

Convergence, Productivity and Industrial Growth in China during the Reform Era

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Abstract

China has made great progress in many areas since 1978. The impressive economic development witnessed during the post-reform period provides a good illustration of growth empirics. This thesis examines the Chinese economy by focusing on three issues: convergence, total factor productivity (TFP) and industrial growth.

The study of convergence was undertaken using a panel of China's 28 provinces, municipalities and autonomous regions (henceforth, 'provinces') over the period 1979-2004. The analysis found that besides the investment rate, population growth and initial income level, which are preserved in the basic neoclassical growth paradigm, human capital, openness, transport infrastructure and the industrialization level contributed to the provincial economic development. The share of physical capital in China's output was estimated to be 0.23 and the provinces were found to converge at a rate of 5.6 per cent per annum.

To calculate the growth of TFP for China's 29 provinces in this period, the non-parametric Malmquist index approach was employed in the analysis. Human capital, in addition to physical capital stock and the labour force, was included in the frontier production function. It was found that TFP growth in the Eastern and Central Zones was accomplished mainly through technical progress (i.e. innovation) rather than efficiency improvement, while the pattern was completely different in the least developed Western Zone. With respect to TFP level, the Eastern Zone had higher levels of productivity than the Central and Western Zones and the gap of productivity between the Eastern and the other two has widened over time. For China as a whole, TFP grew at a rate of 2.75 per cent per annum, which accounted for 30.02 per cent of its real GDP growth. Given the impressive role that TFP played in the whole Chinese economy and regional economies, it can be concluded that China's fast economic growth is sustainable in the long run.

The aim of the study of industrial growth here was to examine the correlates of growth of 26 industries in 9 provinces of the Eastern Zone of China over the period 2001 to 2005. Based on a three-way error component model, the analysis found that the dynamic externalities which arise from technological spillovers, such as industrial specialization, competition and industrial spillovers across provinces, played an important role in province-industrial growth. Province-specific externalities, which include exports, education, local market size and transport infrastructure, spurred industrial growth. The analysis also discovered an evident trend in the period under study of conditional convergence within the 26 industries in the Eastern Zone.