

IT WILL BE BETTER

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Is productivity growth really slowing down? There appears to have been a sharp drop in the annual rate of productivity growth in the U.S. and most other developed countries since the beginning of the Great Recession in 2008. But is it true, and if it is, what can be done about it?

How many minutes do you have to work to buy enough food to live? At the moment, a bushel of wheat costs a little more than \$4. There are enough calories in a bushel of wheat for the average person to have well over 2,000 calories a day for a month. A person on minimum wage would need to work less than 35 minutes a month to provide enough calories to live on. A person at an average U.S. wage level would only need to work 12 minutes per month to survive.

In 1900, the average person would need to work about five hours per month to buy a bushel of wheat, and in 1800 the average person would have had to work about 12 hours to buy the same amount of wheat. Corn is even less expensive than wheat – often half the cost – for those same 2,000 calories, but not as nutritious as wheat. Corn has become so inexpensive that the corn lobby had to invent a whole new use for it – ethanol – which is neither economic nor as environmentally friendly as gasoline.

Agricultural productivity continues to grow even though the world grows far more food than is needed to provide enough for everyone on the planet. We have gone from a world of periodic starvations and famines to one where a major global health problem is obesity. All recent starvations

and food shortages have been caused by corrupt and/or incompetent governments. Because of the increases in agricultural productivity, families spend less and less of their budget on basic foods – but more on prepared foods and restaurant meals – which are more of a service than raw material cost. As a result, the amount of food needed for survival is becoming closer to a free good for billions of people around the world. Recently it was announced that a group of researchers has produced artificial chicken with all of the benefits of the meat (it even looks and tastes like chicken) but without the intervening animal. At the moment, it is very expensive; but as it becomes an industrial process, it will become very inexpensive.

Eating bulk grains to survive is not very satisfying. But a careful shopper in an American supermarket can buy enough nutritionally balanced food on a mere two dollars a day to supply sufficient calories for a normal adult. Which means, for as little as 12 percent of the U.S. federal budget, every man, woman and child could eat for free in the U.S. The problem is not to have enough food or the collective ability to pay for it, but how to distribute it in an efficient manner to those who truly need the assistance, without destroying work incentives and fueling corruption.

Telecommunications, particularly international calls, were very costly only a couple of decades ago, with transoceanic calls costing many dollars per minute. But now, domestic calls and basic data transfer are becoming close to a free good, and each year people can obtain much more and better “communications product” for less money. We are nearing the point where every movie, TV show, and musical composition ever produced and every book or article ever written are available to most people on the planet for mere pennies. What this means is that almost all the world’s knowledge is now online and nearly free so that motivated people, regardless of location or financial circumstance, can obtain a world-class education.

The result is that traditional higher education is already being disrupted as over-priced second-rate institutions will have increasing difficulty attracting good students and will eventually shrink, merge, or go bankrupt. State-sponsored schools will be able to hold on longer, but even they will lose students as more alternatives develop to provide young people with skills they really need to obtain good jobs in far shorter time and less expensively. The result will be massive job losses for professors (even tenured ones) who do not have sufficient reputations to attract students – and no more paying \$30,000 per year to listen to graduate students giving fuzzy lectures in big halls about micro-aggressions. Schools with large reputations for having extremely smart students – e.g.,

Harvard, Princeton, Cal Tech, Columbia and Oxford – or for having great sport teams or hot coeds or both – e.g., Florida State – or with some other unique niche will always be able to attract students. But it is bye-bye to the rest as has been happening with most daily newspapers. The land and physical settings for many colleges are their best assets; and as students flee, the college and university boards will increasingly sell off buildings and other assets for a better and higher use – productive capital formation.

The new technologies are also beginning to have a major impact on primary and secondary schools – as parents and taxpayers see many ways to obtain much greater educational outcomes for the money. State school monopolies will increasingly tumble – and experimentation with alternative models will accelerate. Many experiments with charter schools, various sorts of private and high-tech schools, homeschooling with advanced technologies, etc. will fail, but some will succeed in big ways which will free up poorly used capital and good teachers in the old state-run schools to higher and better uses.

The smartphone has replaced not only the wired phone, but also the address book, flashlight, camera, clock, maps, photo albums, calculator, newspapers, magazines, TV set, library (collections of books, music, films and other information), notebook, wallet, etc., etc. How does one measure the gain in productivity stemming from a device that replaces these other devices in a superior way? It is becoming increasingly likely that within the next five years the world will not only have self-driving but in many places automatous vehicles. Jobs like taxi driver and truck driver will rapidly disappear. Currently, most people own cars that are parked far more than they are driven – a huge waste of depreciating capital. Autonomous vehicles will greatly diminish the number of cars needed to transport people to where they need to go because the cars will be utilized at a far higher rate, rather than sitting around in ugly garages or clogging up streets.

The tech firms are in a race with each other to develop wearable or even implantable medical devices to monitor our bodies in real time, so treatments and preventive actions can take place before we are in big trouble. The good news is that technology should greatly bring down the cost of medical care. Computers like IBM's Watson, which continually learn, will be able to give almost everyone on the planet the best and most up-to-date diagnosis and treatment recommendations – eliminating medical malpractice and enormous waste of resources and time. The aging process is being slowed down because of medical advances, and within a number of years will be reversed. People will still

die of something, but many of the long lingering, debilitating and very costly illnesses will be relegated to unpleasant memories.

Robots are taking over most physically demanding and repetitive tasks, freeing up humans from doing boring and dangerous jobs. This will increase the pressure on current low-skilled workers to develop skills and specialties that cannot be easily duplicated by robots and other machines. As noted above, there will be plenty of jobs not requiring a college education, but requiring excellence in something – sports, performance, arts, sales, etc. I recently saw an interview with Grace Slick who rose to world fame in 1967 as the lead singer for the Jefferson Airplane (White Rabbit, etc.). Slick is very smart and well educated. She was asked about what advice she had for young people now – I am paraphrasing – but the essence of her message was to find for yourself what you can do best. She became a singer/songwriter, not because she was unable to do many different things, but because she became aware that she had an extraordinary stage presence and ability to compose and sing – and this was the best use of her skills at the time. She then went on to become an artist and author, in part because she thought it looked “silly for rock stars – unlike country and jazz – to continue to perform as they got old.” Increasing numbers of people will go through many reinventions – in part because the new technologies allow us to learn and do things that we could never have done in the past. Over time, the retraining many will go through will also have a positive impact on productivity.

Increasing productivity is invariably seen as desirable because it results in lower cost for goods and services. Productivity increases come about from more, better and technologically-advanced machines combined with a higher skilled and motivated workforce. Higher taxes on capital (i.e., the machines) and on labor reduce productive investment and work incentives. Regulations requiring more investment in things that do not add to productive output (e.g., restrictions on CO2 emissions) and regulations that increase the cost of labor (e.g., required paid leave and firing restrictions) also reduce productivity. The amount of investment is greatly affected by the cost of capital, and the cost of capital includes financial risk. A stable money and financial system reduce risk and vice versa.

One could argue that Britain’s Queen Victoria was responsible for some of the monetary uncertainty we suffer today. Before World War I, the world enjoyed a time of great prosperity and a significant rise in global incomes, in part because there was a global currency – gold. The major countries were on the gold standard, which made international monetary transactions predictable, easy and relatively

inexpensive, and restrained the ability of governments to engage in excessive deficit spending. World War I was a “war about nothing,” and the conflict was led by the German Kaiser, the Russian Czar and the British King – all grandsons of Queen Victoria. If she had married someone other than her German cousin Prince Albert, or did not have had nine children, the major belligerents would have been led by different and perhaps more sensible individuals. The warring countries all left the gold standard in order to finance their war efforts – which set in place the monetary, economic and political instability that plagued the rest of the 20th century.

It seems odd that mankind is capable of building the internet, creating the smartphone, and finding planets around distant stars, but has made so little progress in creating a stable money that is not subject to political corruption. The Federal Reserve is charged with producing a stable dollar but has a target of 2 percent inflation per year, which is not stability. Great advances have been made in various forms of payment, which is one of the functions of money, thanks to the discovery of electricity and the invention of the internet.

Progress is being made on developing private units of accounts and freeing money from the corrupt government monopolies, through innovations like bitcoin and others. What is lacking is money which is a good store of value. Gold could be a good store of value if governments did not have taxes on gold transactions, such as capital gains taxes, and allowed it to be freely used as money, and did not try to undermine the free-market by engaging in politically motivated gold sales and purchases. But that ideal world has passed and is unlikely to return. The failure to have stable, incorruptible money adds to risk, which undermines potential productivity growth.

Government deficits and debt have also weakened productivity growth by reducing the supply of savings available for productive investment. Governments and their crony capitalist partners are always first at the trough of savings and thus scoop up what they want at the most favorable rates, while the less well-connected are left in the queue foraging for the scraps.

Innovation is perceived as moving increasingly rapidly, but this is not showing up in the productivity statistics. Why the disconnect? Is it a problem of measurement? The old productivity measures are for the most part still valid (e.g. what is the change in a crop yield on a given acre, or how many blocks can a brick mason put down in an hour). What appears to be missing is the growing disconnect between the reduction in the cost of making a given product and what the product can

do. Again, the smartphone is the perfect example. The costs of manufacturing a given phone falls over time as the processes improve (as they do with most products) – which is measurable productivity. What is missing is our ability to measure the almost unlimited and very inexpensive “apps” which are constantly replacing other more costly products as noted at the beginning of this essay, as well as creating whole new product categories that we did not know we needed or wanted but which make our lives better and more interesting.

As a result, life does get better even with low productivity growth and slow economic growth. But it could be so much better with higher productivity growth and rapid economic growth. Economic growth is a function of capital deepening and again the quantity and quality of labor. Those variables can be altered by tax, regulatory, government spending and education policies, as well as adherence to the rule of law and the protection of private property. Many in the global political and media elite have a poor understanding of (or do not care about) the importance of such policies and are unable to perceive second-order effects of both good and bad policies. The good news is that the internet is allowing increasing numbers of people to operate in a parallel global economy, often not well observed by government, let alone regulated by it. Many of the productivity gains in the private, unregulated parallel economy will spill over into the traditional economy, in much the same way that the black marketeers in the socialist economies provided the necessary lubricant so those economies could at least partially function.

Socialism collapsed when the hypocrisy between socialist theory and the real world became so great that it was no longer sustainable. The new parallel economy may well have the same constructive effect on the world economy. And yes, productivity growth will continue, measured or not!

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