



Brookings: Whoever Wins The AI Race Will Rule The World

It will not be the intelligence of men who will run the future world, but rather an artificial intelligence programmed to create a global Scientific Dictatorship. This is the nature and future of Technocracy.

The Brookings Institution is an old-line establishment think-tank closely aligned with the Trilateral Commission that originally conceived the New International Economic Order; today this is known as Sustainable Development, aka Technocracy.

The underlying implication is that there will be a winner in AI that will rule the world. It doesn't really matter who is controlling it, because the whole world will succumb. □ TN Editor

A couple of years ago, Vladimir Putin warned Russians that the country that led in technologies using artificial intelligence will dominate the globe. He was right to be worried. Russia is now a minor player, and the race seems now to be mainly between the United States and China. But

don't count out the European Union just yet; the EU is still a fifth of the world economy, and it has underappreciated strengths. Technological leadership will require big **digital investments**, rapid **business process innovation**, and efficient **tax and transfer systems**. China appears to have the edge in the first, the U.S. in the second, and Western Europe in the third. One out of three won't do, and even two out three will not be enough; whoever does all three best will dominate the rest.

We are on the cusp of colossal changes. But you don't have to take Mr. Putin's word for it, nor mine. This is what Erik Brynjolfsson, director of the MIT Initiative on the Digital Economy and a serious student of the effects of digital technologies, says:

"This is a moment of choice and opportunity. It could be the best 10 years ahead of us that we have ever had in human history or one of the worst, because we have more power than we have ever had before."

To understand why this is a special time, we need to know how this wave of technologies is different from the ones that came before and how it is the same. We need to know what these technologies mean for people and businesses. And we need to know what governments can do and what they've been doing. With my colleagues Wolfgang Fengler, Kenan Karakulah, and Ravtosh Bal, I have been trying to whittle the research of scholars such as David Autor, Erik Brynjolfsson, and Diego Comin down to its lessons for laymen. This blog utilizes the work to forecast trends during the next decade.

4 WAVES, 3 FACTS

It is useful to think of technical change as having come in four waves since the 1800s, brought about by a sequence of "general purpose technologies" (GPTs). GPTs are best described by economists as "changes that transform both household life and the ways in which firms conduct business." The four most important GPTs of the last two centuries were the steam engine, electric power, information technology (IT), and artificial intelligence (AI).

All these GPTs inspired complementary innovations and changes in business processes. The robust and most relevant facts about technological progress have to do with its pace, prerequisites, and problems:

- Technological change has been getting quicker. While the pace of invention may not have accelerated, the time between invention and implementation has been shrinking. While average implementation lags are difficult to measure precisely, it would not be a gross oversimplification to say that they have been cut in half with each GPT wave. Based on the evidence, the time between invention and widespread use was cut from about 80 years for the steam engine to 40 years for electricity, and then to about 20 years for IT (Figure 1). There are reasons to believe that the implementation lag for AI-related technologies will be about 10 years. With technological change speeding up and first-mover advantages as big as they have always been, the need for large and coordinated investments is growing.
- Leapfrogging is practically impossible. While a special purpose technology such as landline telephones can be skipped in favor of a new technology that does the same thing such as, say, mobile phones, it is difficult for countries to leapfrog over general purpose technologies. For a country to overtake another, it must first catch up. Technological advancement is a cumulative process. Business process innovations needed to utilize the steam engine were necessary for firms to take advantage of electric power. More obviously, electricity was a precondition for information technology. Regulations that facilitate or impede technical progress, education and infrastructure, and attitudes toward the social change that accompanies new technologies matter as much as the technologies, pointing to the need for complementary policies that shape the economy and society.
- Automation is labor-share reducing, not labor displacing. While the most commonly expressed concern today is that the spread of artificial intelligence will replace workers with smart machines, the effects of earlier GPTs are better summarized as

reducing the share of labor earnings in value added. But the evidence also suggests that since the 1970s, automation in relatively advanced economies has put pressure on labor earnings. Put another way, the concern should not be widespread unemployment but the fact that incomes are becoming increasingly skewed in favor of capital over labor. This means that countries that have efficient arrangements for addressing distributional concerns have an advantage over those that don't.

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