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Journal of Policy Modeling 38 (2016) 649–655

*Journal of
Policy
Modeling*

www.elsevier.com/locate/jpm

Slow economic growth as a phase in a policy performance cycle

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Received 3 January 2016; received in revised form 20 February 2016; accepted 30 March 2016

Available online 26 May 2016

Keywords: Economic growth; Great Recession; Labor productivity growth; Labor participation rate

1. Introduction

Why has economic growth been so disappointing in the United States in recent years? While debate over the question is raging among economists, many, including [Cochrane \(2015\)](#), [Davis \(2015\)](#), [Herkenhoff and Ohanian \(2012\)](#), [McGrattan and Prescott \(2012\)](#), [Mulligan \(2015\)](#) [Taylor \(2008\)](#) and [Taylor \(2014\)](#) have offered evidence that the poor performance of the economy during the past decade — the Great Recession and the Not-So-Great Recovery — is largely due to poor economic policies. Whether you call it a Great Deviation from the First Principles of economics, as I have, or an Era of Great Forgetting of what policy works well, as John Cochrane has, there is empirical evidence that a shift in a wide array of policies has been a significant cause of the poor economic performance. Further evidence comes from the prior two decades when policy moved toward a greater adherence to economic principles, and economic growth and stability improved. Indeed, during the past 50 years, policy and performance appear to have swung back and forth with a frequency somewhat longer than typical business cycles, but much shorter than a long swing of supposed secular stagnation ([Taylor \(2014\)](#)).

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¹ Mary and Robert Raymond Professor of Economics, Stanford University and George P. Shultz Senior Fellow in Economics, Hoover Institution, Stanford University. I thank John Cochrane, Andrew Levin and George Shultz for helpful discussions. This paper was prepared for the June 2016 issue of the *Journal of Policy Modeling* on “Why Is World Growth Slowing Down?” It is an expanded version of a paper presented at the December 2016 Annual Meetings of the American Economic Association and published in the May 2016 issue of the *American Economic Review Papers and Proceedings*.

In my view, these historical experiences when interpreted with basic economic theory tell us the types of policies that produce good performance: tax reforms to lower tax rates on people and businesses and thus reduce disincentives to work and invest; regulatory reforms to scale back and prevent regulations that fail cost-benefit tests; free trade agreements to open markets, entitlement reforms to prevent a debt explosion and improve incentives, and monetary reform to improve predictability and create output stability along with price stability.

One barrier to implementing such policies is a skepticism that such reforms will restart or restore economic growth. It's too late, some say; the economy missed the typical rebound at the start of the recovery, and we can't make it up now. Or there is a new secular stagnation, which can only be addressed by another round of countercyclical stimulus spending (Summers (2014), Stiglitz (2015)). Why bother putting these reform ideas into action if they are not going to make much difference?

But the U.S. economy is currently in a situation where a change in policy can both remove downside vulnerabilities and create an increase in growth. Because the economy has grown from the start of this recovery at a pace no greater than the pre-recession trend, it has left a gap of unrealized potential that can and should be closed with faster economic growth. In several key ways, the U.S. economy resembles an economy at the bottom of a recession, ready for a restart, even though the unemployment rate is near 5%. In effect, as I show in this paper, the economy is at phase — in particular a trough phase — of what appears to be a policy-performance cycle and ready to recover if policy turns.

As a matter of simple arithmetic, the growth rate of the economy equals the sum of (1) the growth of labor productivity and (2) the growth of employment or hours of work. So if you want to understand why economic growth is slow and whether it is amenable to a change in economic policy, you need to consider these two factors. Let's start with productivity growth and then consider employment growth.

2. Labor productivity growth

Fig. 1 shows labor productivity in the non-farm private business sector on a quarterly basis since the late 1940s. Even when computed over four quarter intervals there are lot of volatility in the growth rate. Nevertheless, one can see clear longer term swings, which I have sketched in the picture, including the productivity slowdown in the 1970s, the resurgence in the 1990s and the recent productivity slowdown

Smoothing out these high-frequency fluctuations with a five-year moving average or a Hodrick-Prescott trend — as in Fig. 2 — provides a better sense of these lower-frequency movements. Productivity growth has swung up and down roughly in tandem with the swings in policy noted in the references above, giving some evidence of an economic policy cycle. There was a trough around 1980, a pick-up which gained much steam in the 1990s, and a subsequent decline into what might be another trough today. Productivity growth is now unusually low and has been falling. It is only 0.6% per year for the past 5 years, which is only ¼ of the 2.3% rate of the previous 20 years.

Some of the proximate causes for this unusual falloff can be obtained from a Solow growth accounting framework. Compare, for example, the pre-crisis years 1996–2005 with the post-crisis years from 2011 to 2014. Based on annual data from the most recent study by the Bureau of Labor Statistics (2015), labor productivity growth fell from 2.99% per year during the years 1996–2005 to 0.65% during the years 2011–2014, or by 2.34 percentage points. Over those same two periods, the growth rate of capital services per hour fell from 3.69% to an amazingly

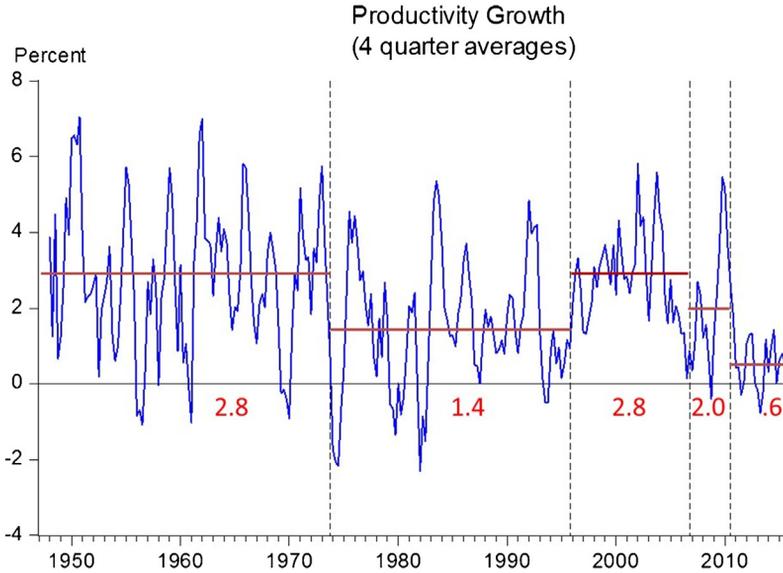


Fig. 1. Ups and downs in labor productivity growth.

low -0.53% per year. Assuming for simplicity, a capital share of 1/3 implies a reduction in the contribution of capital from 1.22% to -0.17%. Computing total factor productivity growth as a residual, then implies that it fell from 1.77% to 0.82% per year. These developments are shown graphically in Fig. 3.

These BLS data suggest that lower growth of both capital services per hour of work and total factor productivity are causal factors. Simply restoring these two contributors to growth to their

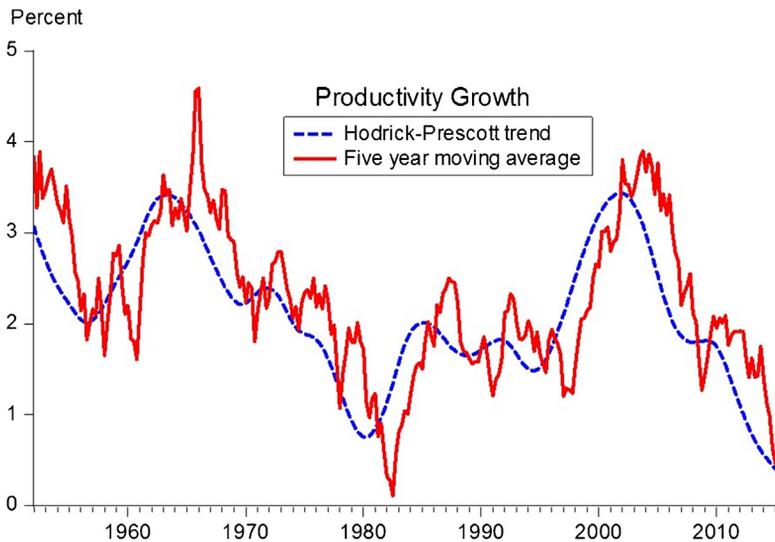


Fig. 2. Smoothed labor productivity growth.

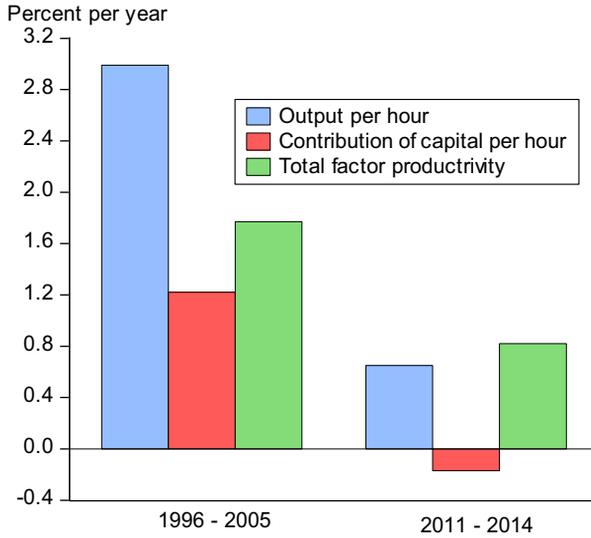


Fig. 3. Growth rate of labor productivity and its determinants.

pre-crisis levels would give a 2.4% per year boost to productivity growth going forward far above the forecasts of economists who have written off the kinds of pro-growth reforms that might bring this about.

The decline in capital services growth, which includes both physical capital and intellectual property assets, is quite striking. It is computed directly by BLS — rather than as a residual. Its time series path — shown in Fig. 4 — reveals the important role of investment in physical capital and intellectual property in the slowdown in productivity.

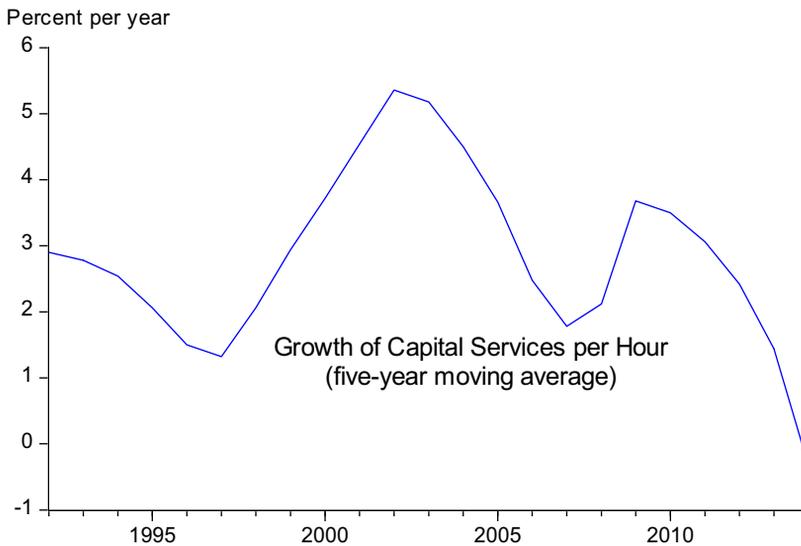


Fig. 4. Growth rate of capital services per hour in the nonfarm business sector.

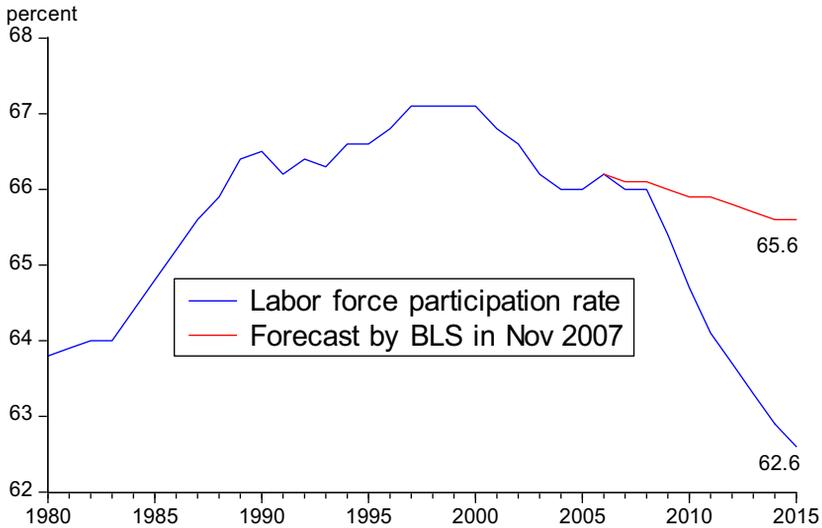


Fig. 5. Labor force participation rate.

The negative growth rate is highly unusual — unprecedented in the BLS data as shown in the chart — and it has persisted below zero for 5 years. Even assuming the “low hanging fruit have already been picked” story of technological progress and thus a continuation of low total factor productivity growth, we could get a 1.4% increase in labor productivity growth to around 2% through more private investment which would raise the capital stock and services of both physical and intellectual capital. Tax and regulatory reforms would be expected to do just that.

3. Labor force participation rate

Next consider employment and the growth of hours of work. With the unemployment rate around 5%, future increases in the employment to population ratio must come mainly from increases in the labor force participation rate. The recent behavior of the overall labor force participation rate is shown in Fig. 5.

Note the very sharp drop in this rate in the past few years, especially during the years of slow growth since the end of the recession. Some of the recent decline in the labor force participation rate is due to the baby boom generation retiring, but the decline is very large for teenagers and young adults, for females age 24–54, and it even increased for those of retirement age. More research is needed, but clearly non-demographic factors are playing a role, including the disappointing job prospects due to the low overall growth rate.

As explained by [Erceg and Levin \(2014\)](#), a straightforward way to separate the demographic factors from other factors is to compare projections made by BLS before the Great Recession — which take projected demographics into account — with what has actually happened since then. The November 2007 BLS forecast is shown in Fig. 2. The economists and statisticians at BLS forecast that the labor force participation rate would decline slightly due to the retirement of the baby boomers to 65.6% in 2015. But this is far in excess of the actual participation rate of 62.6% for 2015. This three percentage point difference is what could reasonably be attributed to non-demographic factors including the slow pace of economic growth.

The BLS forecast was not the only forecast of labor force participation rates made back before the crisis. Aaronson, Fallick, Figure, Pingle, and Wascher (2006) put out a forecast which actually predicted the decline in participation rates quite well. Their forecast apparently incorporated projected changes in labor force participation by age and sex categories due to projections of various factors in the economy that affect participation. It is quite possible, however, that those factors were endogenous to the economy or to policy changes, for example, tax policies which affect incentives.

In any case, there is no reason to assume that the decline in labor force participation is a secular development with the participation rate unresponsive to incentives from policy reforms, such as those which encourage firms to expand and hire. Rather the sharp recent decline suggests a reversal is possible which would have large effects on economic growth. Indeed, the recent sharp decline in labor force participation over at the right side of Fig. 5 is similar to the recent sharp decline in productivity in the right-hand side of Fig. 2. There is nothing secular about either and so there is nothing secular about the combination of the two which shows the potential for a reversal.

A three percentage point reversal in the labor force participation rate from 62.6% back up to 65.6% would mean a 5% increase in the labor force. Over 5 years, it would mean a 1 percentage point rise in the growth rate. Over 10 years, it would mean a 0.5% per year rise which would double the 0.5% per year now forecast by the BLS. Assuming no change in the unemployment rate, employment growth would also rise from 0.5% per year to 1% per year. The percentage of the working-age population that is actually working would grow from the 59.5% in December 2015 level (about the same as the 59.4% at the trough of recession in June 2009) to 62.1%.

Going forward BLS now forecasts that the labor force participation rate will decline by 0.3% per year from 2014 to 2024; the supposed change would reverse that decrease to an increase of 0.2% per year. Adding in 0.8% population growth, as the BLS now projects, gives the 1% per year employment growth. If these effects were front end loaded, then we could have 1.5% for 5 years and 0.5% for the next 5 years. When added to the productivity growth changes discussed above the economic growth scene in the United States would completely change from the disappointing conditions today.

4. Conclusion

Critics of proposals for tax, regulatory, trade, entitlement or monetary reform often say that they do little to boost economic growth in the short run. At best, it is said, these reforms work in the long-run taking many years to show real effects. The economist's lag becomes the politician's nightmare, as George Shultz explains the problem.

This long lag pattern is found in simulations of many of the econometric models used to analyze reforms. In contrast many of these same models find that short-run fiscal stimulus packages have larger and more visible immediate effects than the more permanent reforms. This asymmetry tends to tilt policy decisions to so-called "temporary, targeted, and timely" packages and away from more "permanent, pervasive, and predictable" institutional reforms (Taylor (2012)). This is particularly true during times of slow economic growth, or anticipated recession, when there are loud calls to do something that shows quick results.

In this paper, I have examined evidence that under current economic conditions, more permanent reforms would likely have large short-run effects on economic growth to go along with their sustained long-run growth effects. They would also help to counteract any short-run depressing effects which may develop in the economy and add a degree of stability.

The unusual recent swing down in labor productivity growth, along with the unusually low contribution from capital services, suggests that it could turn up again if boosted by reform-induced incentives. Similarly, the large drop in labor force participation, along with evidence that it is not all demographics, suggests that it too would revert with reforms.

Thus, policy reforms would not only raise the long-run growth rate of the economy, they would also likely bring an extra boost to growth in the short run, much as in a normal recovery from a recession when growth surges at first before settling into an expansionary mode. Since the economy missed that surge in this recovery, in effect we would be restarting the recovery all over again.

References

- Aaronson, S., Fallick, B., Figure, A., Pingle, J., & Wascher, W. (2006). [The recent decline in the labor force participation rate and its implications for potential labor supply](#). *Brookings Papers on Economic Activity*, 69–134.
- Bureau of Labor Statistics, 2015. "Preliminary Multifactor Productivity Trends."
- Cochrane, John H. 2015. "Institutions and Experience," Remarks at Symposium in Honor of George P. Shultz's 95th Birthday, Hoover Institution, December 11.
- Davis, Steven J. 2015. "Regulatory Complexity and Policy Uncertainty: Headwinds of Our Own Making," Hoover Economics Working Paper 15118.
- Erceg, C. J., & Levin, A. T. (2014). [Labor force participation and monetary policy in the wake of the great Recession](#). *Journal of Money, Credit and Banking*, 46(2), 3–49.
- Herkenhoff, K., & Ohanian, L. E. (2012). [Why the U.S. economy has failed to recover and what policies will promote growth](#). In L. E. Ohanian, J. B. Taylor, & I. J. Wright (Eds.), *In government policies and the delayed economic recovery* (pp. 158–187). Stanford, CA: Hoover.
- McGrattan, E., & Prescott, E. (2012). [The labor productivity puzzle](#). In L. E. Ohanian, J. B. Taylor, & I. J. Wright (Eds.), *In government policies and the delayed economic recovery* (pp. 115–155). Stanford: Hoover Institution Press.
- Mulligan, C. B. (2015). [The effects of redistribution policies on growth and employment](#). In T. Church, C. Miller, & J. B. Taylor (Eds.), *In inequality and economic policy: essays in memory of Gary Becker* (pp. 91–109). Stanford: Hoover Institution Press.
- Stiglitz, J. E. (2015). *Rewriting the rules of the American economy: an agenda for growth and shared prosperity*. New York: W.W. Norton.
- Summers, L. H. (2014). [Low equilibrium real rates, financial crisis, and secular stagnation](#). In N. B. Martin, & J. B. Taylor (Eds.), *In across the great divide: new perspectives on the financial crisis* (pp. 37–50). Stanford: Hoover Institution Press.
- Taylor, J. B. (2008). [The financial crisis and the policy responses: an empirical analysis of what went wrong](#). In *In a festschrift in honour of David Dodge's contributions to Canadian public policy*. pp. 1–18. Bank of Canada.
- Taylor, J. B. (2012). *First principles: five keys to restoring America's prosperity*. New York: W.W. Norton.
- Taylor, J. B. (2014). [The role of policy in the great recession and the weak recovery](#). *American Economic Review: Papers & Proceedings*, 104(5), 61–66.