

**Bengal Industries and the British Industrial Revolution (1757–1857)**, by Indrajit Ray; pp. xiii + 290. London and New York: Routledge, 2011, £90.00, \$145.00.

The goal of this book is to ascertain the effect of the English Industrial Revolution on the industries of the English colony of Bengal. The industrial history of Bengal predates that of England itself. Bengali textiles had been carried by Bengali ships throughout the Asian oceans for hundreds of years before the English arrived on the Indian subcontinent. Bengal is an especially interesting case study of the effect of modern technological advance on indigenous industry because of both the long history of industrialization in the region and the lack of political will, or in some cases power, to protect the region's industries from encroachment by British goods. This book is of obvious importance to historians interested in the Indian economy. It will also be of interest to anyone trying to understand the response of the periphery to advances in the industrial center. The book consists first of a study of bullion movements in Bengal during the period in question, followed by five industrial case studies. The case studies examine in turn hand-woven cotton textiles, silk reeling and hand-woven silk, salt manufacture, shipbuilding, and indigo dye manufacture. Indrajit Ray has previously published articles presenting his preliminary analyses of these industries and the present book is an extension of those articles.

The industry studies are in all cases confined to Bengal and stay fairly tightly within the period from 1757 to 1857. These are the years the East India Company controlled Bengal; the years lie between the Battle of Plassey, which gave the Company political control of the region, to the beginning of true English colonization following the Sepoy Rebellion. The main contribution of the book is its extensive archival research. The author has scoured the parliamentary paper records and those of the West Bengal Archive for every number which will help him establish the changing levels of employment in each industry, and to try to determine the extent to which relative costs—rather than legislative policies—determined these levels. Cotton and silk were the premier domestic and export industries of Bengal. Salt manufacture was purely for domestic consumption and had been subject to government involvement for centuries before the British came to political dominance. The shipbuilding industry, at least in the period studied here, and the indigo dye industry were creations of British entrepreneurs operating in Bengal.

The estimates of employment ensure that the book addresses the question of deindustrialization—the extent to which exposure to British competition led to industrial retrogression in Bengal. Typically, such analyses focus almost exclusively on cotton textiles, so Ray's expanded focus is a welcome addition. The inclusion of shipbuilding and dye manufacturing indicates that not all responses to change were defensive, and that

there were opportunities as well as challenges in the new era of globalization even for the periphery. The thoroughness of Ray's analysis ensures that this is the most complete study of the employment effect of the British Industrial Revolution on Bengal in these years.

The issue of India's deindustrialization has been a focus of Indian economists since Romesh Chunder Dutt published his seminal *The Economic History of India Under Early British Rule* in 1902. To my mind, however, a more important contribution of the present study is documenting entrepreneurial response to changing international conditions. The study stops in 1857. Calcutta did not die away as traditional industries shrank, but instead in 1857 was beginning a period of major expansion as a modern industrial center. Indian entrepreneurs and European entrepreneurs located in India kept on responding to the challenges and opportunities posed by technological and structural change. This study will be most useful to future scholars as a beginning point to examine the responses—some successful, some not—to the opportunities posed by global change. A good example is the utilization of cheap imported cotton yarn by Indian handloom weavers to maintain competitiveness in the face of the flood of mass produced British cloth. Ray cleverly uses yarn import statistics to shed light on the quantitative significance of this response.

For the purpose of learning about entrepreneurial response in India from the evolution of these industries, there are points when the imposed time and location limit or even harm the analysis. Shipbuilding rose and fell roughly in the period from 1780 to 1820, when English-built ships were occupied in the buildup and denouement of the Napoleonic wars. Ray attributes the decline of shipbuilding in India to what were known colloquially as the Lascar Acts of 1823, which discriminated against Indian seamen sailing into British ports. But the Navigation Acts, of which these were a part, were repealed completely in 1849. If the problems of the Indian shipbuilding industry were purely due to legislation, the industry should have revived. It did not. British, Canadian, and U.S. firms returned to dominance. A complete analysis of this industry cannot end in 1857.

Silk reeling presents similar challenges. Bengali silk reeling was still growing strongly in 1857, but went into decline in the later nineteenth century as Indian entrepreneurs did not keep up with technology introduced elsewhere. In this case, Japan emerged as India's main competitor. Silk yarn was Japan's main export commodity until after the Second World War. India's failure relative to Japan in this industry is important to understanding India's subsequent path to industrialization. Ray's analysis on this topic thus ends at an unfortunate point. In the case of salt manufacturing, the limitations are regional rather than periodic. Ray faults Bengali legislation that favored British salt for the decline of the Bengali industry. But it appears from his analysis that Madras was an even more important competitor. An analysis of the political economy which led to different responses to British pressure in the presidencies of Bombay, Madras, and Bengal would be fascinating.

But these criticisms merely show how important is the work Ray has begun. I look forward to further extensions of his studies of Bengali industries.

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