IRSH 59 (2014), pp. 119–130 doi:10.1017/S0020859013000680

REVIEW ESSAY

Why Europe Grew Rich and Asia Did Not*

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Parthasarathi, Prasannan. Why Europe Grew Rich and Asia Did Not. Global Economic Divergence, 1600–1850. Cambridge University Press, Cambridge [etc.] 2011. xiv, 365 pp. Ill. Maps. £55.00; $90.00. (Paper: £17.99; $29.95.)

Between 1700 and 1850 Europe managed to usurp China and India as the centres of global production. Parthasarathi sets himself the task of explaining how the West succeeded in doing so – not by trying to grasp the entire Asian experience, but by focusing on cotton cloth. Summarized in a few sentences, his argument goes like this: the British economy, which had become demographically and ecologically increasingly unsustainable, managed to reverse the trend by resorting to coal and colonies. In the process, Britain captured the global market for cotton cloth from India, which for centuries had produced the finest cloth in the world. Rather than economic and technological superiority, it was mercantilist policies and the protection of the infant cotton industry that were the key to British success. The author combines the Great Divergence theme of Asian-European equivalence prior to the Industrial Revolution with another well-known narrative about the destruction of Indian cotton manufacturing by the British textile industry. The deindustrialization theme dates from the times of the drainage debate initiated by Romesh Dutt and

* I would like to thank Jan Lucassen (IISH) and Pim de Zwart (IISH and Utrecht University) for their comments.

Dadabhai Naoroji, and it has since been integrated into India's nationalist discourse. It has also been contested, however, most notably by Tirthankar Roy.[1]

Parthasarathi's combination of Great Divergence and deindustrialization has resulted in a bold argument, which does not seem, however, to have convinced today's leading economic historians. Reviews have appeared by Joel Mokyr, Jan de Vries, Peer Vries (the most extensive so far), and Tirthankar Roy, expressing strong reservations, while at the same time praising Parthasarathi's open-minded and erudite scholarship.[2] They also agree about the importance of his comprehensive attempt to broaden the Great Divergence debate by introducing India, which makes this book a must-read for those who are interested in the social-economic trajectory of late eighteenth- and early nineteenth-century India. Yet they hardly address what in their view is really new in *Why Europe Grew Rich and Asia Did Not*, perhaps because Parthasarathi's argument was already known from his earlier publications.

In my view, the main value of Parthasarathi's book is that it directs our attention to the fact that the timing of the economic divergence between India and Britain is an unresolved question. It is a topic of the utmost relevance for our understanding of the role of colonialism in our global economy, a role that has seldom been addressed on the basis of a serious exploration of the primary sources. I will confine myself here to two sub-questions. First, the question of whether wages in late eighteenth-century south India were equivalent to those in the most advanced parts of Europe, and, second, whether or not British colonialism brought about the deindustrialization of India.

A preliminary answer to the two questions would be that I agree with Parthasarathi's point that the question of wage divergence or equivalence between those parts of India that were linked to the world economy and Britain by the late eighteenth century has not yet been resolved. Many relevant archival sources are still waiting to be examined, and Parthasarathi therefore deserves credit for having based his argument about the wages of textile workers in south India on East India Company (EIC) archives

1. See Roy's critique of the Indian tradition of economic history: Tirthankar Roy, "Economic History: An Endangered Discipline", *Economic and Political Weekly*, 39 (2004), pp. 3238–3243.
2. *Idem*, "Review of Why Europe Grew Rich and Asia Did Not", *The Journal of Economic History*, 72 (2012), pp. 851–853; Peer Vries, "Challenges, (Non-) Responses, and Politics: A Review of Prasannan Parthasarathi, *Why Europe Grew Rich and Asia Did Not: Global Economic Divergence, 1600–1850*", *Journal of World History*, 23 (2012), pp. 639–664; Jan de Vries, "Review of Prasannan Parthasarathi, *Why Europe Grew Rich and Asia Did Not: Global Economic Divergence, 1600–1850*", *American Historical Review*, 117 (2012), pp. 1532–1534; Joel Mokyr, "Why Europe Grew Rich and Asia Did Not", published by EH.net (posted 9 January 2012).

and other primary sources and for making a convincing case for more research.[3]

With regard to the issue of deindustrialization, however, I am more critical, since I find Parthasarathi's point about deindustrialization wanting in empirical substance, his understanding of what industry is about unclear, and his chronology confusing. The point is that industrialization is not just about steam and steel. Moreover, steam technology became dominant only in the course of the nineteenth century, as Parthasarathi himself points out. We therefore need to include the development of the so-called traditional manufacturing sector when we address the issue of deindustrialization. In this respect, I would like to refer in particular to Tirthankar Roy's succinct discussion of the subject in an article in the *Economic and Political Weekly* more than a decade ago.[4] Furthermore, the question of how India's manufacturing sector coped with foreign competition during the nineteenth century deserves an investigation far more thorough than those that have so far been conducted.

COMPARING WORKERS' CONDITIONS IN INDUSTRIALIZING EUROPE AND INDIA

Parthasarathi's argument concerning the equivalence of wages in Britain and in economically advanced parts of India is adduced against the backdrop of the heavy price the working classes in north-western Europe paid for the economic ascendency of their part of the world. Amiya Kumar Bagchi, the Indian political economist and scholar of imperialism and colonialism, emphasizes, for example, that in terms of life expectancy India and China were less Malthusian than Europe in early modern history.[5] It is in the context of this debate that he refers to the consensus reached among economic historians in the 1980s that British living standards stagnated or even declined slightly between 1760 and 1815.[6]

3. For Parthasarathi's use of these sources see Prasannan Parthasarathi, "Rethinking Wages and Competitiveness in the Eighteenth Century: Britain and South India", *Past & Present*, 158 (1998), pp. 79–109. Claude Marcovits has questioned the usefulness of EIC sources because of their colonial provenance and bias, but other historians, including Tirthankar Roy, contend that the colonial bias is not present in each and every fact recorded in these EIC files. For the discussion between Roy and Marcovits in the *EPW*, see Tirthankar Roy, "Traditional Industry in Colonial India", *Economic and Political Weekly*, 35 (2000), p. 4287.

4. Tirthankar Roy, "De-Industrialization: An Alternative View", *Economic and Political Weekly*, 35 (2000), pp. 1442–1447.

5. Amiya Kumar Bagchi, "The Axial Ages of the Capitalist World-System", *Review (Fernand Braudel Center)*, 27 (2004), pp. 93–134, 94, 96–97.

6. Joel Mokyr (ed.), *The Economics of the Industrial Revolution* (London [etc.], 1985), p. 39. At the time, Mokyr pointed out, however, that the stagnation in living standards may well have to be attributed to factors other than industrialization. For a more recent discussion of real wages

Van Zanden has even come to the grim conclusion that there was an inverse relationship between economic development and wages in early modern history. This was obviously a concomitant of the intensive process of proletarianization; the increase in the number of hours worked per annum may have been a response to declining wages.[7]

Before embracing Van Zanden's conclusion as vindicating Bagchi's and Parthasarathi's perspective, it should be noted that his dark assessment is based upon grain wages, which tend to underestimate living standards in highly urbanized areas where food is comparatively more expensive.[8] A more sophisticated approach is the so-called basket of goods, which more or less corrects this bias. Using this method a team of researchers, including Robert C. Allen and Van Zanden, concluded that "The standard of living in the Chinese cities we have studied was on a par with the lagging parts of Europe, the Ottoman Empire, India, and Japan."[9] The use of grain wages – or, as is relevant in south Asia, rice wages – constitutes therefore an important weakness in Parthasarathi's argument, when he claims that the grain/rice wages in south India and even Bengal were higher than in Britain.[10] After all, this might have related in part to the fact that south Asia was less proletarianized and urbanized than Britain.

Yet these caveats do not lead one to reject Parthasarathi's case. To begin with, opinions about the timing of the divergence between India and Britain not only differ considerably, they are also – on closer reading – more nuanced. Broadberry and Gupta observe a sharp divergence from 1650 onwards,[11] but they also cite figures suggesting that the grain wages of skilled labourers in south India in the mid-eighteenth century exceeded those of unskilled labourers by 250 per cent.[12] In other words, the data presented by Broadberry and Gupta do not preclude the possibility that

and their stagnation between 1780 and 1820 see Charles H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain during and after the Industrial Revolution", *The Journal of Economic History*, 58 (1998), pp. 625–658, 643.

7. Van Zanden points out that "In early modern Europe there seems to have been a negative link between economic development and the level of real wages"; Jan L. van Zanden, "Wages and the Standard of Living in Europe, 1500–1800", *European Review of Economic History*, 3 (1999), pp. 175–197, 187, 192; *idem*, "Early Modern Economic Growth: A Survey of the European Economy, 1500–1800", in Maarten Prak (ed.), *Early Modern Capitalism: Economic and Social Change in Europe, 1400–1800* (London [etc.], 2001), pp. 69–87, 86.

8. Van Zanden, "Wages and the Standard of Living in Europe".

9. Robert C. Allen *et al.*, "Wages, Prices and Living Standards in China, 1738–1925: in Comparison with Europe, Japan and India", *The Economic History Review*, 64 (2011), pp. 8–38, 30, 27.

10. Parthasarathi, "Rethinking Wages", p. 80.

11. Stephen Broadberry and Bishnupriya Gupta, "The Early Modern Great Divergence: Wages, Prices and Economic Development in Europe and Asia, 1500–1800", *The Economic History Review*, 59 (2006), pp. 2–31, 17.

12. *Ibid.*, p. 14. For Parthasarathi's comments on these figures see *Why Europe Grew Rich*, p. 44.

skilled workers in the cotton manufacturing sector enjoyed incomes comparable with those of their British counterparts.[13] Moreover, Allen situates the divergence from the early eighteenth century onwards, but concedes to Parthasarathi that, thanks to strong demand from European trading companies, the weavers in south India might have enjoyed relatively high incomes, at least until the British expelled the French from India in the 1760s.[14] This is not entirely incommensurable with Parthasarathi's suggestion of equivalence, or living standards in economically advanced parts of India being higher even than those in Britain up to the very end of the eighteenth century.

There are two other arguments as to why wage equivalence cannot be discarded right away. First, we have Sivramkrishna's meticulous analysis of Francis Buchanan's social-economic survey of Mysore (1801), which suggests that wages were equivalent to those in the most advanced parts of Europe in terms of the basket of consumption (which is exclusively about food and therefore not the same as the basket of goods).[15] And second, Broadberry and Gupta base their comparison on data that are aggregated for India as a whole, whereas in all fairness it should be confined to the economically most commercialized and globalized parts of India. Moreover, south India was in a better shape economically than most of north India, which suffered heavily from the collapse of the Mughal empire. At that time, Bengal was probably the exception here as it enjoyed political stability under its own independent ruler from 1717 to 1757.[16] Roy concludes that even though grain wages in Bengal amounted to only one-fifth of those in Britain, its living standards in terms of nutrition were adequate at least until the great famine of 1769–1770. However, these relatively low grain wages might be attributed to Bengal's greater vulnerability to famine. In sum, we cannot exclude the possibility that living standards in some polities in south India were well above the Indian

13. To assess whether this was the case one could use the available data on skilled wage workers in Britain, for example in the IISH "List of Datafiles of Historical Prices and Wages"; http://www.iisg.nl/hpw/.

14. Robert C. Allen, "India in the Great Divergence", in Timothy Hatton *et al.* (eds), *The New Comparative Economic History: Essays in Honor of Jeffrey G. Williamson* (Cambridge, MA, 2007), pp. 9–32, 17.

15. Sashi Sivramkrishna, "Ascertaining Living Standards in Erstwhile Mysore, Southern India, from Francis Buchanan's *Journey* of 1800–01: An Empirical Contribution to the Great Divergence Debate", *Journal of the Economic and Social History of the Orient*, 52 (2009), pp. 695–733; Ulbe Bosma, *The Sugar Plantation in India and Indonesia* (Cambridge, 2013), p. 63.

16. This new stability, however, might have fostered urban prosperity while not having been able to stop the decline in agricultural productivity and wages. See David Clingingsmith and Jeffrey G. Williamson, "Deindustrialization in 18th and 19th Century India: Mughal Decline, Climate Shocks and British Industrial Ascent", *Explorations in Economic History*, 45 (2008), pp. 209–234, 213–215.

average and also above the average for Bengal for most of the eighteenth century.[17]

While these points may lend some plausibility to the claim that living standards in the most commercialized parts of south India compared favourably with those in Britain well into the eighteenth century, we have to acknowledge the fact that the wages of south India's calico and muslin weavers were exceptionally high because of the strong demand for Indian cloth, even though their wage levels might have had some regional ripple effect.[18] Another important point is that we need to recognize that in terms of levels of proletarianization and urbanization India and Britain were highly divergent, as Peer Vries points out in his review.[19] In an economy where wage labour plays a minor role, proletarianization has no substantial downward effect on wages. Moreover, as Jan Lucassen has pointed out in his article on the gunpowder factories in Ichapur (Bengal), wage levels in certain industries can be raised by collective action.[20] As a result, in certain sectors *throughout* Asia the nominal wages of unskilled or skilled labourers could approximate or even exceed those in Europe. For example, the nominal wages of workers in the Java sugar industry in the mid-nineteenth century could amount to 40 or 50 cents, which in terms of living standards compare quite favourably with the wages of unskilled labour in the Netherlands at that time. Dockworkers in Surabaya, for example, could earn up to 1 guilder per day – perhaps more even than the nominal wages of such labourers in the contemporary Netherlands.[21] This all underscores the need to collect data on wages in a variety of sectors and for different skill levels.

For good reasons therefore, in his review of *Why Europe Grew Rich*, Jan de Vries mentions the fragility of the evidence underlying Parthasarathi's argument. I would like to add that, so far, none of those debating "India and the Great Divergence" have submitted evidence based upon extensive archival research. The need to go to the primary sources,

17. Tirthankar Roy, "Economic Conditions in Early Modern Bengal: A Contribution to the Divergence Debate", *The Journal of Economic History*, 70 (2010), pp. 179–194, 187.

18. It would of course require additional research to establish the possible effects, if any, of high wages for skilled labour on the wages of unskilled labour.

19. Vries, "Challenges, (Non-) Responses, and Politics", p. 644.

20. Jan Lucassen, "Working at the Ichapur Gunpowder Factory in the 1790s [Parts I and II]", *Indian Historical Review*, 39 (2012), pp. 19–56, 251–271, 267. In Jan Lucassen, *Outlines of a History of Labour*, IISH Research Paper, 51 (2013), the author also refers to the bargaining power of labour as a factor influencing wage levels.

21. See for example J.L. van Zanden, "Kosten van levensonderhoud en loonvormingin Holland en Oost-Nederland 1600–1850", *Tijdschrift voor Sociale Geschiedenis*, 11 (1985), pp. 309–323, 317; Ulbe Bosma, "Migration and Colonial Enterprise in 19th Century Java", in Jan Lucassen and Leo Lucassen (eds), *Globalising Migration History: The Eurasian Experience (16th–21st Centuries)* (Leiden, forthcoming).

including the archives of the Dutch VOC and the EIC, is undeniable.[22] And this is exactly what Parthasarathi is urging scholars to do:

> The above discussion makes evident that the debate on comparative earnings in India and Britain is far from resolved. At the moment, the quantitative data are inconclusive, but the figures for India that have been obtained from primary sources are radically different from the scattered earnings data found in the secondary literature. This indicates that more research is needed on the basis of primary evidence for India. The quantitative material does not exhaust the evidence at hand, however, which is why qualitative findings on the place of laborers in the larger political economy are also essential to the discussion. And certainly more attention must be given to this evidence. Even more importantly, those who argue for higher British earnings must explain why there was such a gap with India. The evidence on productivity, levels of employment and the place of producers in the political and economic order does not suggest that British laborers were particularly favored in any of these respects. Thus there does not appear to be any compelling reason to believe that the laboring populations of Britain possessed a higher standard of living.[23]

Even though the last sentence leaves us guessing about the comparator of the British proletariat – I assume the artisans and farmers of more prosperous south India – this lengthy quotation includes two crucially important points. First, economic historians describe the deteriorating nutritional condition of Britain's proletariat, while they also claim that Britain was increasingly ahead of Asia in terms of GDP. Second, the point concerning labour productivity deserves far more attention than it has received so far. For a fair comparison of wage levels we should take into account that British workers worked at least twice as many hours per year as their Indian counterparts. I therefore read Parthasarathi's book as an invitation to widen a hitherto primarily economic debate by adding a global labour history approach, for example, when we investigate how shifts in the global economy impinged upon living standards.[24]

DID INDIA DEINDUSTRIALIZE?

With regard to economic dynamics and the institutional requirements for industrialization to take-off, there is general agreement that in this respect late eighteenth-century India was definitely not Europe's "other". Though in terms of proletarianization and urbanization Britain and the Dutch Republic were undoubtedly the most advanced countries in the

22. De Vries, "Review".
23. Parthasarathi, *Why Europe Grew Rich*, pp. 45–46.
24. An example of such research is Pim de Zwart's on commodity market integration and living standards in different parts of Asia (c. 1600–1800) using wage and price data from the Dutch East India Company (VOC) archives.

world at the time, India was undeniably a major producer for the global market, selling large quantities of products, ranging from cotton cloth, opium, sugar, and saltpetre, to a variety of buyers, including European trading companies. That India was not far behind Europe in terms of security of property rights and market organization is also fairly plausible. As Roy has pointed out, too much has been made of the fragility of property rights in India.[25] As far as market organization is concerned, local capitalism was a fierce competitor to colonial capitalism or collaborated on its own terms, as we know from Rajat Kanta Ray.[26]

It is against this backdrop that we should consider Parthasarathi's claim that India had the potential to follow Britain on the path to industrialization. I can sympathize with his argument that certain strategic sectors suffered from British protectionism, prohibitive taxation, and lack of encouragement by the colonial government. In addition to citing cotton manufacturers, he notes the well-known case of the Wadias, who lost their position as pivotal imperial shipbuilders as a result of the Registry Act of 1815, which barred Indian-built ships from entering British harbours in order to protect British shipyards. But what exactly were the effects of declining exports of cotton and shipbuilding? To start with the latter, the Registry Act meant a setback for the Wadia shipyards, but not the end, as they continued to build ships for the EIC in the nineteenth century.

Cotton was quite different of course. According to Broadberry and Gupta, from an all-time high in 1801 India's export industries, mainly cloth, shrank in size by almost 85 per cent in the first thirty years of the nineteenth century.[27] Roy concludes that the resulting decline in GDP may have been about 0.1–0.2 per cent, which is quite substantial in a situation where economic growth was between 0 and 1 per cent.[28] Yet this might partly have been compensated by the fact that, as Sugihara has pointed out, the total value of India's exports rose substantially after 1800, although this relates mainly to opium, indigo, and sugar, products that might not have had the same added value for the Indian economy

25. Tirthankar Roy, "Factor Markets and the Narrative of Economic Change in India, 1750–1950", *Continuity and Change*, 24 (2009), pp. 137–167, 143.

26. Rajat Kanta Ray, "Asian Capital in the Age of European Domination: The Rise of the Bazaar, 1800–1914", *Modern Asian Studies*, 29 (1995), pp. 449–554. His point is further exemplified by Dejung's study on the Volkart Bros trading house. See Christof Dejung, *Die Fäden des globalen Marktes. Eine Sozial- und Kulturgeschichte des Welthandels am Beispeil der Handelsfirma Gebrüder Volkart 1851–1999* (Cologne [etc.], 2013).

27. Stephen Broadberry and Bishnupriya Gupta, "India and the Great Divergence: An Anglo-Indian Comparison of GDP per Capita, 1600–1871", Working Paper, 5 December 2011, p. 27, Table 10, p. 24, Figure 1, available at: http://www.lse.ac.uk/economicHistory/pdf/Broadberry/IndianGDPpre1970v7.pdf.

28. Tirthankar Roy, *Rethinking Economic Change in India: Labour and Livelihood* (London, 2005), pp. 4, 116.

as textiles had.[29] The bottom line, however, is that Indian traditional manufacturing was not so dependent upon Atlantic markets.[30] This is congruent with Roy and Riello's argument that part of India's cotton manufacturing was destroyed but that, "a great deal survived too to provide the impetus for an indigenous industrialization somewhat later".[31] Part of the explanation is that labour-intensive activities such as weaving, and also sugar-making for that matter, occurred in the slack season in rural societies, which in turn partly explains their competitiveness in the face of increasing industrial imports of both cotton for most of the nineteenth century and sugar for the entire nineteenth century.

So where do the above observations lead us with regard to the question of deindustrialization? There is no doubt that textile exports were severely hit by British competition and protectionism, but that was in the very early years of the nineteenth century, when steam technology played only a marginal role in even the most advanced countries. If we take coal-fuelled machines as the benchmark, as Parthasarathi seems to do, we can discuss the possible retardation of industrialization, but not a *de*industrialization, as this would be an anachronism. Even in Britain the shift from waterpower to steam power took place only after 1847, when the length of the working day was reduced. By that year, in Bengal 153 steam engines were in use, one-half of which were installed on vessels. As regards steam for manufacturing, 29 such engines were in use in sugar factories, with another 4 under construction.[32] Though the comparative for Bombay might have been quite different, let me proceed with the example of Bengal.

By the late 1850s only a handful of the steam-powered sugar factories or refineries in Bengal had survived. However, the disappearance of the steam-powered sugar industry does not testify to British protectionism. On the contrary, for decades the British government had protected the planters in the Caribbean against competition from Indian sugar, but the lifting of the almost prohibitive duties on Indian sugar for the British markets in the early 1830s ushered in a genuine sugar bonanza in north India.[33] It was the strength of the bazaar, to use Kanta Ray's expression,

29. Kaoru Sugihara, "The Resurgence of Intra-Asian Trade, 1800–1850", in Giorgio Riello and Tirthankar Roy (eds), *How India Clothed the World: The World of South Asian Textiles, 1500–1800* (Leiden, 2013), pp. 139–169, 147.

30. De Vries, "Review", p. 1534.

31. Giorgio Riello and Tirthankar Roy, "Introduction: The World of South Asian Textiles, 1500–1850", in *idem*, *How India Clothed the World*, pp. 1–30, 18.

32. For Parthasarathi's discussion of the introduction of steam technology in the early nineteenth century, see *Why Europe Grew Rich,* p. 230; *Allen's Indian Mail*, 4 (January–December 1846), p. 34.

33. The expression "sugar bonanza" is derived from Shahid Amin's *Sugarcane and Sugar in Gorakhpur: An Inquiry into Peasant Production for Capitalist Enterprise in Colonial India* (New Delhi, 1984), p. 30.

and Indian traditional refined sugar manufacturers, the so-called *khandsaris*, on the one hand and declining prices on the world market on the other that put an end to the very promising start of industrial sugar production in India. By about 1850 British capitalists such as John Gladstone were concluding that their investments in Indian industrial sugar had been lost. In contrast, India's traditional sugar manufacturing went through successive stages of innovation in the course of the nineteenth century which enabled it to carry on competing with the global model of sugar factories.

Examples such as these underscore the need for a broader perspective on industrialization than a derivative discourse on Britain's Industrial Revolution can offer. For such a non-derivative discourse the colonial archives contain a tremendous wealth of information. Biased as these sources undeniably are, they nonetheless offer indispensible insights into market, social, and ecological constraints to the introduction of steam technology and other potential innovations. For reliable assessments to be made about the impact of colonial rule on the development of the manufacturing sector in India, much research remains to be done, particularly for the period prior to 1870. Some comparisons have been made between the data collected by Francis Buchanan Hamilton and the 1901 census for Gangetic Bihar suggesting a switch from non-agricultural employment into agriculture, but those data are at a rather aggregate level and mainly concern cotton spinning.[34]

For the late nineteenth and early twentieth centuries, however, there is also room for debate. Census statistics suggest at least a relative decline in industrial employment between 1880 and 1930, but this might partly be the result of changing counting practices, increasing capital intensity (to a rather insignificant degree), and, last but not least, the growth of small-scale manufacturing with wage labour at the expense of cottage production. According to Roy, the latter factor can be attributed both to improving labour productivity and to increasing competition on the domestic market.[35] In fact, the developments in markets for traditional Indian sugars, the so-called *gur* and *khandsari*, seem to support Roy's commercialization thesis.[36]

It should not come as a surprise that I find problematic Parthasarathi's conclusion that due to non-investment in education and discouraging revenue policies "technology transfer was impeded, the establishment of new industrial methods of manufacturing was aborted, and technical skills and knowledge atrophied or disappeared".[37] Apart from being a rather

34. Clingingsmith and Williamson, "Deindustrialization in 18th and 19th Century India", p. 219.
35. Daniel Thorner and Alice Thorner, *Land and Labour in India: With Index and Tabs* (London, 1962), pp. 77–81, and Roy, "De-Industrialization: Alternative View", pp. 1442–1447.
36. Bosma, *The Sugar Plantation in India and Indonesia*, p. 242.
37. Parthasarathi, *Why Europe Grew Rich*, p. 266.

sweeping statement, this point about atrophied knowledge is also puzzling for anyone who has read Gyan Prakash's *Another Reason*, which is not mentioned in the bibliography of *Why Europe Grew Rich*.[38] Prakash maps the extensive network of knowledge dissemination that would eventually also have a great impact on agricultural development. Agricultural output and productivity were increased by irrigation, transport, rural credit, and, in the early decades of the twentieth century, botanical research. The effects have may manifested themselves in an average 1.1 per cent annual growth in agricultural income between 1865 and 1910 after probably more than 150 years of stagnating per capita GDP.[39]

CONCLUSION

Compared with the extensive and meticulously detailed data on the social and economic history of Britain, the field in India is under-researched. In 2004, Tirthankar Roy complained in the *Economic and Political Weekly* about the "sad state of economic history" that still trailed the nationalist deindustrialization theme and ignored the specificities and ecological constraints of the Indian trajectory. Roy's article started off a spirited conversation among Kaoru Sugihara, Roy Bin Wong, Kenneth Pomeranz, Andre Gunder Frank, and Arun Banerji in the same journal, which converged on the need to see that different societies formulated different answers to overcome ecological constraints.[40] In addition, Sugihara subscribed to Roy's point about the resilience of India's traditional manufacturing sectors, which, as I have argued, is congruent with the many studies of local markets and rural societies that made a mockery of the orientalist picture of stagnating early modern India. Moreover, global historians have become increasingly aware of the fact that the Industrial Revolution is just one form of industrialization and that in many countries labour-intensive and resource-saving trajectories have been followed.[41] British colonialism was no doubt detrimental to Indian

38. Gyan Prakash, *Another Reason: Science and the Imagination of Modern India* (Princeton, NJ, 1999).

39. Roy, *Rethinking Economic Change in India*, p. 4.

40. Tirthankar Roy, "Economic History of India: A Restatement", *Economic and Political Weekly*, 39 (2004), pp. 3859–3860; Kaoru Sugihara, "East Asian Path", *Economic and Political Weekly*, 39 (2004), pp. 3855–3858; R. Bin Wong, "Asia in the Future of Economic History", *Economic and Political Weekly*, 39 (2004), pp. 5669–5672; Andre Gunder Frank, "Structuring a New Economic History", *Economic and Political Weekly*, 39 (2004), pp. 3843–3855; Kenneth Pomeranz, "South and East Asia in Global Economic History: An Ongoing Dialogue", *Economic and Political Weekly*, 39 (2004), pp. 5268–5272; Arun Banerji, "White Man's Burden: India and Britain in the 19th Century", *Economic and Political Weekly*, 40 (2005), pp. 2973–2978.

41. See, for example, in this respect Gareth Austin and Kaoru Sugihara, *Labour-Intensive Industrialization in Global History* (New York, 2010).

economic growth in the century before 1870, but I am not yet convinced that it was capable of suffocating Indian ingenuity.

The big question thrown up by *Why Europe Grew Rich* is in what way, if any, the decline of living standards in India after 1820 was linked to rising living standards in Britain. This requires a multivariate analysis for which far more data are needed than are presently available.[42] Only then can economic historians make reliable calculations about the composition and development of Indian national income prior to 1870. Labour historians, meanwhile, have a task to explore further the workings of the labour markets, for example on how wages responded to external demand from the world market and the British market in particular. And finally, even if one agrees with Parthasarathi that the ecological limitations to economic growth may have been less severe in India than in Britain (p. 182), we cannot ignore the issue of ecological fragility forcing Indian farmers constantly to balance the need for risk reduction against their desire to increase income.

42. In fact, Clingingsmith and Williamson have made a start in identifying the causes of deindustrialization by such an analysis in "Deindustrialization in 18th and 19th Century India", though their article lacks any definition of what industry is in the Indian context.