

# Economic Review

with Nicholas S. Perna, Ph.D., Webster Bank Economic Advisor



## **Musings & Amusings: Reworked song titles**

"How Can You Mend A Broken Hip?" -Bee Gees

"Life in the Slow Lane." -Eagles

"I Get By with a Little Help from Depends." -Beatles

**Kanye who?** I must apologize for all the song titles but when you try watching the *Grammys* while working on this newsletter, and don't recognize anyone who is performing, you fall back on your old favorites.

**The Times They Are A-Changing** (Bob Dylan). An important debate has been taking place over the likely path of future economic growth.

Those who see "secular stagnation" say that the global slowdown is already here. The term was coined by Harvard economist Alvin Hansen in the late 1930s to describe a period plagued by depressions and incomplete recoveries. It has been resurrected again by former Treasury Secretary Lawrence Summers. He says stagnation results from the inability of governments (including central banks) to maintain reasonable economic growth without creating periodic financial bubbles.

Professor Robert Gordon of Northwestern University sees future sluggishness as the result of slow labor force growth as the population ages, and very modest productivity growth as the really big innovations mature and new ones face "head winds."

The optimists, on the other hand, are singing **We've Only Just Begun** (Carpenters). The digital revolution is just starting. Who turns out to be correct has vast implications, especially for our children and grandchildren.

**What's Goin' On?** (Marvin Gaye) Professor Gordon was a graduate school classmate of mine and is one of the foremost experts on productivity. He looks at the growth issues against the backdrop of many centuries. There was very slow improvement in productivity and living standards until the 1800s. Then economic activity really accelerated during what Gordon describes as three distinct industrial revolutions.

The first and most familiar (1750-1830) included the steam engine and railroads. The second and more important

(1870-1900) saw electricity, the internal combustion engine, the telegraph and, quite interestingly, running water with indoor plumbing. Improved sanitation meant that people became healthier and lived longer.

The third revolution (1960-early 2000s) encompassed computers and the internet. Most of its effects had been felt by 2004. Robots have been around for years and many innovations really don't raise productivity. Rather, they simply replace one form of communication or entertainment with another, e.g., Monopoly at the kitchen table with Candy Crush Saga on your smart phone.

Finally, Gordon says future productivity gains will be held back by a number of "head winds" – most of which are already blowing. U.S. educational attainment has hit a plateau. Outsourcing will affect increasing numbers of higher value-added U.S. jobs, e.g., radiologists.

**Yesterday** (the Beatles were first but I like the Ray Charles version even better). Stated very simply, the growth of real Gross Domestic Product (GDP) can be expressed as the sum of labor input increases and productivity gains. Labor can be measured in several ways but I like total employment. Productivity growth is the increase in real GDP per worker. Improved efficiency comes from many sources: more capital, better technology, and increased education.

The time intervals were picked to avoid using recession years as endpoints. They also highlight periods of rapid and slow productivity growth as identified by Gordon.

Recent evidence seems to support the pessimists. Real GDP grew at an average annual rate of 3.4 percent during 1996-2004, but it slowed to less than half that in the past decade. Productivity growth was robust in 1996-04 but it has since slumped.

## ARITHMETIC OF GROWTH (ANNUAL % CH)

	1955-73	1973-96	1996-04	2004-14
Real GDP % CH	3.9	2.9	3.4	1.6
Employment	1.8	1.8	1.2	0.5
+Productivity	2.1	1.1	2.2	1.1

**Tomorrow is a Long Time** (Bob Dylan). Let's play around with some long term projections. The first column ("CBO") extends the forecasts of the Congressional Budget Office through 2050. The second (NSP – that's me) uses employment forecasts from the Bureau of Labor Statistics and productivity growth more in line with the past decade and 1973-96. I have labeled the final column WEO for Wild Eyed Optimist. It takes the best of historic productivity performance and boosts labor force growth a tad as a result of, e.g., increased immigration.

## ARITHMETIC OF GROWTH (ANNUAL % CH) 2014-50

	"CBO"	NSP	WEO
Real GDP % CH	2.3	1.8	3.4
Employment	0.7	0.7	1.2
+Productivity	1.6	1.1	2.2
Real GDP Final Year BIL\$	36,482	30,583	51,781

The most interesting calculation is what happens to the level of real GDP, i.e., the size of the economic pie, by 2050. The "CBO" number is nearly 20 percent bigger than NSP. That's an enormous difference as far as these things go. Even a couple of points are enough to finance huge investment in infrastructure or education. In the WEO "scenario," GDP is an astounding 70 percent higher. While 2050 might sound like a long time – 35 years – it was that many years ago that Kenny Rogers had his very big hit, **Lady**.

**I Can't Get No Satisfaction** (Rolling Stones). Slower future growth has mostly negative consequences. The burden of paying those entitlements gets bigger. Not only is the economic pie smaller but demographic trends also pretty much guarantee that the ratio of retirees to workers will get even larger than it is today.

Slow growth is also likely to increase the inequality of the distribution of income and wealth. Last year, Thomas Piketty's book about inequality, *Capitalism in the 21st Century*, was on all the best seller lists. Did anybody but me and a few academics really read all 700 pages? The *Wall Street Journal* called it "The Summer's Most Unread Book" based on where people stopped highlighting on their Amazon Kindles which was page

26! Piketty edged out *A Brief History of Time* by Stephen Hawking in the least read race.

Anyway, the book is a thorough, though far from scintillating, analysis of the fall and rise of income and wealth inequality. While much of Piketty's analysis is controversial, he makes the very important point that slow overall economic growth increases inequality. This happens because the returns to capital tend to exceed the growth of GDP. That's another way of saying that the wage and salary share of the pie declines.

**Good Vibrations** (Beach Boys). There are optimistic views that disagree with the stagnation theories. One of the most popular is *The Second Machine Age* by Erik Brynjolfsson and Andrew McAfee of MIT. This is a really interesting read that paints an upbeat picture about the future of technology. You should have no trouble finishing it. They use great examples about the power of exponential growth, including a chess board analogy. Suppose you start out in square one with a single grain of rice and double it each time you move to the next square. By the time you get to the 64th square you have the most awesome pile of rice!

Their point is that the growth of technology, so far, puts us just about in the middle of the chess board. Even if growth rate stays the same, the amount of technology put in place gets even more enormous with every passing year.

However, there are problems in the *Second Machine Age*. While the authors are confident that technology will produce rapid GDP expansion, they worry that unemployment and income inequality will also rise.

**Bridge Over Troubled Water** (Simon and Garfunkel). If the pessimists are right and even if the optimists are correct, is there anything we can do to soften the outcome? Entitlements will have to be based on more realistic promises and funding assumptions. Education and training are even more important. Both Piketty and Brynjolfsson – McAfee say it may be necessary to use the tax and transfer system to lessen the inequality no matter whether it comes from too little or too much productivity. Needless to say, any mention of taxes is very controversial.

**The Song is Ended** (a wonderful old tune by Irving Berlin). So, who's right? I think the future will contain major elements from each of these views. The demographics are pretty compelling: labor force will expand much more slowly than in the past. At the same time, innovation will keep productivity from deteriorating as much as Gordon expects. However, that innovation, as discussed in the *Second Machine Age*, will make inequality of income even more of a challenge.