

Is the “Long Boom” of Technological Advancements Over?

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by Laurence B. Siegel

“Everything is amazing and nobody is happy.” – Louis C. K.

Few would disagree that the period from 1870-2010 saw immense technological advancements that improved our quality of life. But, according to Bradford DeLong, far fewer advances lie ahead, and societies should adapt by “slouching” away from a free-market system. He’s wrong on both counts.

There are two kinds of economists: those who labor in the fields trying to understand the economy better, and those who propose bold sweeping solutions to universally acknowledged problems. The first kind are fascinating and the latter are annoying – except when a lively writer and polemicist like Brad DeLong tries to be both. His *Slouching Toward Utopia* is both a masterly history of the twentieth-century American economy and an iffy prescription for fixing it.

Having studied economic history – the most important specialty in economics – for most of his adult life, DeLong knows how to tell a tale using detail rather than broad generalities, and words rather than mathematics. It’s a compelling read.

But, as the great curmudgeon of the last century, H. L. Mencken, said, “There is always a well-known solution to every human problem – neat, plausible, and wrong.”¹ In its policy prescriptions and grim forecast of the future, DeLong’s book is Menckenesque: elegant, convincing, and incorrect. I recommend it with half a heart. You will learn a lot of economic history. Just don’t try to create a society along the lines he prescribes.



J. Bradford (“Brad”) DeLong

What was special about 1870-2010?

DeLong’s “grand narrative” resembles that of the economic historian Robert Gordon, whose 2015 book – also enlightening but wrong in many ways – I reviewed in this publication a decade ago. DeLong’s narrative is that the second Industrial Revolution, which started in 1870 and brought us the automobile, the telephone, the airplane, the electrification of everything, and so on – was the most important one. Unlike the first Industrial Revolution a century earlier, it propelled human existence from near-universal misery to (on average) modest affluence today. On this point DeLong is right. But he argues that we’ll be lucky to hold onto the gains; I’d counter that we’d be unforgivably stupid not to.

The book’s title, *Slouching Toward Utopia*, references the phrase “slouching toward Bethlehem” in William Butler Yeats’ beloved poem “The Second Coming,” which itself is a riff on Percy Bysshe Shelley’s “Ozymandias.” Both poems are parables about destruction. We can see where this is going.

One of DeLong’s many arguments is that the “long boom” (my term, not his) that began around 1870 ended a decade ago – in 2010 by his reckoning. Before questioning this thesis, let’s first understand it.

Why 1870? “Inventing invention”

What happened around 1870, DeLong contends, is that we set up institutions that systematically promoted new ways of doing things. Before that, we invented things, but there were no organized and well-funded

efforts to innovate. He claims that, around that time, we “invented invention.”

DeLong also believes that our philosophy or attitude toward invention changed. We acquired “a burgeoning understanding that there is a broad and deep range of new technologies to be discovered, developed, and deployed.” This philosophy replaced the earlier admiration of “great amateurs” who made scientific or engineering discoveries out of curiosity, the desire to better mankind, or the need to make a profit.²

I’ll unpack the phrase, “invented invention,” in a moment. First, let’s look at the difference between the pre-1870 and the post-1870 invention ecosystem. During the first Industrial Revolution, individual craftsmen and experimenters did most of the creative work; because the effort was not organized on a large scale, inventions dribbled out of these great amateurs gradually, over a century. But the second Industrial Revolution was a burst of change that came almost all at once. As the Gordon wrote, “every aspect of life experienced a revolution.”

The years from 1870 to 1914 saw one radical innovation after another in quick succession. Considering how long it took humans to come up with a practical bicycle, the airplane came awfully soon afterward. As the comedian Louis C. K., whom I quoted in the epigraph, said, when flying in an airplane we are *sitting in a chair in the sky*. Only 18 years before the Wright Brothers’ first flight, there were no cars, and bicycles were primitive gadgets that only interested thrill-seekers.³

But 66 years after the Wright Brothers’ little flight, *we flew to the moon*. Think about that for a second. Sixty-six years is a brief moment in human history (my grandfather saw both events as an adult). The years 1903-1969 were not exactly technological slouches. And I expect even more out of the next 66 years. There are more of us to contribute new ideas and discoveries, scientific knowledge has spread far beyond the West and its offshoots, and communication is much faster (the investment manager Stephen Sexauer calls it “Gutenberg 2.0”), enabling us to stand on the shoulders of more and taller giants.

The secret sauce

What specifically did we do to invent invention? DeLong writes,

I think the answers lie in the coming of the industrial research laboratory, the large modern corporation, and globalization, which made the world one global market economy.

Big science, big business, and global trade. For a man associated with the center-left (DeLong was in the Clinton administration), and who has drifted farther left since that time, that’s a brave take – it’s rare for an academic, outside of a business school, to say something nice about big business. And he’s right about globalization; I worry that the current trend of deglobalization will hurt us considerably.

Why 2010? This argument is weaker

I’m with DeLong on the history. I said earlier that the book was elegant, convincing, and wrong. What part is wrong?

The long boom is not over

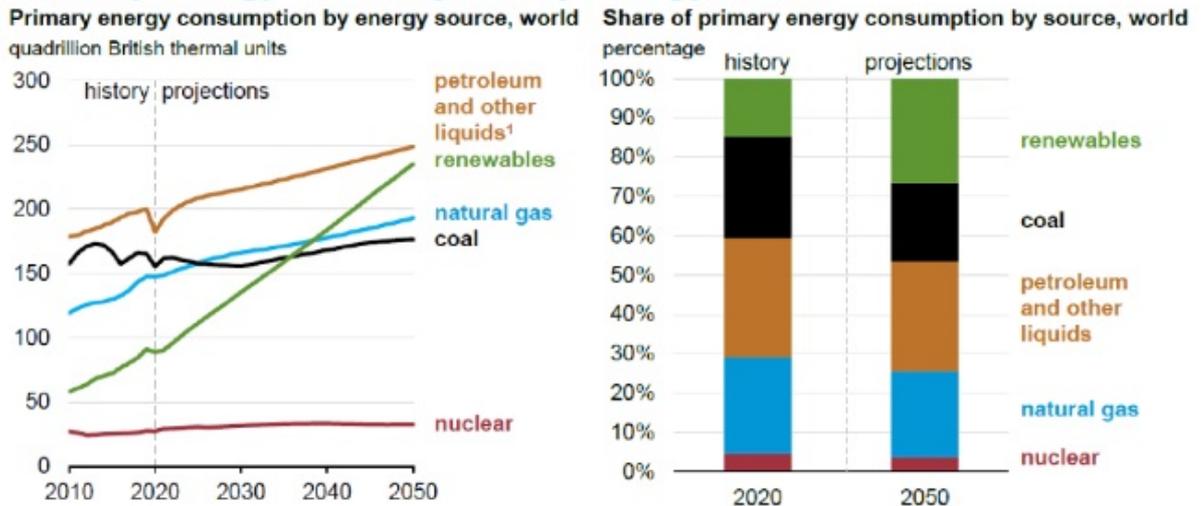
There are two areas where I strongly disagree with DeLong. One is his assertion that the long boom ended in 2010. It didn’t. While the current geopolitical scene is turbulent and dangerous, technological progress has not stopped and actually is accelerating. Only a month ago, a small molten-salt nuclear reactor passed an important regulatory hurdle in Canada. It’s just a start, but carbon-free energy is here, will continue to evolve, and will add materially to the energy base that supports the global economy. (See Exhibit 1.)

Because of these changes in technology and the need to at least gradually decarbonize, future economic growth will deliver much cleaner air and water and less CO₂. This industrial revolution will be just as valuable as the prior revolutions if it is managed in a way that does not at the same time make us poorer and increase the risk of conflict and anarchy.

Exhibit 1



Primary energy consumption by energy source



Source (slide 13)

Changes in technology are not, of course, limited to energy (or information science). Some biotech advances really do seem miraculous, such as what happened in the COVID-mRNA cycle over months, not decades or even years.

As with great music, each technological revolution is additive. It builds on and incorporates past advances.

The period since 2010 was also not so bad economically, with global production growing from a per capita PPP GDP of \$13,965 in 2010 to \$17,081 in 2021. (These are in constant dollars.⁴) That's 22% in 11 years or a compound growth rate of 1.85% - *almost exactly the long-run rate of global per capita growth for more than a century*. What happened in 2010 was... nothing.

The market is neither human nor inhuman

My other disagreement is with DeLong's attempt to meld the free-market economics of Friedrich Hayek with the communitarian socialism of the anthropologist Karl Polanyi. This impulse is based on DeLong's observation that the current system is "not human." I'll get to this later.

The water buffalo man

DeLong contends that the large amount of economic inequality in the world is a harbinger of slower growth, or no growth. Not only is that idea wrong, but DeLong himself presents the best possible argument against it: Most of the world still needs to play catch-up with the advanced economies.

"There's someone in Bangladesh who would almost surely be a better economics professor than I am and is now behind a water buffalo," DeLong told Annie Lowrey at *The Atlantic*. He continued, "The market economy gives me and my preferences 200 times the voice and weight of his. If that isn't the biggest market failure of all, I don't know what your definition of market failure could possibly be."

It's true that DeLong currently has more economic power than the water buffalo man by a factor of 200, but this exchange reveals exactly what is wrong with DeLong's reasoning.

If everyone in the world had already realized their full potential - if, following along with DeLong's cute example, everyone who *should* be an economics professor *were already* an economics professor, then future increases in well-being would be limited to increases in human potential itself, a tough order. (Improvements in technology and the volume of accumulated knowledge will help a little but will not produce the great leap forward that Mr. Water Buffalo needs.) Human potential, as opposed to human achievement, is relatively fixed; we get smarter or more creative or more moral at glacially slow rates, if at all.

But because, as DeLong correctly says, only a few people have realized their full potential, future economic growth will involve the rest of the world moving in that direction as quickly as they're able. The granddaughter of the man walking behind a water buffalo in Bangladesh may, in fact, become an

economics professor. (By then we will have too many of them, and I'd advise her to pursue something else.) In fact, Bangladesh has one of the highest economic growth rates in the world precisely for this reason: It is easier to imitate a pioneer than to be one.

The miracle is not over

Lowery's *Atlantic* article about DeLong is titled, "The Economist Who Knows the Miracle Is Over," with the subtitle, "An era of remarkable prosperity has ended." This statement of Lowery's, purporting to explain DeLong's thinking, makes the undergraduate error of confusing levels with rates of change.

If no more economic growth ever occurred (a rate of change of zero), and the economy remained in a steady state indefinitely (at the current high level), an era of remarkable prosperity would nevertheless *have just begun*. Human beings were on the planet for tens of thousands of years and were overwhelmingly very poor with short lives before DeLong's magical year of 1870.⁵ Now the world is, by historical standards, rich. If nothing improved from this point forward – which is ridiculous, but let's accept it for a moment – then the prosperity of "all future people" will be many times greater than the meager prosperity of "all past people." That's the miracle.

Everyone reading these words was born into a world in which the basic ingredients of a decent life have already been invented. We should contemplate our amazing good fortune, lest we squander it because we take it for granted.

Slouching away from Utopia

While reminding us that attempts at utopias⁶ always come to a bad end, DeLong has a utopia of his own, a blend of the free-market economist Friedrich Hayek and the communitarian socialist philosopher Karl Polanyi as I noted earlier. Both men were original and creative thinkers. Hayek, not the young whippersnapper Milton Friedman, was the principal spokesman for free markets in the Age of Keynes.⁷ Polanyi, lesser known but a major figure in the social sciences, "believe[d] that life can only flourish when markets are properly embedded within social relations and subjugated to non-economic norms."⁸

While the mix of Hayek and Polanyi suggests he'd be in favor of a mixed economy, we already have one – and a lot of people are unhappy, especially DeLong, who describes what we have now as "not human."

The world does have inhuman aspects, but they are a failure of governance and human nature, not of the capitalism that DeLong abhors (when he is not praising it). Venezuela and Sri Lanka, onetime success stories, are collapsing because of abysmal political leadership, not because capitalists are allowed to keep the return they generate on the capital they've deployed. Taiwan, South Korea, and today's Vietnam show how capitalism, melded with high-quality governance, can produce results that are more human and humane than anything these countries have ever experienced before.

Can we return to a folk society?

DeLong calls for a restructuring of society to achieve something more like what Kurt Vonnegut, building on the ideas of the anthropologist Robert Redfield, called a "folk society." A folk society, wrote Redfield, is "a small society" in which "behavior is traditional, spontaneous, uncritical, and personal; ...[t]here are no more people in it than can come to know each other well, and they remain in long association with each other."⁹

DeLong thinks such a society would be "human." He believes his journey into the imagined past is liberal and liberating, but it is deeply reactionary, throwing sand in the gears of mobility and ambition and making us all poor.

Moreover, DeLong overlooks the fact that his desired blend would sacrifice the many benefits of modernity to feed the desire for a folk society.¹⁰ Vonnegut *did* understand:

There was no access to the experience and thought of the past, except through memory. The [few who lived to be] old were treasured for their memories. There was little change. What one man knew and believed was the same as what all men knew and believed. There wasn't much of a division of labor. What one person did was pretty much what another person did.¹¹

Vonnegut describes – knowingly or otherwise – a world where per capita income is three dollars a day. *That* is what is not human. Three dollars a day was the level of living that almost all of humanity experienced until the 1700s in northwestern Europe and eastern North America, and until 1870 or more recently in the rest of the world. Under those circumstances we would often starve; we would, on average, die in our thirties; and women would have to bear a dozen children in order that three survive to adulthood.

In the pursuit of an imaginary Arcadia, then (see Exhibit 2 including my sardonic retitling of this wonderful work of art), the human race would have destroyed everything it has built over the last 200 years and most of what it has built over the last three thousand years. (Greece, Rome, and Renaissance Italy were not folk societies; returning to Arcadia would not mean accepting the living standards of those successful civilizations, but something much worse.)

Exhibit 2

“Nature Red in Tooth and Claw”

(actually “Peaceable Kingdom,” Edward Hicks, American, 1830s)¹²



The rational side of DeLong knows this: “Only a fool,” he says, “would wittingly or ignorantly slouch or gallop backward to near-universal dire global poverty.”

The emotional side of DeLong does not: “...Polanyi saw that Hayek’s vision of a market-bestowed utopia was unsustainable by *dint of being inhuman*.”¹³

F. Scott Fitzgerald famously wrote, “The test of a first-rate intelligence is the ability to hold two opposing ideas in mind at the same time and still retain the ability to function.” DeLong passes that test: He is for markets, and he is against them. His ambivalence suggests he wants a compromise, but it is not clear what that compromise would involve. Implementing his vision of the good society would result in a very bad one. That is an element of the tragic vision of which thinkers have spoken since Aristotle. People who imagine they have the secret formula for making everyone happy should write provocative books but not rule.

Everything is amazing and nobody is happy

DeLong reminds us repeatedly that, despite his admiration for much that the market accomplishes (“Hayek was a genius”), a market economy does not achieve Polanyi’s communitarian goals and therefore does not make us happy.

That is because it’s not supposed to! The market is an economic system, not (pace Ayn Rand) a moral system. The market determines prices, how much is produced, and how the fruits of production are allocated among the various claimants. A market economy consists of everyone doing what they think is

best for themselves. The only possible alternative to a market economy, then, is everyone *not* doing what they think is best for themselves! The only way to make people act against their own perceived interest is to use force. We would live in a tyranny.

Non-market economics has been tried at varying levels of enforcement (“democratic socialism” and all that), and it has failed to produce either prosperity or human satisfaction. The very pleasant economies of Nordic Europe are not socialist at all; nobody but the market sets prices or directs production. They are capitalist with a large welfare state, a world of difference.

Meanwhile, the pursuit of happiness is a problem for philosophers, painters, clergymen, and poets. Possibly psychiatrists. Definitely musicians.

Conclusion

Returning to the opening quote from Louis C. K., if everything is amazing, why is nobody happy?

We are asking too much of economics if we expect it to make us happy, to solve all moral or existential problems. Economics is the study of how we organize our efforts at making a living and improving our well-being each generation. In asking economic growth to be a cure-all and then finding it wanting, DeLong shunts the discussion onto a wrong line. What I wish DeLong had asked, and what many development economists do ask, is this: Having discovered, around 1870, how we can make a much larger proportion of us rich, how do we bring the benefits of that discovery to the rest of us?

DeLong is young by economists’ standards (he’s 62) and possesses considerable gifts. I hope he writes that book next.

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¹Often misquoted and/or attributed to other writers, this quote is from Mencken’s “The Divine Afflatus,” in *Prejudices: Second Series* (1920), London: Jonathan Cape; full text online at <https://www.gutenberg.org/files/53467/53467-h/53467-h.htm>. An afflatus (Mencken loved fancy words) is a breath or wind, which when “divine” produces creative inspiration.

²“Great amateurs”: This phrase, which DeLong does not use, refers to amateur scientists and seems to date back to the founding of the Royal Society (UK) in 1660. The era of great amateurs (when amateur scientists could make important discoveries because science was not very advanced and sophisticated lab equipment was not required) lasted from that time until about 1870.

³I exaggerate about the bicycle, but only a little. The modern or “safety bicycle” was invented in 1885. Earlier bicycles were rickety, uncomfortable, and dangerous – one model was aptly called the “boneshaker” – but they did exist.

⁴These data are in 2017 dollars and are from <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD>. PPP means purchasing power parity (that is, the numbers adjust for differences in the cost of living between countries).

⁵I can make the case for September 2018 (not 1870) being the date the world became “rich.” More precisely, it is the date when the Brookings Institution reported that half the world’s population was middle class (by their own modest standards – it is not the definition of middle class that an American or European would use). See <https://www.brookings.edu/blog/future-development/2018/09/27/a-global-tipping-point-half-the-world-is-now-middle-class-or-wealthier/> (The Economist reported the same development earlier, in February 2009; see <https://www.economist.com/special-report/2009/02/14/burgeoning-bourgeoisie>.)

Remember, however, that despite this incredible progress, the other half of the world is still poor.

⁶“No place,” not “good place” which would be translated as *eutopia*. Utopias cannot exist, as Sir Thomas More, who wrote the book *Utopia* in 1516, knew.

⁷A highly entertaining 2010 rap video features cartoon versions of John Maynard Keynes and Friedrich

Hayek arguing the basics of macroeconomics. Watch it; it beats going to class. While Friedman was only 13 years younger than Hayek, his audience was dominated by television-watching baby boomers who watched the PBS series *Free to Choose*. Hayek reached the previous generation, those who lived through the Great Depression and World War II, as did Keynes.

⁸<https://philarchive.org/archive/FARTDM>, p. 330.

⁹Redfield, Robert. 1947. "The folk society." *American Journal of Sociology*, vol. 52, no. 4 (January), <http://web.mnstate.edu/robertsb/380/the%20folk%20society.pdf>.

¹⁰Redfield (1897-1958) originated the term and was the first to describe what he called a folk society; Vonnegut just gave it much more visibility by discussing it in his best-selling book, *Wampeters, Foma, and Granfalloon* (1974).

¹¹Found here.

¹²For those who majored in linear programming rather than Victorian poetry, "nature red in tooth and claw" is Alfred, Lord Tennyson's (1809-1892) description of reality as understood by his contemporary Darwin, whom he much admired.

¹³My italics. Those are harsh words.