



Since the late 18th century industrial capitalism has fostered a rate of scientific and technological advancement that is unparalleled in previous human history. Beginning with the steam engine, the cotton gin and the telegraph, incredible breakthroughs in transportation, communication, medicine, infrastructure, and entertainment have driven human productivity and wealth exponentially higher, but will future innovations have as profound an impact on our economic life? From where we sit, the mainstream view on this is an emphatic ‘yes,’ as demonstrated by valuations in the tech sector and the narratives from techno-optimists who dominate popular discourse. We’re not so confident.



Underpinning our investment strategy for some time has been the notion that the global economy is entering what we believe will be a protracted period of low-growth. There are many factors behind this thesis, including over-indebtedness, aging demographics, low

fertility rates, income inequality, deteriorating infrastructure, and declining labor force participation. Here we will explore one of the factors in detail: productivity growth, and the unfounded optimism, particularly from presidential candidates, that with proper policy we can quickly return to an era of sustained 3+% GDP growth.

In his widely influential book, *The Rise and Fall of American Growth*, economist Robert Gordon also argues that the kind of rapid growth we consider our due, and expect will continue, was in fact a unique period in history that’s unlikely to be repeated. He describes what is called the Special Century of 1870-1970 which liberated households from the daily grind

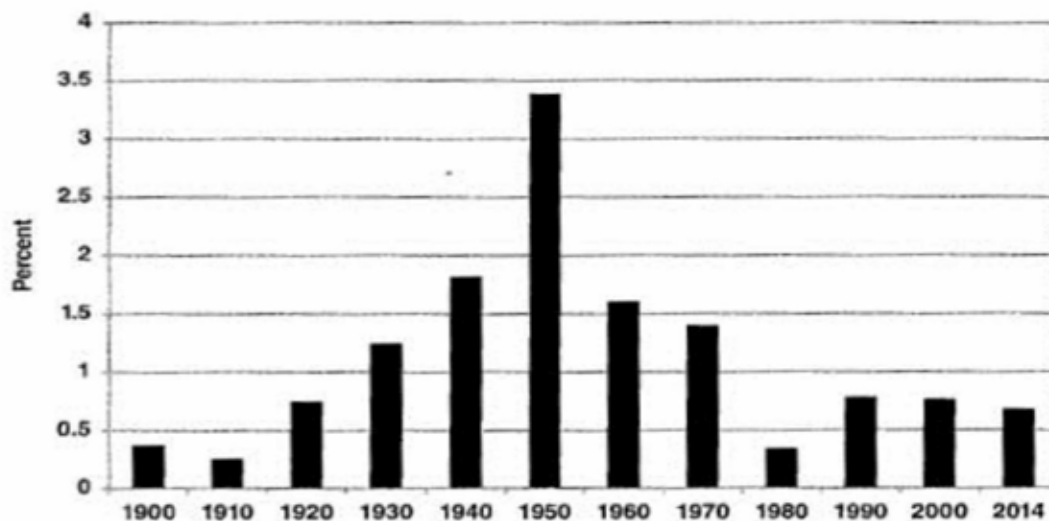
of manual labor, darkness, isolation, drudgery, and premature death. The Special Century was marked by innovations such as electricity, the combustion engine, plumbing, heating, air conditioning, refrigeration, plastics, and antibiotics, all of which

unleashed human productivity and the potential for profit.

As none of us were alive at the time, it's easy to forget that in 1890 water had to be carried in and out of the home, sickness and food contamination was a constant risk, infant mortality was above 20%, getting around by hoof was the superior mode of transportation, and a decent education was available to a minority of young men. A

GDP output per unit of labor) declined to one-third the rate of the previous century. Gordon demonstrates that the development of the personal computer, internet, and smartphones has had, on a relative basis, much less of an impact on our economic lives than the innovations of the Special Century. In the spheres of human life that do not involve communication, information processing, and entertainment, innovation in a broader sense has indeed slowed dramatically

10-Year Average Growth in Total Factor Productivity, 1900 - 2014



Source: Gordon, Robert. *The Rise and Fall of American Growth*. 2016

mere forty years later, a significant share of the population had migrated to cities, and almost all urban dwellings were equipped with electricity, natural gas, telephones, clean running water, and sewers. The productivity benefits of these breakthroughs echoed for decades and were reflected in impressive GDP figures.

Yet the data reveals a turning point in productivity occurred around 1970, and over the next forty years productivity growth (as measured by

since the days of disco. Construction methods are largely unchanged, travel times by air, car or rail haven't improved, and life expectancy flattened, to name a few examples.

Now this is not all to say that human innovation is a relic of the past or to diminish the importance of the IT revolution. The late 1990's saw a significant spike in productivity data as offices and households embraced the marriage of computers and new communication tools. Since

2004 however, productivity growth returned to a sub 1% level and has remained there as the marginal benefit of improvements in computing power and communication speed have declined. Moore's Law, the theory that the number of transistors on a microchip will double every two years and the price of computers will be cut in half, was for ages considered a law of nature but now no longer holds up. Even if it did, the demand for faster computing now only exists in a narrow set of fields.

In our view the narrative from Silicon Valley and other techno-optimists that faster processing speeds and advancements in robotics and artificial intelligence are going to transform human life in ways never seen before is an overstatement that's now ingrained in the psychology of the market and widely reflected in consensus long-run economic forecasts. In reality, new forms of robotics and AI have been trickling into factories and households for decades, and there is little to suggest that the next wave of Silicon Valley innovations will usher us into a new era of productivity.

As mentioned earlier, it is well-established that growth in the labor force (the other component of GDP growth, along with productivity growth) is in secular decline. Demographics are aging, labor force participation is in decline, and national output no longer has the tailwind of women entering the workforce en masse as they did in the latter part of the 20th century. Absent labor force growth, GDP expansion becomes increasingly reliant upon gains in productivity.

An unfortunate side effect of recent technological

advancements, made worse by the widespread use of cheap overseas labor, has been the destruction of middle-income jobs in the US. For decades, working class Americans have experienced little to no growth in real wages as corporations have focused increasingly on generating profits from cost-cutting and financial engineering (stock



buybacks, M&A) over growing the top-line. The corporate sector is now confronting the reality that both of these strategies have their limits and create a zero-sum tradeoff between profits and wages. This phenomenon has greatly contributed to the social unrest and political discontent we see across the political spectrum today.

As Jeff highlighted in our recent video, regardless of the outcome of the November elections, we see policy moving in the direction of "America-first," embodied in higher wages, new supply chains, and lower profits. In such an environment we continue to eschew investments in high-multiple or highly levered companies that require growth to maintain their valuations,

and in some cases solvency. We continue to advise our clients, institutions and families alike, to plan for an environment where the 8-10% annual returns on equities many of us are accustomed to is no longer the norm.

In the US, approximately 20% of publicly traded companies now have debt service costs that exceed their profits. Small-to-mid capitalization stocks make up a large share of that group, and are more likely to be disproportionately impacted by secular stagnation. Our preference continues to lie with defensively positioned companies in the large-cap space for a number of reasons: stronger cash flow profiles, reliable dividends, better access to capital markets, a greater influence over policy decisions, and balance sheets better suited to withstand economic disruptions.

In time we expect the unprecedented levels monetary and fiscal stimulus will make its way into the real economy in the form of inflation, at which point currently depressed groups like commodities, energy, industrials, and materials should regain market leadership. We will surely be patient adding exposure to these sectors given the magnitude of deflationary headwinds holding back aggregate demand.

-Peter C. Hatfield, CFA®