henri Sterdyniak analyzes the possibilities for fiscal reform. The point is not to evaluate the government's proposals for fiscal reform, but to provide a comprehensive overview of the current system's margin for change and its inconsistencies. Henri Sterdyniak and Gérard Cornilleau evaluate the increased opportunities for retiring at age 60 and analyze the possible paths to a more large-scale reform of the pension system. Hélène Périvier evaluates the possibilities for an early childhood public service, the eventual cost of which could be covered in part by an increase in activity that would generate more than 4 billion euros. Eric Heyer and Mathieu Plane analyze the impact of a boost in the minimum wage (SMIC) and conclude that, given the small spillover of increases in the SMIC onto the rest of the wage structure, the impact on the cost of labour is limited by the greater reduction in social charges on low wages. While the effect on employment is small, it would cost the public purse 240 million euros. Sabine Le Bayon, Pierre Madec and Christine Riffart evaluate rent control. Hervé Péléraux discusses the compensation of Livret A bank accounts

and the impact of doubling their ceiling. Céline Antonin and Evens Salies evaluate the new taxes on the oil companies, which could provide 550 million euros in tax revenue in 2012, at the risk that this tax might ultimately be passed on to the end consumer.