

Economic Analysis

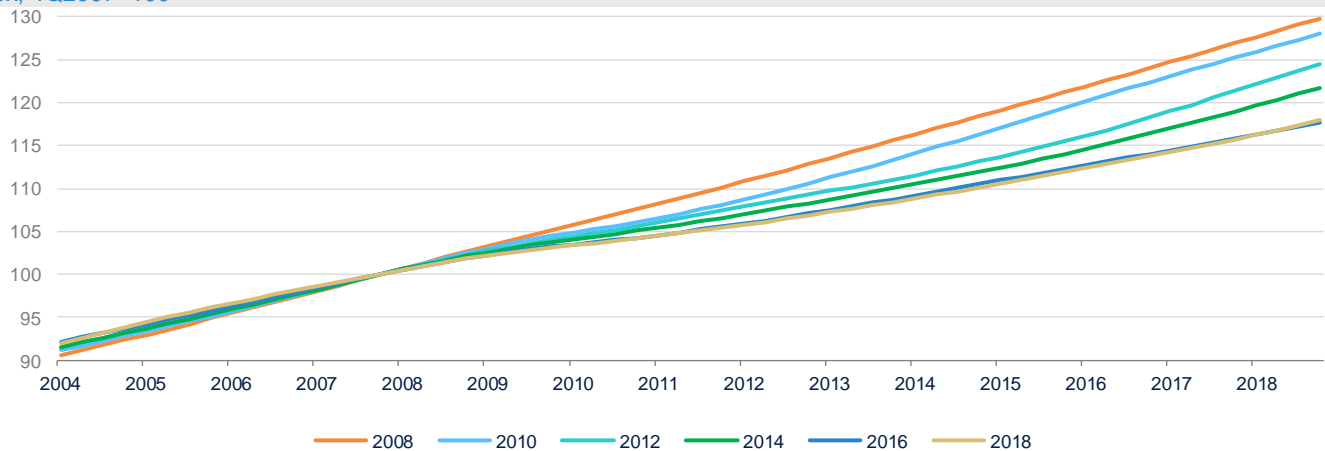
# What's happening with U.S. potential GDP growth?

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- **Capital stock, labor, and productivity do not show a significant increase following the recent fiscal stimulus**
- **According to our forecast, potential output will grow 1.8% per year on average for the next 10 years**
- **Potential GDP growth reached its peak in 2017, and thus monetary policy normalization is adequate**

Ten years ago this month, the collapse of Lehman Brothers marked one of the most traumatic events of the Great Recession. One thing that distinguished this economic downturn from previous ones was its extraordinary persistence. As post-crisis growth kept failing to fulfill expectations, it was clear that this recession was more of a shift in the trend than a disturbance in the cycle. In fact, some economists re-introduced the idea of secular stagnation and suggested that slow output growth could be the new normal.<sup>1</sup> The continually downward revision of potential output projection by the CBO illustrates such increasingly pessimistic opinions toward the productive capacity of the economy (Figure 1).

Figure 1. Historical revisions in CBO's estimates of potential output Index, 4Q2007=100



Source: CBO, ALFRED & BBVA Research

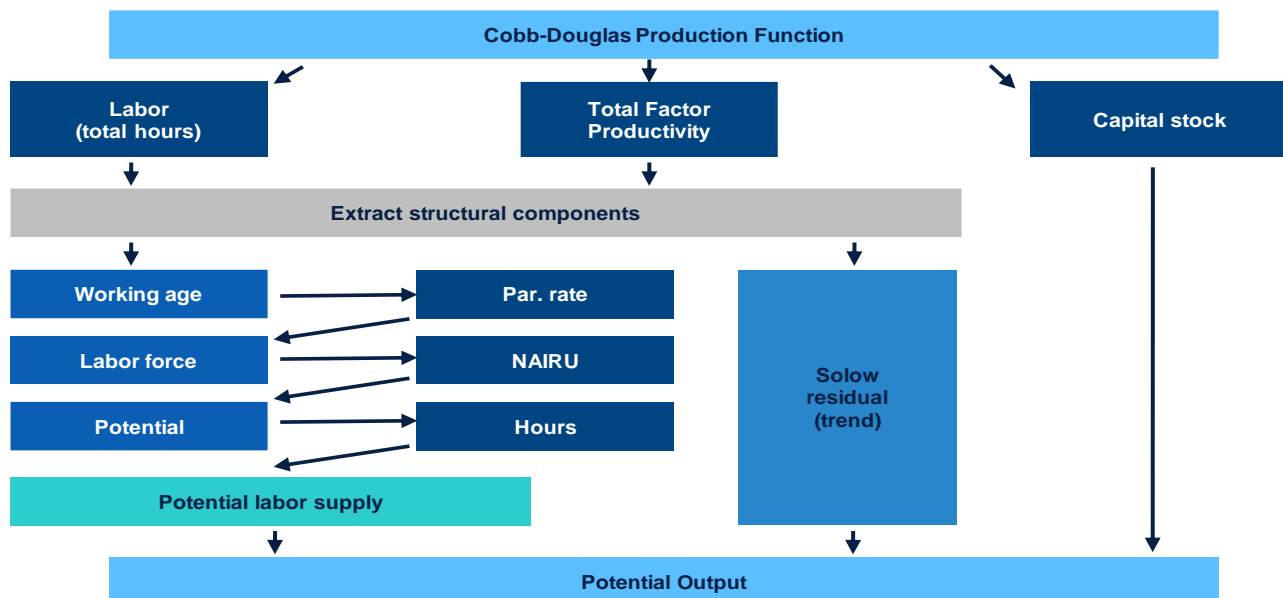
Policy and business decision-making substantially relies on the identification of trend and cycle, and thus the potential output forecasts. On the one hand, if the potential output trend declines significantly due to the permanently damaged capacity during a recession, the economy has likely reached its peak. If that were the case currently, the high GDP growth rate during the second quarter (4.2%) would imply an unsustainable “sugar high” that would need to be remedied by more restrictive monetary policies. On the other hand, an over-estimated negative impact on potential output would produce a false alarm on the risks of economic overheating and cause over-tightening of monetary policy.

1: Summers, L. H. (2014). US economic prospects: Secular stagnation, hysteresis, and the zero lower bound. *Business Economics*, 49(2), 65-73.

In fact, some economists recently argued that the central bank should slowdown interest rate normalization and even stick with expansionary policies, as the economy may still be below its potential.<sup>2</sup>

In this brief, we will analyze potential GDP based on the methodology illustrated in Figure 2. As the flow-chart shows, potential output is based on the extraction and projection of the trends in capital, labor, and productivity. We also demonstrate the estimation and implication of each factor.

Figure 2. Methodology to estimate potential output



Source: BBVA Research

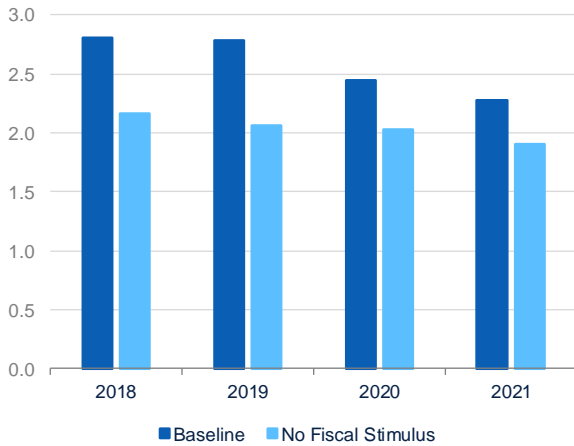
## Capital

In light of the recent fiscal stimulus (tax cuts and spending bill), investment is expected to increase, which in turn should boost total capital and thus potential output. In one of our previous analysis, we found that the fiscal stimulus will significantly increase GDP growth between 2018 and 2020, through channels of higher consumption, investment, and government spending (Figure 3).

While fiscal policies have a favorable effect on the economy in the short-run, one key question facing us is whether they can also help to build up capital stock in the long-run and lift the trend of potential output. As we learned from previous episodes of fiscal expansions, timing is essential.<sup>3</sup> However, due to relatively high asset prices and crowd-out effects in the booming period, the fiscal stimulus generally has a negligible impact on private investment and thus capital stock. As we can see from Figure 4, the lukewarm response of investment in 2018 confirms that the fiscal stimulus may not be significantly boosting capital stock in the long run. According to our estimation, capital stock will growth at an annual average rate of 2.3% between 2018 and 2028, which is lower than the pre-crisis average between 1997 and 2007 (3.0%), but higher than the post-crisis average between 2011 and 2017 (1.4%).

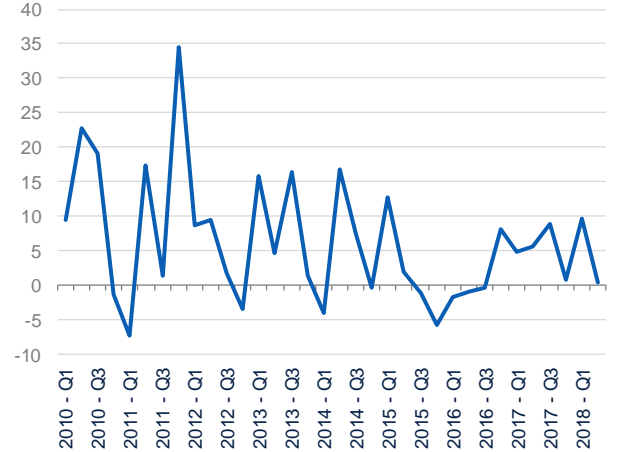
2: Coibion, O., Gorodnichenko, Y., & Ulate, M. (2017). *The cyclical sensitivity in estimates of potential output* (No. w23580). National Bureau of Economic Research.  
 3: Auerbach, A. J., & Gorodnichenko, Y. (2017). *Fiscal stimulus and fiscal sustainability* (No. w23789). National Bureau of Economic Research.

Figure 3. Output growth forecasts  
SAAR %



Source: BBVA Research

Figure 4. Investment growth  
SAAR, %

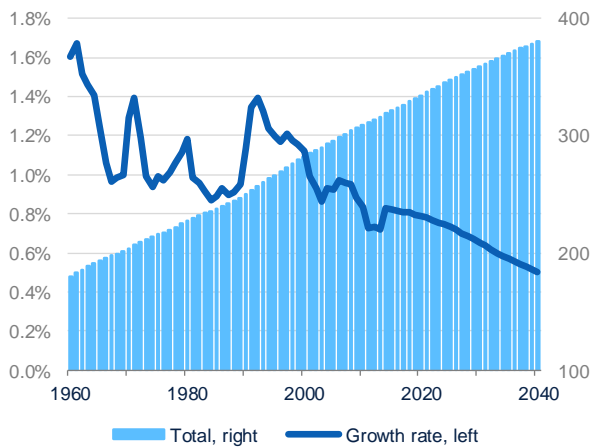


Source: BEA, Haver and BBVA Research

## Labor

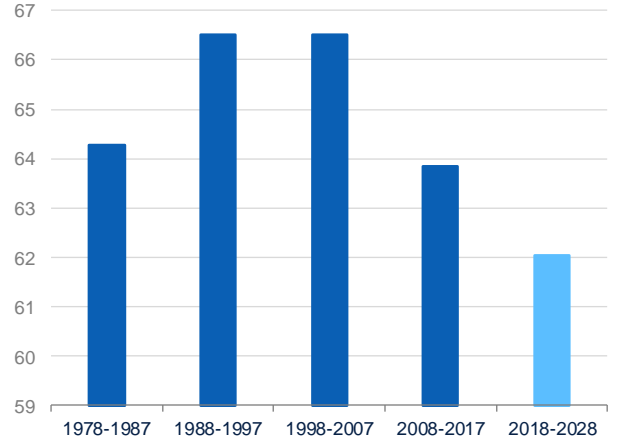
As we have shown in Figure 2, the quantity of labor is jointly decided by population, labor force participation rate, the natural rate of unemployment (NAIRU), and average hours per worker. As we have discussed in previous outlooks,<sup>4</sup> population aging will significantly affect population growth and labor force participation rates, as other developed economies have experienced during the last couple of decades. Therefore, both growth rates will continue to slowdown in the next decade (Figures 5 and 6).

Figure 5. U.S. population  
%, million



Source: BLS

Figure 6. Labor force participation rate  
%

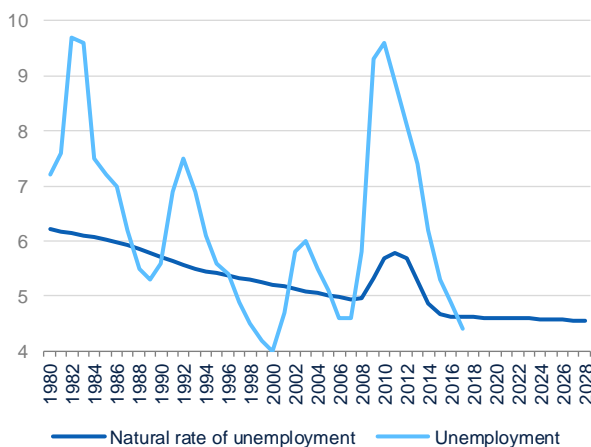


Source: BLS, Haver, and BBVA Research

4: For more detailed discussion on the US demographics and labor force participation rate, please refer to the specific chapters in our previous US Outlooks ([demographics](#), [labor force participation rate](#)).

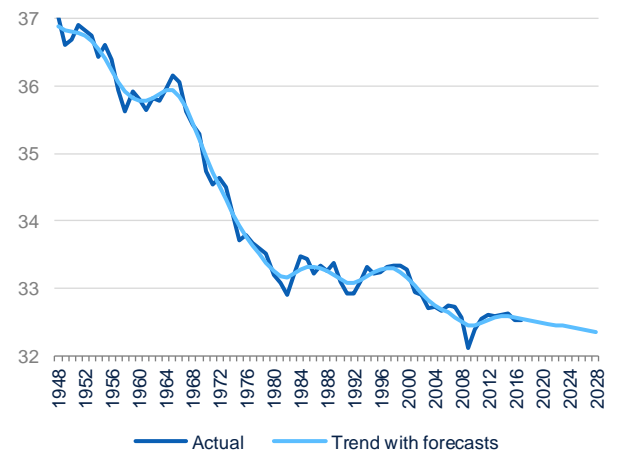
Besides population growth and labor force participation rate, the natural rate of unemployment and average working hours also point to slower growth of labor. As we can see from Figure 7, although the natural rate of unemployment has an overall decreasing trend, our model indicates that it will stay above 4.5% for the next 10 years. Moreover, due to increasing labor productivity and higher quality of leisure, the average weekly working hours have steadily declined from 37 in 1948 to 32 in 2017 (Figure 8), and the trend is unlikely to reverse. According to our estimation, the average growth rate of labor input will be 0.5% between 2018 and 2028, 0.6% lower than the pre-crisis average of 1.1% between 1990 and 2006.

Figure 7. Unemployment rates %



Source: CBO, BLS, and Haver

Figure 8. Average weekly working hours Hrs.

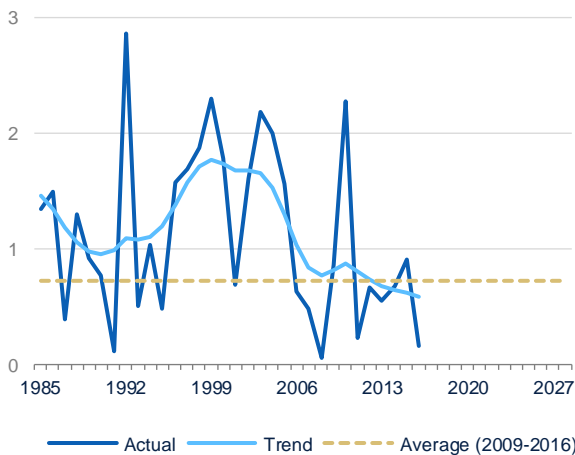


Source: BLS, Haver, and BBVA Research

## Productivity

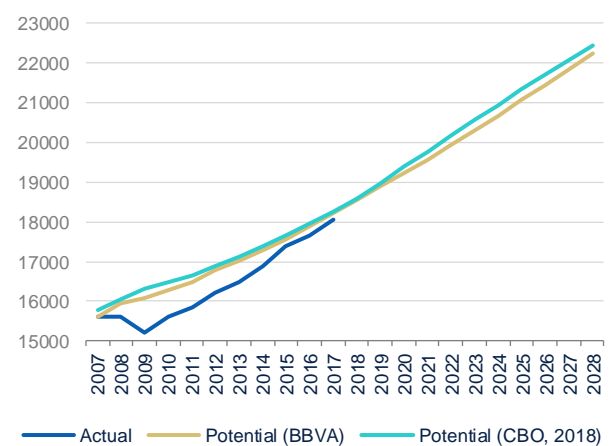
The last factor that determines potential output is potential productivity, which is the trend of total factor productivity (TFP). While the recent development of artificial intelligence and automation has promised to liberate the labor force from tedious low-to-medium-skilled jobs, the majority of statistics have not shown any signs that such scenario is materializing anytime soon. As we can see from Figure 9, total factor productivity (TFP) does not exhibit signs of higher growth. In our baseline forecast, the productivity growth rate will be 0.65% between 2018 and 2028, which is slightly lower than the post-crisis average of 0.72%. In other words, the impact of recent technological innovations will not be much different than those experienced in the past.

Figure 9. Total factor productivity growth %



Source: BBVA Research

Figure 9. Actual and potential real GDP Billion chained 2012\$



Source: BLS, Haver, and BBVA Research

## Potential output

Based on our forecasts of capital stock, labor force participation, average weekly working hours, and total factor productivity, we obtained our estimates for potential output. In addition, we assume that the output gap (the difference between actual and potential output) is approximately zero in 2007. This assumption is consistent with most recent economic statistics, including the output gap series produced by the CBO. According to our estimation, the average growth rate of potential GDP for the next 10 years is 1.8%. That is, because of the aging of the population, moderate growth of capital stock, and moderate productivity growth, the economy will be unlikely to achieve the growth rate before the Great Recession. Considering that most of this slowdown is driven by weaker demographics, even stronger growth in capital stock and TFP would not be able to reverse this trend. In fact, our estimations are similar to those from the CBO, suggesting that policymakers have to take bold actions to improve labor market fundamentals, including immigration policy, labor mobility, education and training, among others.

## Bottom line

In this brief, we estimated the potential output growth for the next 10 years based on the knowledge of capital, labor, and productivity. From a monetary policy perspective, on the one hand, as the output gap is close to zero, the “gradually raising interest rates” approach<sup>5</sup> by the Fed seems to be the most sensible policy based on our understanding of the current state of the economy. On the other hand, it is worth noting that the recession probability has been rising since early this year,<sup>6</sup> and thus an overly hawkish Fed may unintentionally put the system into risk. As Agustín Carstens, the general manager of the Bank for International Settlement commented at the most recent Jackson Hole Symposium in August, “It is a very narrow path to get it right. It is not easy to engineer this normalization process and at the same time to preserve financial stability. The central banks will have to be very careful.”

5: <https://www.usatoday.com/story/money/2018/07/17/powell-says-fed-plans-continue-to-lift-interest-rates-gradually/789135002/>

6: For our latest recession probability forecast with a detailed discussion, please visit:

<https://www.bbvarsearch.com/en/publicaciones/u-s-just-what-the-doctor-ordered-real-time-recession-forecasts/>

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