



China's comparative labour productivity performance in manufacturing, 1952–1997 Catching up or falling behind?

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Abstract

This study joins the debate of whether Chinese manufacturing has experienced a significant catch-up with or a process of falling behind the world's advanced economies. It calculates a new set of industry-of-origin, China–US purchasing power parities (PPPs) for major manufacturing industries at 1987 prices. Then, using a newly constructed data set, it derives China's comparative labour productivity level in manufacturing for 1952–1997. The results show that China's comparative labour productivity increased from about 3.0 in 1952 to 7.6 in 1997 (USA = 100), but with a long period of stagnation at around 4.5 between 1958 and 1990. A clear catch-up process has been observed since the beginning of the 1990s when China's market-oriented reform deepened. © 2001 Elsevier Science Inc. All rights reserved.

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1. Introduction

The postreform Chinese economy has been one of the most rapidly growing economies in the world. Even based on the most critical assessment so far of Chinese official output statistics, the economy grew at 7.5% per annum between 1978 and 1995 (Maddison, 1998),

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compared with the official figure of 10%. This growth rate is similar to that of Japan in 1952–1978 and that of South Korea and Taiwan in 1952–1995 (Maddison, 1998, Tables 3.4 and 3.10). As for the prereform period 1952–1978, after Maddison's (1998, p. 160) downward adjustment, the economy still managed to grow at 4.4% a year, compared with the official 6.1% a year, which is still a respectable growth rate, especially given all the political and economic chaos that China suffered during that period.

The Catch-up theory argues that countries at low levels of income have a potentiality for a faster productivity advance than countries at high levels of income since the former can use the stock of technology already developed by the latter (Abramovitz, 1986). However, the realization of catch-up is not guaranteed. It depends primarily on two factors, namely social capability and technological congruence. Social capability refers to the availability of an institutional framework, the policy making capability and political backing of government, and the human capital (technological and skills) level of the population, whereas technological congruence refers to the capability of adopting western technology (Abramovitz, 1989).

Based on studies focusing on detailed productivity comparisons at the sector/industry level with the world's productivity leader, the USA, using the International Comparison of Output and Productivity (ICOP) industry-of-origin purchasing power parity (PPP) approach,¹ it has been found that the postwar Japanese, South Korean, and Taiwanese economies experienced significant catch-up (Pilat, 1994; Timmer, 2000; Timmer & Szirmai, 1997). Compared with these economies, it is unquestionable that the postwar Chinese economy differs distinctly in social and economic settings and has experienced radical, sometimes damaging, policy shifts. We may then ask: "Compared with the leading economies in the world, has the Chinese economy, whose leaders vowed in the 1950s to overtake the West in two decades, experienced any significant catch-up or a process of falling behind?" This is an important question for China at this time when facing an historical opening to international competition that will follow its WTO entry.

To answer this question, this study first estimates a new set of China–US PPPs for manufacturing branches at 1987 prices using the ICOP industry-of-origin approach. It then applies the PPP estimates to a newly constructed data set for the gross value added (GVA) and labour input in Chinese manufacturing over 1952–1997, at the industry level, to derive China's labour productivity in manufacturing in comparison with that of the USA. We have found that in the entire postwar period, China's comparative labour productivity only increased by about 2.1% a year. However, the increase was faster (2.8%) during the economic reform period 1978–1997 than during the central planning period 1952–1978 (1.5%). As a result, China's comparative labour productivity level rose from 3.0 in 1952 to 7.6 in 1997 (USA=100). This was, however, accompanied by a long period of stagnation at around 4.5 between 1958 and 1990, but was then followed by a clear catch-up process when the market-oriented reform deepened. More importantly, the results shed some light on how

¹ The ICOP approach was developed by a group of researchers led by Angus Maddison at the University of Groningen. For a brief explanation, see Section 2 and, for details, see Maddison and van Ark (1988) and van Ark (1993).

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