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Industrialisation as an engine of growth in developing countries, 1950–2005

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ABSTRACT

This paper examines the emergence of manufacturing in developing countries in the period 1950–2005. It presents new data on structural change in a sample of 67 developing countries and 21 advanced economies. The paper examines the theoretical and empirical evidence for the proposition that industrialisation acts as an engine of growth in developing countries and attempts to quantify different aspects of this debate. The statistical evidence is not completely straightforward. Manufacturing has been important for growth in developing countries, but not all expectations of the 'engine of growth hypothesis' are borne out by the data. The more general historical evidence provides more support for the industrialisation thesis.

1. Introduction

Major technological breakthroughs in textile production and the application of steam power to production in Great Britain in the second half of the eighteenth century made a deep impression on contemporary and later observers. In the nineteenth century the term industrial revolution was coined to describe these developments in retrospect.

In many respects the term industrial revolution is misleading. It disregards the incremental nature of increases in productive capacity, the continuity with earlier developments in Northwest Europe in particular in the Low Countries and the importance of developments in other sectors of the economy. Also, the acceleration of British productivity growth only started in the early nineteenth century, rather than in the eighteenth century as widely perceived (Crafts, 1983; Maddison, 1982, 2007). In other respects, industrial revolution remains an apt term. It captures the introduction of radically new production technologies which have fundamentally affected the nature of global production. The emergence of modern manufacturing has led to dramatic changes in the structure of the world economy and to sustained increases in the growth of labour productivity and economic welfare (Maddison, 2001, 2007).

Great Britain was the first industrialiser and it became the technological leader in the world economy. It was the exemplar for other countries. Manufacturing became the main engine of accelerating economic growth in the nine-

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teenth century. Manufacturing production technologies spread to other countries. A global race for industrialisation had begun.[1]

Industrialisation should be seen as a single global process of structural change, in which individual countries follow different paths depending on their initial conditions and moment of their entry into the race (Pollard, 1990). The first industrial followers were European countries such as Belgium, Switzerland and France (Bergier, 1983; Crafts, 1977; Pollard, 1990; von Tunzelman, 1995). In the nineteenth century, the United States followed a different path towards industrialisation based on primary exports, abundance of land and natural resources, and scarcity of labour. Famous latecomers to the process of industrialisation were Germany, Russia and Japan. As argued convincingly by Gerschenkron (1962), latecomers profit from the availability of modern technologies developed in the leading industrial economies, without bearing all the risks and costs involved in research and development. Gerschenkron reasoned that technological developments had increased the scale of industrial production. This required a larger scale of resource mobilisation than before. Therefore, late industrialisation either would not take place or would be very dynamic. If the conditions were right and economic growth took off in a late developing country, it would take the form of a growth spurt.

According to Gerschenkron, the role of government policy and large financial conglomerates was more important in late industrialisation than in early industrialisation. The self-financing of firms, characteristic of early industrialisation in Great Britain, was incapable of raising sufficient resources to match the required scale of investment. Governments and financial institutions took over this role. They invested directly in industries and transport infrastructure. They played a crucial role in the mobilisation of resources for investment and they were very active in education and technology acquisition.[2] Development-oriented governments set themselves the task of eliminating historical obstacles to industrialisation and challenging the economic, political and military dominance of the early industrialisers.

What about the developing countries? From the middle of the nineteenth century onwards, the world economy had divided into industrial economies and agricultural economies (Lewis, 1978a,b; Maddison, 2001, 2007). Colonies and non-colonised countries in the tropics remained predominantly agrarian, while the Western world and the Asian latecomer Japan industrialised. Industrial growth in the West created an increasing demand for primary products from developing countries. Technological advances in transport, infrastructure and communication expanded the opportunities for trade. Thus, the colonial division of labour came into being. Developing countries exported primary agricultural and mining products to the advanced economies. Industrial economies exported their finished manufactured goods to the developing countries. Industrialisation became synonymous with wealth, economic development, technological leadership, political power and international dominance. The very concept of development came to be associated with industrialisation. Industrialisation was rightly seen as the main engine of growth and development.

In developing countries, moves towards industrialisation were scarce and hesitant. Towards the end of the nineteenth century, one finds such beginnings in Latin American countries such as Brazil, Argentina, Chile and Mexico and large Asian countries such as India and China.[3] But developing countries still remained predominantly dependent on agriculture and mining. Lewis has argued that the shear profitability of primary exports was one of the main reasons for the specialisation of developing countries in primary production. But colonial policies also played a negative role (Batou, 1990). For instance, in India, textile manufacturing suffered severely from restrictive colonial policies which favoured production in Great Britain.

Whatever the reasons, the groundswell of global industrialisation, which started in Great Britain in the eighteenth century, swept through Europe and the USA and reached Japan and Russia by the end of the nineteenth century, subsided after 1900 (Pollard, 1990). With a few exceptions, developing countries were bypassed by industrialisation. The exceptions were countries such as Argentina, Brazil and South Africa which profited from the collapse of world trade in the crisis years of the 1930s to build up their own manufacturing industries, providing early examples of successful import substitution. In Asia, China and India experienced some degree of industrialisation in the late nineteenth century, but industrialisation only took off after these countries freed themselves from colonialism and external domination. On the whole, the developing world remained overwhelmingly oriented towards primary production.

This started to change in 1945. After a pause of 50 years developing countries rejoined the industrial race in the post-war period (e.g. Balance et al., 1982). Since World War II, manufacturing has emerged as a major activity in many developing countries and the shape and structure of global manufacturing production and trade have changed fundamentally. The colonial division of labour of the late nineteenth century has been stood on its head. Large parts of manufacturing have relocated to developing countries which supply industrial exports to the rich countries. Some developing countries have experienced a process of rapid catch-up which was invariably tied up with successful late industrialisation (Szirmai, 2008). It should be noted that

[1] The term industrialisation is somewhat ambiguous. In the ISIC classifications, the industrial sector includes not only manufacturing but also mining, construction and utilities. However, the term 'industrialisation' usually refers to the expansion of the manufacturing sector. It is in this latter sense that it is used in this paper.

[2] With the wave of mergers of the eighties and nineties, the role of government in mobilisation of resources has become less important again. The resources of the mega-multinational companies dwarf those of many of the smaller national states and they are able to mobilise financial resources for very large investment projects, without any public support.

[3] Around 1750, the Indian textile industry was producing around one quarter of global textile output (e.g. Roy, 2004). However, the basis of production was more artisanal than industrial.