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The Fall of American Growth?

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On October 27 the Bureau of Economic Analysis estimated that the real Gross Domestic Product (GDP) during the third quarter of this year grew at a rate of 3.0% (GDP is defined as the market value of all goods and services produced in the United States). Since GDP grew at only 2.2% during the first half of the year, it is very likely that 2017 will mark the 12th consecutive year in which the GDP failed to grow at or above 3.0%.

This extended period of less than 3% annual real GDP growth is often cited as one of the factors giving rise to the turbulent political environment in the United States and is, indeed, unprecedented. Beginning in 1929, the next longest period during which the US economy failed to grow at a 3% or above rate, was the four year period from 1930-1933, i.e., the depression. Otherwise the GDP grew faster than 3% in 47 of the 76 years from 1930 through 2005, averaging a 3.6% annual growth rate, more than double the 1.5% average rate from 2006-2016.

Unsurprisingly, the extended period of less than 3% growth in real GDP has captured the attention of economists, and generated a debate about the causes and meaning of this development. One view is exemplified by Robert Gordon, a professor at Northwestern (Ph.D., MIT; Masters, Oxford; B.A., Harvard), in his recent magnum opus, *The Rise and Fall of American Growth, The U.S. Standard of Living Since The Civil War*.

Gordon's "Rise and Fall" title reflects his underlying thesis – that after The Civil War, beginning in approximately 1870, the US economy "rose" through a series of revolutionary inventions and discoveries, constituting a Second Industrial Revolution. These inventions and discoveries had by 1940 fundamentally changed the way Americans experienced everyday life.

This Second Industrial Revolution was so sweeping and comprehensive that it, combined with other circumstances - such as the retooling and reviving of American manufacturing during World War II, the dominant economic position of the US after the war, and the pent-up demand released when it ended - was sufficient to drive growth through most of the 20th century. However, by around 1970 the Second Industrial Revolution had all but run-its-course, and although the economy was briefly revived thereafter by the revolution in computers, communications and information technology, this "IT" revolution was more limited in scope.

Accordingly, Gordon argues, the period of 1870-1970 was unique in all of human history. The revolution in how daily life was experienced and the corresponding growth during this period was "sui generis", a one-time occurrence that we are not likely to see again. A "fall" in the US growth rate is, therefore, inevitable.

Gordon's comprehensive survey, by reminding us in such detail what life was like for almost all Americans in 1870, provides an important service. As Gordon establishes, Americans in 1870 lived without electricity, running water, central heating, telephone, networked sewer systems, indoor plumbing and motorized vehicles. Water was not present in the home unless it was hauled in, making activities such as bathing a once a week occurrence at best. Tens of thousands of horses polluted city streets and the lack of a networked sewage system for humans caused further filth and disease, contributing to a life expectancy at birth of 45 years. Life in 1870 was "a dismal existence" involving drudgery at home and "dangerous, backbreaking conditions" at work.

Gordon also persuasively argues that "every aspect of life experienced a revolution" in the decades after 1870, as one invention after another fundamentally improved how people lived. Electricity lighted the home, and led to the development of numerous labor saving devices (the refrigerator, washing machine, elevator, subway, etc.); the automobile "transformed the streets" from "rutted and pitted quagmires" to paved roads, ending the dominance of the horse; indoor plumbing and networked sewage systems became routine, leading to a new cleanliness which, along with advances in medicine, virtually eliminated infant mortality; and so on.

Gordon's most controversial thesis is that daily life can only be fundamentally transformed once, and therefore the days of rapid growth are over. He acknowledges the recent "IT" revolution but contends that this revolution had its "main effect" on the economy from 1994-2004, and that the application of computers to daily life is limited because we "don't eat computers or wear them or drive to work in them or let them cut our hair." In other words, computers affect "a limited sphere of human activity" whereas the Second Industrial Revolution "changed everything." Moreover, with a non-competitive educational system, an aging population, and burgeoning governmental debt that will end in a "fiscal reckoning" of tax increases and spending cuts, "there is [in the US] little room for growth at all."

Not surprisingly, not all economists agree with Gordon's gloomy outlook. Two prominent dissenters are Michael Mandel, a fellow at The Wharton School's Mack Institute for Innovation Management, and Bret Swanson, president of the technology research firm Entropy Economics, who recently co-authored *The Coming Productivity Boom, Transforming the Physical Economy with Information*.¹

¹ This paper is too large to be included in the monthly mailing but it is available here:

<http://entropyeconomics.com/wp-content/uploads/2017/03/The-Coming-Productivity-Boom-Transforming-the-Physical-Economy-with-Information-March-2017.pdf>

Mandel and Swanson's primary objection is to Gordon's claim that the computer, communications and technology revolution is limited in its application and has basically already had its effect. They distinguish the "digital" industries, industries whose output can be digitalized, and the "physical" industries, such as manufacturing, construction, mining, transportation, healthcare, whose output is physical. These physical industries, which account for around 75% of the economy, have lagged in their IT investments and, for the most part, have not yet determined how to improve productivity through technological innovation. In other words, the US has had "two economies – one that is taking advantage of the information revolution, and another one that is not." While applying the digital revolution to the physical industries does require an additional level of computing sophistication, with recent advances "we are finally able to open up the other four-fifths of the economy to the magical" world of the digital revolution.

One example of such an application that Mandel and Swanson give is in energy production, where the application of "high-end 3D computing resources" has enabled a domestic revolution in energy, through shale production. As a result, US oil production almost doubled in 5 years, natural gas production rose more than 50%, and the number of jobs in this field rose 58%. This allowed Congress in 2016 to end a forty-year ban on exporting oil as the US became a leading producer. It has benefited consumers by keeping energy costs down. It is reverberating throughout the world as the US is empowered to recalculate its relations with Middle East oil producers and as other large producers, such as Russia, view the increased US production and export capabilities with alarm.

Many other economists are weighing in on this debate, some taking the pessimists side with Gordon, others siding with the techno-optimists such as Mandel and Swanson.

What does all of this mean for PMA's investing strategies? As PMA clients know, PMA does not make fundamental investment decisions based on short term predictions about economic growth or world events. We do not believe these types of predictions provide a basis for a long term investment philosophy. However, it is also true that underlying PMA's philosophy are these sentiments recently written by another keen and successful observer of America:

For 240 years it's been a terrible mistake to bet against America, and now is no time to start. America's golden goose of commerce and innovation will continue to lay more and larger eggs. America's social security promises will be honored and perhaps made more generous. And, yes, America's kids will live far better than their parents did.

The author? Warren Buffett.