

IS CHINA'S ECONOMIC GROWTH A DANGER FOR OTHERS ECONOMIES?

Assoc. Prof. George Ciobanu Ph.D
Assoc. Prof. Laurențiu Dragomir Ph.D
Assist. Andreea Maria Ciobanu Student Ph.D
University of Craiova
Faculty of Economics and Business
Administration, Craiova, Romania

Abstract: Extrapolating past real GDP growth rates into the future, the size of the Chinese economy surpasses that of the U.S. in purchasing power terms between 2012 and 2015; by 2025, China is likely to be the world's largest economic power by almost any measure. The extrapolations are supported by two types of considerations. First, China's growth patterns of the past 25 years since the beginning of economic reforms match well those identified by standard economic development and trade theories (structural change, catching up, and factor price equalization).

Keywords: max. economic growth, growth accounting, growth forecasts, development theories, human capital formation

Explanations of China's economic growth tend to focus on economic transition. The "success" of the reform process is explained by transition facts and strategies, where success is usually taken to imply economic growth (or a rise in living standards).

If one claims that economic transition "in total" has caused China's past economic growth, then one could argue that key elements of transition have been in place since the early 1990s (price and domestic trade liberalization, the entry of private enterprises) and that therefore the gains from transition have already been exhausted. Consequently, economic growth should since have slowed, which it didn't, or it could slow any time now. Alternatively, one could argue that past transition measures impact on economic growth over an extended period of time, or that transition is as yet incomplete, with further measures to go, in which cases the gains continue.

Growth patterns identified by economic theories of development and trade perhaps offer firmer ground. Economic transition could then be viewed as the removal of constraints that prevented well-known development patterns from unfolding.¹⁵ Furthermore, if China's reform period growth patterns match those exhibited by other countries at stages in their economic development similar to China's development level in the reform period, then China's future growth patterns may also match those of the other economies later. The argument has two foundations: one is a focus on standard growth patterns, the other is a cross-country comparison with countries with which a comparison is likely to be meaningful.

The growth patterns are structural change, catching up, and factor price equalization. These three patterns are not independent of each other, nor do they hold irrespective of the larger economic environment. They represent uni-causal explanations of economic growth that have the advantage that they do not rely on

individual transition measures and have been identified by development economics and trade theory as of relevance. At the same time, in as far as they reveal China to be at the very early stages of accepted development patterns, they support the growth projections into the future.

The comparison countries are Japan, Korea, and Taiwan. These three countries are relevant for China only if the assumption of constant effect among the four countries is met: different countries do not differ systematically with respect to the impact of the explanatory variable (specific to each growth pattern) on the dependent variable (economic growth). While these four countries differ, as do the domestic and international circumstances under which they experienced a particular stage of development, this does not necessarily invalidate the assumption of constant effect.

The choice of countries to compare China to is a subjective choice, motivated only by the desire to make comparisons across a relatively homogeneous group of countries. China may share some economic growth patterns with Japan, Korea, and Taiwan due to cultural similarities, geographic location, similar economic development strategies, or, in the case of Japan, relatively large size of the domestic economy. Limiting the analysis to Japan, Korea, and Taiwan allows the careful compilation of the necessary data from each individual country's statistical office, with a very few holes filled using the *World Bank Development Indicators* database, the *International Financial Statistics* (IFS), and the PWT. An attempt was made to cover the years 1960 through 2002, with, in some instances, data available only beginning around 1970. Ideally, data for the 1950s should also have been included but are not available. The earlier in the development process of Japan, Korea, and Taiwan, the closer to the case of China the initial conditions might have been. Data on China are for the years of the reform period (the years since 1978).

Throughout, the variable to be explained is real GDP growth *per laborer* since GDP is produced only by the active working population, namely. Employment data are midyear data when related to a variable that measures an annual flow, and end-year data otherwise.

1. Structural change

As labor shifts from low-productivity agriculture to higher-productivity industry and services, economy-wide real GDP per laborer, i.e., (partial) labor productivity, increases, if only because those laborers who have shifted sectors now produce a multiple of their former output value. Data show just how big, and increasing, the labor productivity differences are between the three economic sectors in China. One would expect to see relatively high aggregate (economy-wide) labor productivity growth in those years when a relatively large number of laborers shifts out of agriculture.

Data confirms the expectations. In years with a high absolute reduction in the share of laborers in agriculture, the growth rate of (real, likewise below) labor productivity is high. This pattern holds equally for all four countries. Among Japan, Korea, and Taiwan, the shift out of agriculture was, on average, fastest in Korea, followed by Taiwan and then Japan; this matches the initial shares of laborers in agriculture, with the highest one in Korea and the lowest one in Japan. One would consequently expect China, with an extremely high share of laborers in agriculture in 1978, to exhibit rapid reductions in this share, comparable perhaps to Korea, but the decline is more gradual. However, if in the official employment statistics the primary

sector were obtained as residual, it could include an over time increasingly undercounted migrant population. The share of the primary sector in employment of, in 2002, approximately 50%, would then be an overestimate.

At China's 1978-2002 rate of decline, with an annual reduction in the share of laborers in agriculture by approximately an absolute value of 0.01 every year (thus, for example, from 0.7 to 0.69 in one year), China has another forty years to go before its agricultural labor share reaches the level of just below 10% at which Japan, Korea, and Taiwan appear to bottom out. Even if China's primary sector employment of 2002 were somewhat overestimated, China still faces another two to three decades of labor transfers from the primary sector to the secondary and tertiary sector. But this implies that structural change as a source of economic growth has up to twenty to forty more years to contribute to labor productivity growth in China. Furthermore, in China, a given shift out of agriculture comes with higher labor productivity growth than in any of the other three countries.

2. Catching up

Catching up means that production techniques and technologies that have already been invented and implemented can be copied rather than need to be re-invented; technology transfer can also happen through the import of foreign equipment, possibly as part of foreign direct investment. Taking the U.S. as the leader in research and development, and proxying the level of technological development by labor productivity, the distance between a particular's country labor productivity (in USD) and U.S. labor productivity serves as a measure of the potential scope for catching up. One would expect to see relatively high real GDP growth per laborer in those cases where the distance to the leading country (the U.S.) is relatively high, i.e., where the potential for catching up is large.

Japan experienced its highest growth rates when its labor productivity was only ten to fifty percent of U.S. labor productivity. As the gap closed, growth rates in Japan fell (the trend curve shows a slight upswing at the highest labor productivity levels that appears to be an artifact of the imposed second-degree polynomial). Korea and Taiwan exhibit constantly high growth rates of labor productivity at around 4% to 6% throughout all years. But these two countries' level of economic development is in the range of 5% to 50% of the U.S. level, which is a range in which Japan also exhibited high and constant labor productivity growth rates. Korea and Taiwan may yet have to experience the slow-down that comes when the potential gains from catching up are exhausted. China also exhibits a downward pattern, but at a much lower level of economic development. Data show that China's labor productivity between 1978 and 2002 was only 1.2 to 2.4 % of that of the U.S. (using the official exchange rate to translate Chinese yuan RMB values into USD values). This seems almost too narrow a band to determine long-term trends. As/if more observations become available at higher labor productivity levels relative to the U.S., the negative slope could well disappear or turn into a positive one. Whichever direction future observations are heading, at China's highest level of catching up in the past, the growth rate of labor productivity was still at a relatively high 6-7%.

PWT data adjust for differing price levels across countries and may also, as in the case of China, undertake further adjustments to official data. Data are available for the 1950s through 1990s and are per capita (rather than per laborer); the observations for China are as always limited to the years since 1978. The pattern now is one of first

rising labor productivity at low development levels before gradually falling off. This might reflect initial opening up effects as barriers to foreign direct investment and imports are removed and access to foreign knowledge increases. The Chinese observations are again concentrated in a very narrow band, with a negative slope.

Independent of the choice of data, China is at a very low development level compared to the U.S. It appears to be at a stage of economic development (labor productivity) where other Asian countries started out more than 30 years ago. While labor productivity growth appears to fall as China catches up with the technology leader (and still is at a very high level), the scale of catching up is so small that such factors as exchange rate effects or uncertainties about the scale of the purchasing power adjustment could well render the slope coefficient insignificant. In the long run, as (if) China catches up with the U.S. and observations at higher development levels become available, the negative slope might yet turn into the positive slope that the other three countries exhibited at their earliest stage of economic development.

3. Factor price equalization

The factor price equalization theorem (or Heckscher-Ohlin-Samuelson theorem) states that factor prices, such as skill-specific wages, should equalize between two countries as long as a range of assumptions are met. I.e., the skill-specific wage rate of one country divided by that of the other country should equal unity. The slightly less restrictive, relative version of the factor price equalization theorem focuses on the relative prices of factors of production. Thus, for example, a country with labor that is cheap relative to capital should see demand for its labor rise. As underemployed laborers become fully employed, labor productivity rises. An increase in the demand for labor may also be accompanied by wage rises, which in turn are likely to be accompanied by labor productivity growth. In the absence of reliable prices of capital, the price of capital is approximated here by the price of investment goods. The price of investment goods of any particular country relative to the U.S. is available in the PWT.

There are three explanations of economic growth from development economics and trade theory and applied them to the case of China. China's past economic growth matches these standard development patterns, as does economic growth in Japan, Korea, and Taiwan. In as far as China is located at the *early* stages of each pattern, in comparison to Japan, Korea, and Taiwan, there remains much scope for future gains in labor productivity and therefore growth.

Extrapolation into the future of China's reform period economic growth suggests that the size of China's economy will exceed that of the U.S., in purchasing power parity terms, in less than ten years. Per capita, the point of time when China catches up with the U.S. is much further into the future, thirty to forty years from now, although the coastal areas, especially the in the past fastest growing five provinces together with Shanghai, with a population exceeding that of the U.S., may catch up in as little as two decades.

China's economic development in the reform period fits well with the broad development patterns of structural change, catching up, and factor price equalization, not least in comparison with other Asian countries earlier in their economic development. On all accounts, China has twenty to forty more years of gains in economic growth to reap. Re-composing China's economic growth from growth in income components suggests that China's continued growth is inevitable. Based on the year 2000 population census combined with past and current trends in education, the

quantity and quality of China's laborers can be predicted with near-certainty through 2015, and with high reliability for the years after. These forecasts suggest economic growth between 2005 and 2015 in the range of 7-9%, high enough for China to catch up with the U.S., in purchasing power terms, within a decade or less.

Demographics also matters in terms of market size (and 80% of China's population lives in the densely populated Eastern part of the country). Size of the domestic market should allow unprecedented variety and economies of scale. It is likely to have a positive impact on competition and, thereby, rationalization and innovation. The large pool of laborers, compared to other countries, could in time lead to a highly efficient allocation of labor in that each labor market niche can be filled by the appropriate talent.

Domestically, China's continued economic growth means that one-fifth of the world population will continue to experience significant improvements in their living standard. A share of China's population that exceeds the size of the U.S. population will enjoy living standards close to the level of developed countries in the near future. Others will rise out of poverty, while the sweatshops of early industrialization disappear sooner rather than later. Internationally, China's economic growth will continue to affect relative prices and production structures around the world. China's trade volume is exceptionally large by international standards. In 2000, China's ratio of 'exports of goods and services' to GDP was 25.90%, compared to 11.21% for the U.S.⁶⁰ By 2003, China's ratio of exports of goods and services to GDP at 34.24% was almost ten percentage points higher (while imports stood at 31.69%). Even if this ratio only stays constant in the future rather than rises further, China's economic growth means that China will soon be the world's largest exporter and importer.

While some in the West fret about the "China price" and its impact on Western economies, some firms in Western economies will benefit from the increasing division of labor, as will those who have a stake in these firms (for example, the typical pension fund of citizens of Western countries). Two-thirds of China's imports originate in Asia (where it sends half of its exports). China's economic growth, therefore, induces economic growth in other Asian countries. India may be tempted by China's example into sustained, growth-promoting economic reforms. It appears only a matter of time before the center of world economic activity, as measured by GDP, shifts to Asia.

But the influence goes both ways. In 2003, 16.48% of value-added in industrial enterprises with annual sales revenue in excess of 5m yuan RMB (USD 0.6m) within China was produced by foreign-funded enterprises, a figure which excludes an additional 11.15% in enterprises funded by Hong Kong, Macau, and Taiwanese entrepreneurs. For years to come, China is likely to want to enjoy the benefits of access to foreign capital and foreign technology. China is adopting international standards and practices on a scale and at a speed as perhaps no other county in the world ever has. A larger share of China's bureaucrats and enterprise managers are likely to have a foreign education or work experience abroad than in Western countries. On many measures, China is an extremely open economy.

China's rapid economic rise is not guaranteed. Economic problems range from bad loans in the banking system to an under-funded pension insurance scheme, the lack of a rural health care system, and bankrupt local governments. Yet China's leadership has a track record spanning more than two decades of rising to economic challenges and addressing problems as they become urgent. At a 9.37% average annual real growth rate, furthermore, GDP doubles every eight years; if the absolute size of a financial

deficit stays constant during this period, its significance, as a share of GDP, is halved. This provides all the more reason for China's leadership to stay focused on economic growth.

Economic growth also does not necessarily come with the connotation "good." Much of GDP growth could be accompanied by significant environmental degradation and resource exhaustion. A "green GDP" growth rate could be several percentage points lower.⁶³ At some point, China's leadership may no longer wish to trade off China's environment and resources for GDP growth. But even once that happens, it is likely to be a gradual process.

Political constraints may yet pose greater constraints on China's economic growth than economic or financial imbalances. Growing inequality or increasing dissatisfaction with widespread government/Party corruption could lead to a breakdown of political governance in China. From a more continuous perspective, China's severe control over access to information is unlikely to advance economic growth. At least social scientists work within a framework of relatively scarce information; information is more freely available only to those who are part of internal circles. Consequently, public scientific discourse is limited and a significant Chinese language research community centered around Chinese language research publications has yet to emerge. When China's economy is ready to move from catching up to innovation on a larger scale, these information constraints are unlikely to be helpful. A second aspect is the Party's control over key appointments across the economy, from state-owned enterprises to the banking system. The consequences of the appointment of, when in doubt, "red" rather than professional managers, and the absence of effective control mechanisms is unlikely to be conducive to economic growth and efficiency; evidence in form of corruption scandals abounds. These political constraints not only threaten to have a direct impact on the operation of China's economy, but are also likely to continue to induce some of the best Chinese-born talents to move or stay abroad.

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