

## **Making Sense of China's Growth Model**

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Summary: After fast development in the last three decades, China's growth model is now widely agreed to be exhausted. The author points that some of Asia's most dynamic economies – including China, Japan, and the four tigers (Hong Kong, Singapore, South Korea, and Taiwan) – have experienced investment-propelled growth and improvements in TFP simultaneously can be explained by the fact that TFP gains increase investment returns, accelerating capital expansion further.

SHANGHAI – Although China's economy has expanded at a staggering pace over the last three decades, its growth model is now widely agreed to be exhausted. Even China's top leadership acknowledges the need for change – a belief that culminated in the far-reaching reform agenda presented two months ago at the Third Plenum of the Chinese Communist Party's 18th Central Committee.

While not everyone agrees on exactly what the new growth model should look like, proposals do not differ drastically, given the prevailing consensus that the current model rests on an unsustainable foundation. On the demand side, many economists endorse a shift from investment-led to consumption-driven growth. Even more popular is the supply-side recommendation of a shift from extensive to intensive growth – that is, from a model based on capital accumulation to one propelled by gains in efficiency, measured by total factor productivity (TFP).

These recommendations are presumably influenced by Paul Krugman's criticism in 1994 of Soviet-style extensive growth in East Asian economies (especially Singapore). At the time, Jeffery Sachs disagreed, asserting that the East Asian model included far more efficient market-based investment allocation than the Soviet model did, and thus was unique; nonetheless, the criticism stuck.

It was not long before some Chinese economists began to categorize the growth pattern brought about three decades ago by Deng Xiaoping's reforms as "extensive" – and thus problematic. A consensus has gradually emerged around this idea, with calls for a shift toward intensive, efficiency-driven growth intensifying since China's GDP growth began to slow in 2011.

But empirical research reveals a fundamental problem with this argument: China's TFP has grown at an average annual rate of nearly 4% since Deng's reforms began. If the United States' economy, with a TFP growth rate of only 1-2% annually, is considered efficiency-driven, why is China's not? More important, if China's TFP growth is expected to slow, as major drivers like the convergence effect wane, what does it mean to say that efficiency gains should propel China's future growth?

Consider the facts. A conservative assessment by Louis Kuijs, working with the World Bank, shows that, from 1978 to 1994, China's GDP grew by an average of 9.9% annually, labor productivity increased by 6.4%, TFP rose by 3%, and the capital-labor ratio increased by 2.9%. In the period from 1994 to 2009, annual GDP growth averaged 9.6%, labor productivity increased by 8.6%, TFP increased by 2.7%, and the capital-labor ratio rose by 5.5%.

Similarly, Dwight Perkins and Tom Rawski found that from 1978 to 2005, China's GDP grew by 9.5%, while capital investment grew by 9.6%, contributing 44.7% to GDP. The share of tertiary graduates in the labor force rose to 2.7% by 2005, accounting for 16.2% of GDP growth. And TFP grew by 3.8%, adding 40.1% to GDP growth.

While capital has been the largest contributor to China's GDP, the economy's TFP performance has been impressive – something that cannot be explained by an extensive growth pattern. Indeed, Japan's rate of TFP growth *never* reached such high levels, even at the country's economic peak. Even Hong Kong – the East Asian economy with the best TFP performance – registered only 2.4% average annual TFP growth from 1960 to 1990.

But annual TFP growth is not the only relevant figure. China's TFP has contributed 35-40% to GDP growth, compared to an estimated 20-30% in East Asia's "four tigers" (Hong Kong, Singapore, South Korea, and Taiwan). As for the Soviet Union, even in its best years, TFP accounted for only about 10% of GDP growth.

Though China's TFP contribution to GDP growth is much greater than in the other so-called "extensive" economies, it remains well below levels in the intensive US economy, where the figure exceeds 80% – a divergence that some might use to justify their refusal to define China's economy as "efficiency-driven." But this argument ignores the fact that China has been experiencing double-digit annual GDP growth, owing largely to capital expansion, while America's annual GDP growth has averaged only 2-3%.

If transforming China's growth pattern were simply a matter of increasing TFP's contribution to GDP to US levels, China's annual GDP growth would have to drop to below 5% – three percentage points lower than its potential

growth rate. Given 8% GDP growth, TFP would have to grow 6.4% annually. This is almost certainly impossible, owing to the gradual diminution of the major drivers – including market-oriented economic reforms, the convergence effect on *per capita* income, and the adoption of foreign technologies – of China's extraordinary TFP growth over the last 30 years.

All of this raises a simple question: Do extensive- or intensive-growth models really exist? Perhaps there is only fast versus slow, or extraordinary versus ordinary.

According to this view, if a developing economy can realize extraordinary growth, it must be because it offers greater opportunities for capital expansion than a developed economy. After all, investment opportunity is inversely proportional to *per capita* capital stock. On this point, Krugman is right: such investment-fueled growth is achieved largely through perspiration, rather than inspiration. But so what?

The fact that some of Asia's most dynamic economies – including China, Japan, and the four tigers (Hong Kong, Singapore, South Korea, and Taiwan) – have experienced investment-propelled growth and improvements in TFP simultaneously can be explained by the fact that TFP gains increase investment returns, accelerating capital expansion further. Though further analysis is needed to elucidate the long-term relationship between capital expansion and TFP, it is clear that the long-accepted theory that they cannot co-exist is seriously flawed.

In short, when it comes to Asian economies, the dichotomy of extensive and intensive growth is a red herring. A far more meaningful consideration is what drove these TFP gains; understanding that would enable China's leaders to design a more effective plan for strengthening the economy's long-term growth prospects.

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