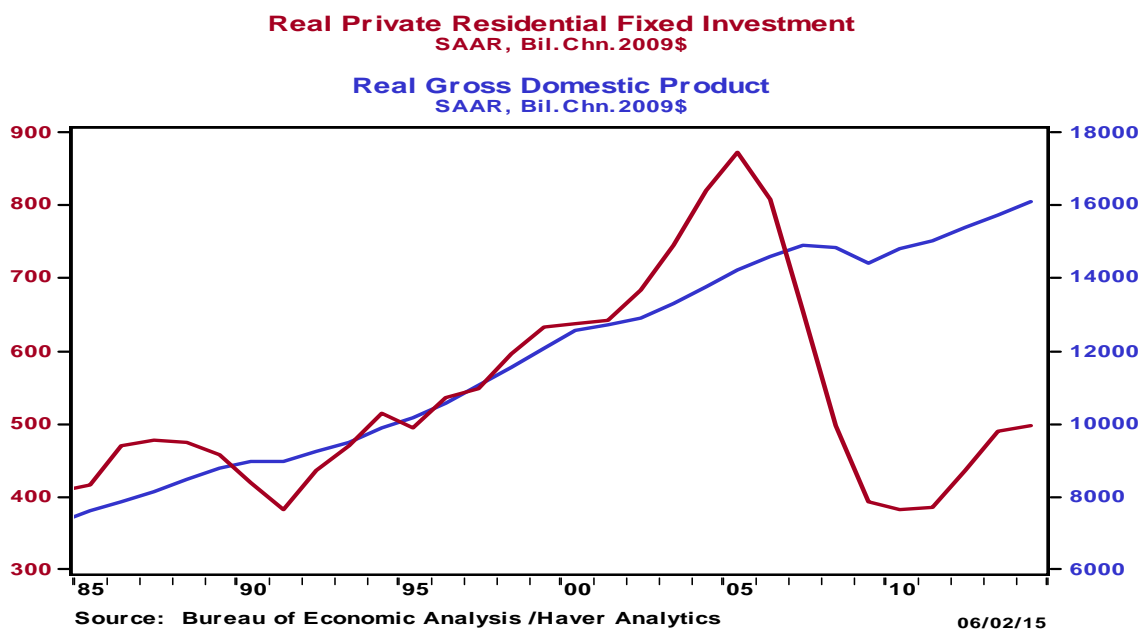


Economic Growth, Productivity and Investment in Infrastructure¹

Tuesday, June 30th, 2015

Growth in Real or Inflation-adjusted Gross Domestic Product (GDP) has averaged 2.67% per year over the last 30 years. This is the growth rate that economists and policy-makers like to cite as the potential growth rate for the United States. However, this average obscures radically different growth rates for the first and second halves of this period. As Chart 1 shows, growth from 1985 to 1999 was much faster (3.09%) than that for 2000-2014 (1.66%). Moreover, growth from 2000 to 2007 was noticeably boosted by the housing boom.

Chart 1



Growth Trends per year:

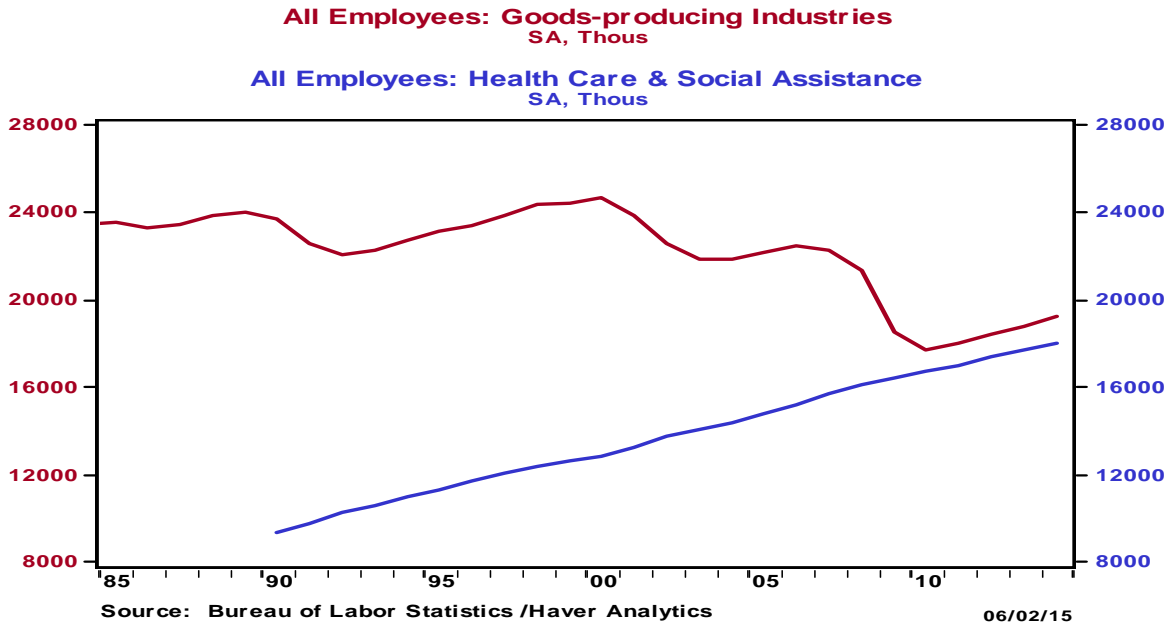
1985-2014 2.67% , 1985-1999 3.09% , 2000-2014 1.66%

The Growth and Productivity Puzzle

What explains the slowdown in growth? Martin Feldstein made the point in a recent NY Times Op Ed (May 19th, 2015) that we are not measuring ‘real’ output correctly because we are over-estimating inflation. There is undoubtedly some truth in his argument. However, we now use several different measures of inflation and the differences between them are not enough to explain the slowdown in growth. Another possible explanation is that, as the economy has shifted to more spending on health care and less on the output of goods-producing industries, it is getting harder to measure overall output. (See Chart 2)

¹ This paper is adapted from a presentation to the Municipal Club of Brooklyn on June 9th, 2015.

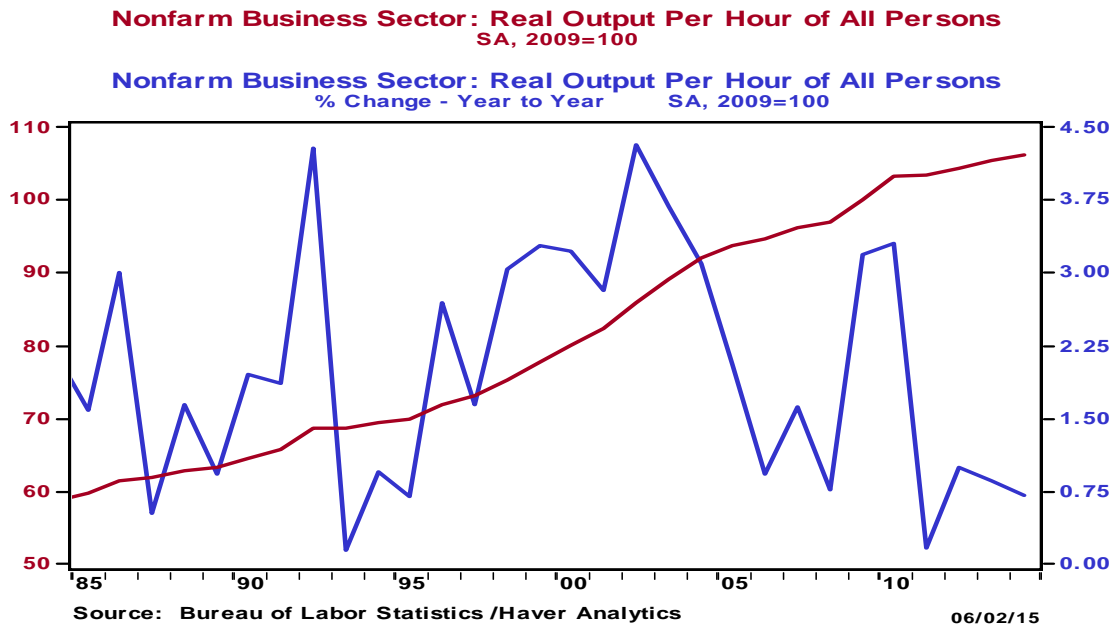
Chart 2 Changing Composition of the Labor Force



Goods Producing includes all manufacturing industries, construction and oil and gas industries.

This problem shows up clearly in the slowdown in productivity growth. (See Chart 3). Since this growth is an important factor in the growth in wages, it is important to

Chart 3 The Recent Slowdown in Productivity Growth



understand what is going on. Economic growth and productivity improvement appear to be closely linked. Generally growth in output, by increasing the demand for skilled labor, encourages improvements in labor productivity. In the recent past, however, high energy prices undoubtedly spurred energy saving innovations at the expense of labor-saving ones. Now with energy prices much lower, we may see a reversal of this effect—especially as the labor market tightens.

The lingering effects of the global financial crisis are showing up in reduced use of debt by consumers. How much this is affecting overall GDP is less clear. After all, some part of discretionary spending shows up in imports of goods and services which subtracts from total GDP.

The slowdown in growth in the economy and in productivity as shown in these charts is clear. Some analysts accept slow growth as a ‘new normal’. Others are talking about ways to shift incomes around to boost spending (liberals) or investment (conservatives). Any such efforts will run into intense political controversy whichever end of the political spectrum they come from. What we do know is that in the past, major infrastructure programs like the Interstate Highway System and the Tennessee Valley Authority contributed both to economic growth and to improving productivity.

The Need for a Major Infrastructure Program

There is widespread agreement that U.S. roads and bridges are not in good shape. There is less agreement about the scope of such a program and how to pay for it. There are also sharp regional differences when it comes to light rail projects. While they are popular (and successful) in several cities on the East and West Coasts, people in other parts of the country probably don’t see the need for them.

The Interstate Highway System We should remember that President Eisenhower justified this program in 1956 as a National Security Issue. Moving significant military personnel and materials from the East to the West Coast, Ike believed, would have taken far too long using the existing roads. These roads in any case were not built to carry tanks and other heavy military vehicles. Legend has it that every 5 miles of an Interstate Highway has a straight section of 5,000 feet that could serve as an emergency runway. While there is no provision of this sort in the Highway Act, there are enough straight sections in these very solidly built highways that could allow aircraft to land on them.

President Kennedy shared President Eisenhower’s commitment to the Interstate Highway System and in 1961 made sure that its funding was secure. With the Federal Government paying 90% of the cost, spending on the Interstate program averaged about one-half of 1% of GDP. The peak rate of spending was, I believe, in the late 1960’s. The System (now of 46,000 miles) was not ‘completed’ until the early 1990’s. Thus we can see that the Interstate Highway Program transcended economic cycles. It also created, where one Highway crossed over or under another, new areas of economic activity---much as the NJ Turnpike and Route 128 in Massachusetts. Today, it is hard to imagine travel in the U.S. without it.

A Broad Scope is Necessary As Glenn Hubbard, Economic Advisor to President G.W. Bush, put it, we should invest in infrastructure because the United States needs a first rate infrastructure to compete in the 21st Century World Economy. It needs to have a broad scope, encompassing not only roads and bridges—as important as they are—but railroad roadbeds, the Electric Power Grid, Light Rail for Metropolitan Areas, Airports, Deepwater Ports and other parts of our current economic infrastructure. Altogether, it would be a long-term program, taking several years to plan and 10 years or more to implement. In dollar terms it should amount to 2 Trillion Dollars. Spread over 10 years that would average about 1% of GDP per year. It would improve long-term productivity—picture the hours lost in traffic jams and speed-restricted railroad trains. It would lead to a sustained increase in employment of skilled workers.

How do we pay for it?

Since this major program is designed to be a once in 50 years effort, it is reasonable to finance part of it with long-term bonds. To facilitate this we should create a Federal Infrastructure Bank. It would raise funds by selling bonds to the public and to U.S. Corporations with excess cash holdings overseas. There is reputed to be hundreds of billions of dollars earning very low rates of return in foreign countries. These bond purchases would not be considered repatriated as long as the Corporations held the Infrastructure Bank bonds. The Bank, in turn, would lend to state and local governments, Federal agencies and quasi-public organizations—like the NJ Turnpike—that actually carry out the infrastructure investments.

To help cover the ongoing interest costs and provide for an eventual retirement of the bonds, we should put in place a 50 cent per gallon gasoline tax, phased in at 10 cents per year for 5 years. When fully in place, it would raise \$ 70 billion, enough to pay the interest on \$ 2 Trillion of the FIB Bonds. While the impact on gasoline demand would be modest in the short-run, it might help to hold down gasoline prices.

Conclusions

There is too much short-term thinking about the U.S. economy. One of the many advantages of a major infrastructure program would be that it would focus our attention on where we would like our economy to go over the longer-term. We are all grateful today for the foresight our forefathers and foremothers (DeWitt Clinton and Emily Roebling for example) showed in building the Erie Canal, the Brooklyn Bridge, the George Washington and the Verazzano Bridges .and other great works.

Despite some discussions in Congress earlier this year about a Multi-year Highway Bill, it seems likely that such a Bill and, even more so, the ambitious program outlined above, will have to wait for a new Congress and a new Administration. In the meantime, we can all—citizens, businesses and state and local agencies—start putting ideas together.

Thomas W. Synnott, Chief Economist, Emeritus, U.S. Trust Company of NY
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Appendix

Growth in Average Hourly Wage-Rates 1990-2014

Year	Dollars per Hour	Adjusted for Inflation	S&P 500 Index
1990	\$ 10.20	\$ 15.26	334.6
1995	11.65	15.53	541.6
2000	14.01	17.24	1426.8
2005	16.12	17.53	1207.1
2010	19.05	18.86	1139.3
2014	20.60	19.08	1930.7

Useful Websites

www.bea.gov for economic reports

www.bls.gov for monthly employment and inflation data

www.Federal Reserve.gov for monetary and interest rate data