

Empires guns and economic growth: thoughts on the implications of Satia's work for economic history.

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Whoever speaks of the Industrial Revolution speaks of ...? According to Priya Satia it is guns that we should associate with modern economic growth. The thesis that the industrial revolution was borne of war is not a new one, in fact it is a steadily emerging and important focus of current research.¹ Satia's thesis takes it one step forward by suggesting that twenty first century violence is borne of the industrial revolution. To what degree is this an argument that should be taken up by economic historians, or more precisely, to what extent can economic history support this view? Although economists view the industrial revolution as the dawn of the miracle of economic growth, the processes and effects of the industrial revolution have always been contentious in economic history, and commonly linked to exploitation, inequality, and the decline of the values of a moral economy.² *Empire of Guns* sits within a burgeoning literature in histories of capitalism which associate the commencement of capitalism with industrialisation, and slavery, racism and inequality. An interpretation of Satia's thesis is that the industrial revolution to blame for modern terrorism and as well, and if so then industrial capitalism is truly damned. By contrast the trend in economic history over the last two decades has been to associate industrialisation with enlightenment, technological innovation and improved living standards.³

¹ O'Brien, P.K., *The Contributions of Warfare with Revolutionary and Napoleonic France to the Consolidation and Progress of the British Industrial Revolution*. LSE Economic History Working Papers, 264/2017.

² For descriptions of what has at times been a violent debate see Hobsbawm, E. J. "The Standard of Living during the Industrial Revolution: A Discussion." *The Economic History Review*, vol. 16, no. 1, 1963, pp. 119–134; McCloskey, D., *Bourgeois dignity : Why economics can't explain the modern world*. London: University of Chicago Press, 2010. CRAFTS, N., *Explaining the first Industrial Revolution: Two views*. *European Review of Economic History*, 15(1), 153-168., 2010.

³ Allen, R. *The British industrial revolution in global perspective*, Cambridge: Cambridge University Press, 2009, Mokyr, J. *The enlightened economy : An economic history of Britain, 1700-1850*, Yale University Press 2009.

As Satia very well charts in her opening chapter the militarisation of the British State and the industrial revolution were contemporaneous. State demand and investment in warfare undoubtedly brought about rises in trade and output. The demands of the state on British supply chains are part of the story that enable Satia's claim that "Everyone participated in war manufacture"(p.4). The colonial and exploitative aspect of much of that trade is well documented, particularly in the northern Atlantic.⁴ However, nobody has made a firm causal connection between the technological innovation involved in mechanisation and factory production in the eighteenth century, and militarisation.⁵ The claim that "War made the industrial revolution" (p.2) is much harder to sustain on current evidence.

Economic historians will highlight three big problems for the Satia thesis. Firstly, it's hardly credible that war, or gun making began with the industrial revolution, and most introductions to economic history cite an explicit connection between economic and military expansion that goes back to the Romans and explore the technological and production complementarities of the metallurgical relationship between mining, minting and cannon from the hundred years war at the latest.⁶ If gun making and industrialisation do have some kind of causal relationship one would have expected the phenomenon of modern industrial capitalism to have commenced in the sixteenth century in Silesia at the latest.

Secondly, there is no denying that the in the first industrial revolution, as currently defined, the transformation in production occurred not in metallic trades and goods – but textiles, the innovations that economic historians have spent that last thirty years examining happened not in the 'Empire' of recent feature but in Lancashire hills and towns, borne of long traditions in domestic wool and worsted production.⁷

⁴ Inikori, Joseph E., *Africans and the Industrial Revolution in England: A Study in International Trade and Economic Development*, Cambridge University Press, 2002.

⁵ For detail on this point see O'Brien, P.K., *The Contributions of Warfare with Revolutionary and Napoleonic France to the Consolidation and Progress of the British Industrial Revolution*. LSE Economic History Working Papers, p.47.

⁶ Braunstein, P., *Innovations in Mining and Metal Production in the Late Middle Ages*. *Journal of European Economic History*, 1983, pp.573-591; Hamilton, E. J., *War and Prices in Spain, 1650–1800*. New York: Russell & Russell, 1969.

⁷ Hudson, P., *The Industrial Revolution*. London ;New York: E. Arnold 1992; Hudson, P.,(Ed.) *Regions and Industries : A Perspective on the Industrial Revolution in Britain* Cambridge: Cambridge UP, 1989; Allen, Robert C. *The Industrial Revolution in Miniature: The Spinning Jenny in Britain, France, and India*. *The Journal of Economic History* 69.4 (2009), pp. 901-27.

Table 1. Weights of output in the industrial sector (Broadberry 2015. pp 134-7)⁸

Commodity	1270-1420	1420-1582	1582-1700	1700-1740	1740-1770	1770-1870
Metals	18.8	11.9	13.5	9	7.4	15.6
Mining	0	4.5	11.4	5.9	4.1	12.4
textiles	51	51.9	41.7	55.5	64.6	39.4
Foodstuff	27.6	26.6	21	10.6	7.5	8.7
Construction	2.6	4.6	8.8	9.9	9.7	11.4
Others	0	0.5	3.6	9.1	6.7	12.5
Total Industry	100	100	100	100	100	100

Table 1. shows just how dominant that growth in textiles was, but also that weight of output in metals declined through most of the classic industrial revolution period, and only grew after the late eighteenth century. It is easier than one might imagine to find support for the idea that the metallurgical trades were actually among the last to industrialise. The tools and components trades remained small, scattered and workshop based outside of Birmingham and Boulton's foundry until the mid-nineteenth century,⁹ and even after the introduction of the Siemens process in metals production the factory production methods and organisation that typified new capital labour relations in the textile industry were only adopted slowly.¹⁰

Satia's book highlights that metals, components and armaments trades have been relatively neglected by economic historians. The crowding out thesis that Satia cites (p.13) might suggest that the state managed production of guns and arms, but as her research on Galton implies, production was a private order affair, and if Satia and others are going to continue to claim that the process of industrialisation is responsible for the violent basis of the capitalist system of production then the known system of private sub-contracts, trade finance and the

⁸ Broadberry et al, *British Economic Growth*, Cambridge University Press, 2015.

⁹ Collins, E.T.J., 'At the cutting edge: edge tool production in southern and south-west England, 1740 to 1960' *Agricultural History Review*, 64,(2017) pp. 196-225.

¹⁰ Clegg, Fox, Thompson, Fox, Alan, and Thompson, A. F. *A History of British Trade Unions since 1889 / Vol.1, 1889-1910*. Oxford: Clarendon, 1964.

role of the contracting profiteering state within that need serious research.¹¹ Moreover, it is not usually thought that England had any advantage in armaments or metallurgy, quite the opposite. If guns and war did have a causal effect on industrialisation, then the oldest question – why England? – again presents itself. Satia’s work should challenge economic historians to put some numbers to the armaments trade in the eighteenth century. If the metal and components trades did not develop until the mid-nineteenth century in England what were the exceptional features of the English system that allowed this?

The most recent work in economic history has concentrated on very long run growth, and in some ways returned to the notion that industrial output was slow and growth in the eighteenth century less notable than we thought.¹² It is now the services sector in seventeenth century England that begins to command attention of those interested in long run growth.¹³ By contrast the history of capitalism narrative stresses the impact and terrible consequences of the classic industrial revolution period. After decades of rigorous theoretical empirical and substantive analysis industrial capitalism has got a good press from economic historians because it is also associated with peace, with growth, with moderation and global security at the end of the twentieth century. Whether historians of capitalism persuade a global audience that we should blame the emerging violence and extremism may depend on whether or not economic historian can engage with the different causal arguments that authors like Satia make. It’s time for economic historians to engage meaningfully with ‘Empire’ stories and both research and make clear the causal connections between changes in production techniques and social and institutional change.

¹¹ Pollard, Sidney. *The Genesis of Modern Management: A Study of the Industrial Revolution in Great Britain*. London: Edward Arnold, 1965

¹² Broadberry et al, *British Economic Growth*, Cambridge University Press, 2015; Crafts, N. Mills, T.C., ‘Six centuries of British economic growth: a time-series perspective’ *European Review of Economic History*, 21, pp. 141–158 (2017).

¹³ *Ibid.*