

WILL AI BOOST GROWTH IN ASIA?

By Tan Sri Andrew Sheng

There is much hype about artificial intelligence (AI) and technology sparking off a revival of growth globally. How far is that true? In recent years, growth everywhere has slowed down due to productivity declines, in spite of the Internet and computer revolution. As Nobel Laureate economist Robert Solow said in 1987: "You can see the computer age everywhere but in productivity statistics".

From 1996 to 2005, US Labour productivity growth average 2.62% but slowed to 1% from 2006 to 2017. This trend cuts across different countries and has different reasons, such as financial crises, capital deepening, trade and mismeasurement factors. When AI arrived with a ChatGPT bang, everyone thought this was the biggest productivity innovation since the internet – we could write researched theses to poems in seconds.

In a recent essay on the macroeconomics of AI, Stanford economists Erik Brynjolfsson and Gabriel Unger argued that AI could developed in three different forks (good or bad), namely through productivity growth, income inequality and industrial concentration. Without a proper set of policies and regulations, we may end up with the worst of three worlds – low productivity, worse income inequality and huge power concentration.

On the other hand, with the right set of policies, an emerging and developing market economy could end up with higher

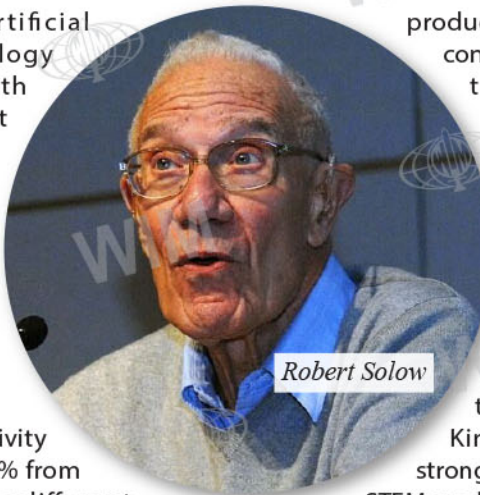
productivity, more inclusivity and less market concentration. It takes a lot of market size and talent to achieve leadership in AI and technology.

The Australian Strategic Policy Institute (ASPI) recently published a paper tracking 64 core technologies using cited research papers, which showed that the leading position of United States and China have reversed in the last five years (2019 – 2023), with India in third place, followed by the United Kingdom, Japan and South Korea. India is strong because has one of the largest cohorts of STEM graduates coming into her workforce.

Although the ASPI study is basically a desktop study of cited and published academic papers, the mainstream view is that China is undisputedly in the lead in the core manufacturing area, but the United States and her Western allies remain better in the cutting-edge technology areas.

However, China's ability to catch up on the latest five nano-meter semiconductor chips may be as short as three years behind TSMC technology. Clearly, attempts to constrain China through technology sanctions and restrictions to access from cutting edge technology only spur her to invest even more heavily in developing domestic technology.

For the Great Powers, cost seems to be less of a concern where national security is concerned. It is estimated that the cost of building a



Robert Solow



Gabriel Unger



Erik Brynjolfsson

top-of-the-line semiconductor fabrication plant has soared from US\$400 million for a 65nm chip in 2006 to US\$5.4 billion by 2020. McKinsey has shown that the top 10 in the semiconductor field account for the bulk of revenue and investments, demonstrating that technology (including AI) is highly concentrated and indeed generates income inequality.

Most would agree that governments should do as much as possible to narrow the digital divide by introducing mass digital and re-skilling education. Indeed, one of the fields where AI can excel is to help students learn much faster, using an AI bot as a teaching assistant. The first set of persons to be trained in using and applying AI should be civil servants, because government processes lie at the heart of almost all business and social transactions.

The private sector can innovate all it wants but its productivity will stop at the first bureaucratic red tape. Hence, system productivity cannot be increased without first increasing government productivity. Professor Brynjolfsson has argued that getting to the "better forks" is good policy, and would include creative policy experiments, a set of positive goals for what society wants from AI, and understanding that technology brings uncertainties in outcomes, so flexibility in implementation is critical.

Herein lies the common pattern to why productivity cannot progress in more complex societies. As business grow more sophisticated, laws and regulations rise in number and complexity, with often patchy enforcement, so that only the large or rich can afford the lawyers to manoeuvre around the bureaucratic swamp.

Corruption is encouraged where laws proliferate with little transparency as to enforcement or outcomes. In less sophisticated communication which live close to each other, everyone shares and cooperates to build social well-being, such as digging wells, maintaining the commons, and solving problems through consensus.

Using Nobel Laureate Edmund Phelps' expression, mass flourishing requires mass grassroots cooperation. You cannot delegate this just to civil servants. Just as teaching children digital skills require teaching the teacher first, we must teach the civil servants first by working with them to solve mutual problems. This is not about getting consultants to teach the civil servants, but getting the private sector to work with the civil servants in real live cases on how to improve state-market processes, such as licensing, compliance issues and actual policy outcomes and objectives.

All too often, in a world of delegation to experts or specialists, policies, rules and regulations have been passed with their original intention or objectives forgotten. The results are many laws exist that few understand, and are often obsolete. AI could identify cases of artificial stupidity (often unintended) that actually create waste and frustration.

I often wonder whether traffic lights that are mechanically operated can be easily replaced by smart CCTV cameras that can calibrate traffic and avoid huge waste of fuel and time in massive traffic jams. We need to work together to solve our mutual problems. Working together using AI may be a good start. ■

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