

CHAPTER 1

THE GREAT DIVERGENCE DEBATE

Prasannan Parthasarathi and Kenneth Pomeranz

The question why parts of Europe surged ahead economically from the eighteenth century while much of Asia, Africa, and even the Americas (with the exception of the United States), lagged behind has been debated for more than a century. Great thinkers of the nineteenth and twentieth centuries, ranging from Karl Marx to Max Weber, have addressed this large and important issue, as have a number of leading historians in our own times, including Eric Jones, Douglass North, and David Landes. The 'Great Divergence' as it has come to be known is, therefore, a very old question, but the contours of the present debate were shaped by the publication of Kenneth Pomeranz's book of that title in 2000. While Pomeranz's book focused on China – and more precisely on the Yangzi Delta – it ranged into Japan, India, and Southeast Asia, but the entry of India into the debate more fully would await the publication of Prasannan Parthasarathi's *Why Europe Grew Rich and Asia Did Not* in 2011.

The predilections of the two authors and the different perspectives that China and India bring to the problem have meant that the explanations for divergence differ in the two books. While Pomeranz has a far greater environmental history focus, Parthasarathi devotes more time to questions of technology and the state. Nevertheless, both works devote considerable attention to the economic conditions and institutions in the run-up to divergence. All of the above have been subject to great debate.

In the last fifteen years one can distinguish several overlapping strands of contention and not surprisingly the debate has focused far more on China than on India. In part, this is due to the earlier publication of the Pomeranz work and the long dominance of China–Europe comparisons. Such a debate is also not surprising given the greater number of historians of China than India in the United States and Europe, which has kept the discussion alive and thriving. There has also been more interest in the question of divergence in China and Japan than in India. While economic history is currently a flourishing field in East Asia, in South Asia it has gone into sharp decline since its heyday in the 1960s and 1970s.

This chapter will focus on comparisons between the advanced regions of Europe, China, and India, which have been the areas upon which much of the literature on the question has concentrated. It takes up four sets of issues. The first has to do with methodological questions connected to how we explain divergence. The chapter contrasts the structural approach that characterized an older and conventional approach to the problem with a conjunctural approach that has been introduced in the writings of Pomeranz and Parthasarathi. The structural approach rests upon enduring differences between Europe and Asia, which have been challenged in recent writings. Several

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important contemporary writings explain divergence as a consequence of conjunctures which led to different paths of economic development in different parts of the world.

The recent arguments for comparability between the advanced regions of Europe, China, and India in the period before divergence at the end of the eighteenth century bring us to the second set of issues considered in this chapter. The Pomeranz and Parthasarathi claims for broad similarity have inspired debates and challenges to their position. The chapter reviews these debates as well as the closely related question of the timing of divergence and concludes that there is still striking disagreement on both these issues as well as on issues related to institutions and scientific knowledge and the role that these played in divergence. This brings the chapter to the third set of issues, which has to do with the problem of how to settle upon the 'truth' in economic history. The writing of history is an interpretive act, and it relies upon the reading of complex and fragmentary evidence. Theoretical biases and questions of value shape how one analyses the evidence. In such a situation is it possible to settle upon an explanation of divergence which receives wide assent? Finally, this chapter considers the ways in which a global and comparative debate, such as that on divergence, has been received and has influenced scholarship in India and China.

Structure versus conjuncture

The classic writings of Karl Marx and Max Weber argued that the exceptional path of European economic development emerged from exceptional European conditions. Europe, in other words, was fundamentally different in some way from the advanced regions of China and India, and it was this difference that gave Europeans an economic edge and put the continent on a different trajectory. Such explanations are often called 'structural' in that they argue for deep social, political, economic, or cultural differences.

For Marx this difference was capitalism. Europe gave rise to a new economic order which rested on private property and wage labour, which was dynamic, innovative, and ever changing. Capitalism began in the countryside, where it transformed the agrarian order, but it soon spread to the world of manufacturing and its restlessness and dynamism produced the Industrial Revolution in the eighteenth century. However, capitalism as a new mode of production had longer origins, which means that the process of divergence began long before the eighteenth century, a point that the chapter will return to. By contrast, China and India remained static and unchanging, trapped in an Asiatic mode of production. As Marx wrote of India: 'Indian society has no history at all, at least no known history. What we call its history, is but the history of successive intruders who founded their empires on the passive basis of that unresisting and unchanging society.'¹

While Max Weber took a more cultural tack to understanding capitalism, he shared with Marx an approach which emphasized deep-seated differences between Europe, in particular its Protestant areas, and China and India. For Weber, the critical development in Europe was the affinity between the tenets of Protestantism and a

spirit of capitalism, which transformed the approach to economic activity, making it more systematic, calculating, and rational. These changes laid the foundation for the economic transformation of Western Europe from the eighteenth century, but in Marx's view predated that era. Weber argued that an affinity between religious thinking, economic rationality, and a transformative impulse was found in Europe which had no counterpart in China or India. Therefore, it was Europe which led the way to a new economic order.²

Twentieth-century historians approached the problem of divergence in much the same way as Marx and Weber as they sought to identify what made Europe different from even the economically advanced and thriving regions of Asia. Douglass North and Robert Paul Thomas assert the superiority of the political and economic institutions that emerged in Western Europe during the seventeenth century. For Eric Jones, Europe possessed exceptional environmental conditions and a competitive state system which was not found in Asia. David Landes attributed Europe's success to an advantageous culture. And Joel Mokyr has pinpointed the scientific culture of Europe as exceptional and critical to its economic path.³

Parthasarathi and Pomeranz, on the other hand, built on arguments for rough comparability and similarities between the advanced regions of Europe, China, and India and they argued that there is little evidence for European exceptionalism. In their view, divergence was the product of conjunctures between needs and opportunities.⁴

Pomeranz's book emphasized ecological relief which was provided by coal and overseas trade. Pomeranz argued that Britain and the Yangzi Delta – the most advanced regions in Europe and China, respectively – both faced pressures on the land, which provided the food, fuel, and fibre that were needed for survival. Britain was able to overcome its land constraint by substituting wood with coal and by importing foodstuffs and raw cotton from the Americas. In effect, Britain vastly expanded its land area. The Yangzi Delta, by contrast, did not have such ecological windfalls. While China as a whole had plentiful deposits of coal, these were difficult to access because they were located in Northwest China, at some distance from the Yangzi region, which was in the south. The external trade of the Yangzi Delta did not provide the same ecological benefits. (Pomeranz recognizes that a stream of new machines cannot be explained simply by the availability of energy to fuel them, and he has no quarrel with scholars who emphasize the contributions of European science as long as they do not claim that this is a complete explanation.)

For Parthasarathi, ecological relief in the form of coal is certainly part of the explanation and is especially critical for understanding the process of industrial development from the 1820s – 'the railway age', to use the language of an earlier generation – although he notes that the advanced regions of India did not face the ecological pressure of shortages of wood which were found in Britain and the Lower Yangzi. Parthasarathi argues that ecological relief must itself be placed in a larger political and economic context in which state policies were important in shaping the coal revolution as well as technological change more broadly. His approach to science questions its centrality for European economic change in the late eighteenth and early nineteenth centuries. He also challenges the

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differentiation of science along geographical boundaries and views it as a global enterprise, arguing that in early modern scientific endeavours, India was an important contributor and participant. (Pomeranz also points to non-European contributions to some emerging sciences, such as forestry, but emphasizes this point less than Parthasarathi.)

For Parthasarathi, ecological relief marks a later stage in the onset of divergence and becomes of central importance in the nineteenth century. In the late eighteenth century, however, a dramatic reshaping of global trade in manufactures began to take shape as the foundations upon which Britain displaced India as the chief supplier of cotton textiles to the consumers of the world began to be laid. The key to this foundation was technical and organizational innovations, which, he argues, emerged as a response to the competitive pressures placed on Britain, as well as other regions, from Indian cotton manufacturers, combined with state policies of protection. The textile producers of India and China were not subject to these pressures and thus did not face any need to innovate, which pressed upon Western Europe (as well as other parts of the world such as the Ottoman Empire).

As can be seen from these very brief summaries, both *The Great Divergence* and *Why Europe Grew Rich and Asia Did Not* built upon long-standing lines of thinking in British economic history. Pomeranz, for instance, stands on the shoulders of E. A. Wrigley, while Parthasarathi's point of departure includes classic works such as *The Cotton Trade and Industrial Lancashire* by A. P. Wadsworth and Julia de Lacy Mann. However, both scholars take these lines and develop them in new ways as a consequence of the global and comparative frameworks which they develop.⁵

How much divergence, and when?

The conjunctural approaches of Pomeranz and Parthasarathi rest on arguments on the comparability of living standards, as indicated by various measures (each of them imperfect on its own), well into the eighteenth century. The divergence between Europe and Asia, or more accurately, the advanced regions in those two continents, was in their view a recent phenomenon, dating back to the late eighteenth or early nineteenth century. This position has been hotly contested, and there have been lively debates on the timing and location of divergence as measured by living standards, wages, and so on. These discussions are critically important, but can quickly lead one into a thicket of fine details. Although this is not the place to wade into those details, some sense of the broad contours of the disagreements is essential.

China

One of Pomeranz's key claims, and confirmed by others, is the strength of the agricultural order in the Lower Yangzi. Robert Allen's reconstructions suggest that, as late as 1820, productivity per labour day in Yangzi Delta farming was 90 per cent of England's and that annual net income for a Delta tenant family (including a wife who made cloth part

time, as was quite common) was slightly higher than for a similar English household. Another study puts labour productivity in Yangzi Delta farming c. 1800 as equivalent to that of Holland, which was 94 per cent of English levels.⁶ Meanwhile, land productivity was far higher in the Delta than anywhere in the world except parts of Japan and was roughly nine times that of England. Thus, the Delta's total factor productivity was also extremely high and much higher than in various European countries which did industrialize in the nineteenth century. Agricultural labour productivity in Germany, for instance, was about 50 per cent of English levels, and its land productivity was also lower.⁷ These and other points challenge 'agrarian fundamentalism,' which argues that readiness for industrialization must be a direct function of agricultural efficiency as this makes it possible to free labour and capital for other uses and keeps food prices, and thus wages, low.⁸ Agrarian fundamentalism has also been challenged from the Indian perspective, which we will turn to shortly.

A different version of agrarian fundamentalism had also long held sway in Chinese historiography. *The Great Divergence* has generally been well received in China, but there have also been criticisms, many of which have come from scholars convinced that peasant production (as opposed to large farms largely worked by wage labour) cannot have yielded either the surpluses above subsistence or the flexibility necessary to begin sustained per capita growth. This position had long been a given of mainland Chinese historiography, but it cannot be reconciled with labour and total factor productivity figures like those cited earlier, or the impressive twentieth-century economic performances of Japan, Taiwan, and, more recently, Eastern China – all places featuring small-scale farming by families with strong ownership or usufruct rights.

The Great Divergence's larger claim that living standards and per capita incomes were comparable between Europe and China, and between England and the Yangzi Delta has required some revision. Originally, Pomeranz suggested that this was probably still true in 1800, and almost certainly around 1750. The 1750 claim remains plausible, though disputed; the former less so. A recent paper by Stephen Broadberry, Hanhui Guan, and David Daokui Li suggests a divergence in per capita GDP at a date closer to 1700 than 1750. However, this may be a sign that the range of disagreement is narrowing, since Guan and Li had previously claimed that a huge gap already existed in the fifteenth century.⁹ Still more recently, Patrick O'Brien and Kent Deng have questioned the feasibility of any GDP or wage comparisons and argued for a focus on consumption, beginning with grain; even here, numbers vary, but they suggest comparability between the Lower Yangzi and England at least as of 1750, and maybe beyond.¹⁰

India

The debate on standards of living in India is more spatially scattered and at an earlier stage than that on China, for which there are more contributions and which are centred regionally on the Yangzi. The debate may be said to have been launched in 1998 with the publication of Parthasarathi's 'Rethinking wages and competitiveness,' which has been challenged by

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several economic historians but most forcefully in several writings by Broadberry and Gupta.¹¹

Broadberry and Gupta have recently summarized their position: Silver wages were substantially lower in India than in England in the seventeenth and eighteenth centuries, which is a point that Parthasarathi made in 1998 and which he argued was the reason for the competitiveness of Indian cotton cloth exports. While Parthasarathi argued that grain wages (a rough measure of the real wage) were comparable in the mid-eighteenth century, Broadberry and Gupta conclude that while they were roughly comparable in the seventeenth century – the Indian figure ranged between 80 and 95 per cent of the English – in the eighteenth century there was a sharp decline and the Indian grain wage was only 33 to 40 per cent of the English.¹²

Broadberry and Gupta's findings for the eighteenth century have been disputed by not only Parthasarathi but also Sashi Sivramkrishna. The latter has drawn upon the voluminous material contained in Francis Buchanan's account of a journey through South India, mainly Mysore, in the early nineteenth century and has showed a rough comparability of real wages based on a broader basket of consumption goods. Parthasarathi has questioned Broadberry and Gupta's conclusions as they exclude well-known estimates for earnings of outcaste labourers in agriculture, which would have represented a wage floor in South India, and derive earnings for skilled weavers that fall in the same range as those of these degraded labourers.¹³

There are other problems with the Broadberry and Gupta figures: There is no allowance for non-monetary perquisites, which Parthasarathi included in his original calculations; we have no information on how many days per week labourers worked in England and India and the extent of unemployment and underemployment (impressionistic evidence suggests that these labour market conditions favoured workers in India, where there were widespread labour shortages before the nineteenth century). Finally, Broadberry and Gupta do not provide any explanation for their findings, especially given what we know about structures of contracts and the bargaining power of labourers in the two places, which again favoured labourers in India.

Obviously the jury is still out on the question of the comparability of wages and standards of living in India and Europe. However, it is unlikely that quantitative evidence alone will be sufficient to resolve this issue, and broader conditions of work and the position of labourers in the political and economic orders must also be considered. In his original contribution, Parthasarathi brought a broad perspective to the problem, but his critics have tended to be narrowly quantitative. To continue this discussion requires a deep immersion in regional economies and deep familiarity with local conditions and prices. Broadberry and Gupta range widely over the Indian subcontinent as a whole and mix together prices from diverse areas, which can be seen in their most recent summing up of the debate. Finally, the low-estimate earnings that Broadberry and Gupta provide for the eighteenth century raise the question of how labourers survived in that period. We know from other sources such as anthropometric data that South Indian workers, for instance, shrank in size over the course of the nineteenth century. The second half of

the nineteenth century was also an extraordinary period of famine in several regions of India. Why did these things not happen in the eighteenth century?¹⁴

Discussion

Even if we accept the most pessimistic estimates, which suggest that rough parity in standards of living had vanished by 1750 (in the case of China) or as early as 1700 (for India), this represents a major revision of previously dominant views. Angus Maddison's widely cited per capita GNP estimates, for instance, suggested that both China and India fell behind Europe centuries earlier,¹⁵ and many other scholars claimed that a fundamental divergence had occurred by 1500, year 1000, or even earlier.¹⁶ Fixing a precise date is probably not crucial or even possible. Nevertheless, some rough dating is needed because that will determine the universe of plausible explanations for divergence. For, if there were rough parity between the advanced regions of Eurasia in 1700, then some traditional favourite explanations would be eliminated. For instance, if the cause of divergence were, as David Landes claims, a difference between freedom and despotism that went back to ancient Greece, and gave Europeans a much greater propensity to innovate, it would be very hard to explain why East and South Asia remained so close to Europe more than 2,000 years after Pericles.¹⁷

Even if economic divergence came later than we once thought, a significant gap appears to have emerged by 1800 between the advanced regions of Europe and China, and perhaps between those of Europe and India as well. Certainly, the gap grew rapidly thereafter. This was largely because non-agricultural workers were generally much more productive than farmers in Europe and England than in China and Japan, and the number of non-farmers was growing at both ends of Eurasia.¹⁸ Again, this suggests that explanations are best sought outside agriculture, and without relying on black-and-white contrasts between entire societies. This still leaves us far from consensus, but it narrows the range of possibilities considerably.

Divergence seems to have come earlier to unskilled wages, both urban and rural, than to living standards. Though the data are poor, especially on the Chinese side, they indicate that by the mid-eighteenth century – when other indicators still suggest close comparability between Jiangnan and advanced regions of Europe – Delta wages had already fallen far behind, resembling those of Milan or even Warsaw more than those of London.¹⁹

At first these two points seem irreconcilable; but a gap in real wages can be quite consistent with comparable living standards. Wage labourers were probably under 10 per cent of rural adults even in the highly commercialized Lower Yangzi, where one might expect widespread landlessness. By contrast, nearly half of the working population in England and Holland in c. 1700 probably relied on wage earning.²⁰ Because most tenants in the Delta had strong usufruct rights, they earned much more than unskilled labourers – roughly three times as much, according to the best estimates Pomeranz can put together (smallholders would have netted almost five times what a labourer earned).²¹ Thus, a comparison of unskilled real wages is a comparison of the bottom of the income

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scale in Jiangnan with something close to the middle in Northwest Europe, reconciling significant wage differences with comparable average living standards.

The role of institutions

Since politics as well as markets structured global trade flows, institutions are also of importance. And institutions, of course, also figure in other explanations of East–West divergence. Indeed, the variety of institutional differences that have been invoked by one scholar or another can seem endless: domestic political arrangements; property rights; contract enforcement; fiscal and financial systems; institutions for encouraging, suppressing, and/or protecting inventions; organizations for trading and building empires overseas; and so on. These debates have been a good deal broader than those about the extent and timing of divergence, and participants have often talked past each other – not only because they have been working on many different subtopics, but also because it has not always been clear how to move from describing differences to assessing their significance. We here highlight a few points that have become relatively well accepted.

Although East Asian property rights and contract enforcement differed from those taking shape in Northwest Europe, Pomeranz argues that they were adequate for the efficient product markets that Smithian growth requires (i.e. growth based on the expansion of the market and the extension of the division of labour).²² When it comes to factor markets, the previous discussion of agriculture makes it hard to deny the effectiveness of Chinese (and Japanese) systems for allocating access to land. The evidence on capital markets is more mixed. It appears that capital in Japan and China was more expensive than in Europe, but the higher costs did not inhibit typical eighteenth-century kinds of economic activity such as handicraft production, commerce (including long-distance trade), agricultural improvement, or even early factories. East Asian manufacturing techniques tended to be less capital intensive than those in Europe, but not necessarily less efficient.²³

The biggest differences related to capital markets were in the area of public finance. European states clearly had much more effective systems for raising immediately available funds by pledging future revenues. However, it is not clear that this mattered much to the overall economic growth in early modern times, due to three crucial conditions:

- a) The overwhelming majority of European government spending was for warfare, and so was not very constructive in the short run, although long-run linkages were important).
- b) China, and especially Japan, faced much lower and more episodic military costs; these could generally be met by temporary exactions which were not large or frequent enough to discourage wealth accumulation.
- c) The technologies available did not require either very large-scale fixed investment that took many years to fully repay initial costs (as, for instance, railroads would

in the nineteenth century) or really major public investments in physical and human capital (e.g. universal schooling), some of which also took a number of years to begin yielding a return.

In the nineteenth century, all of these conditions changed. Moreover, Europe after 1800 reaped large *delayed* rewards from the overseas colonization it had carried out earlier: an activity that had required large amounts of patient capital, and was tied in various ways to military/fiscal issues. But the relevant institutions here were not simply matters of 'secure property' or 'competitive markets': They represented a much messier, and often far from liberal, set of arrangements. Perhaps the most important point here, which seems to be fairly well established, is about discontinuity. Institutions that were functional (or dysfunctional) for an economy with one set of constraints and possibilities could be much less (or more) facilitative of growth under the very different conditions of a later period.

The role of science

One of the most contentious areas in the divergence debate continues to be the contribution of science. Three positions may be identified in the literature. The first argues that science was not relevant, at least in the early stages of industrialization, and that it was artisanal knowledge that was important. Allen and Pomeranz are representative of this perspective.²⁴ The second argues that by the eighteenth century – if not even earlier – European science was critical and that what Europeans brought to the enterprise of production was in global terms a unique approach to knowledge and its application. Margaret Jacob, Joel Mokyr, and Patrick O'Brien may be seen as exemplars of this position.²⁵ A final position may be seen as a hybrid of the two aforementioned positions and is articulated by Parthasarathi. On the one hand, it argues that the application of knowledge to production was found outside Europe, in this case early modern India; that in important respects early modern science must be seen as transcending national or continental frames and emerged from contact; and finally, this approach agrees with Allen that in the early stages of industrialization artisanal knowledge was more important than scientific and that the creation of knowledge of the natural world often followed technical breakthroughs.²⁶

The role European science and knowledge systems played in divergence will continue to be debated for some time. However, it is striking that economic historians address these issues in radically different ways compared with historians of science. First, historians of science have moved away from an old emphasis on the laboratory or bench top as the main site of scientific activity to include field sciences such as botany, in which there was widespread cooperation across the world. With this shift in approach, historians of science have uncovered the contributions that scientific-minded individuals outside Europe made to the development of modern science. The label 'global science' would be a more accurate descriptions of for many things that have been labelled as 'European

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science'. Second, historians of science have found it very difficult to connect scientific knowledge and technological change at the micro level and therefore have moved away from making blanket statements about the connection between the two. There are many instances well into the nineteenth century of major technological advances emerging in the workshop, of which the science that lay behind the new technology was understood only afterwards. The steam engine is the quintessential example. The scientific principles, what we know as thermodynamics, were fully worked out long after the steam engine had been put to work for many decades. Finally, the growing evidence of scientific interest in seventeenth- and eighteenth-century South Asia and political and economic interest in knowledge production for its usefulness mean that arguments for the exceptional nature of European science have to be rethought. In sum, the differing approaches of economic historians and historians of science will need to be reconciled if the debate is to advance.²⁷

Telling what's right

Both *The Great Divergence* and *Why Europe Grew Rich and Asia Did Not* drew upon generations of scholarship on the British Industrial Revolution and the industrialization of Europe more broadly. The Industrial Revolution is one of the most intensely debated events in the discipline of history. Its only rival may be the French Revolution, the other event which along with the Industrial Revolution gave rise to the modern world in Eric Hobsbawm's famous and enduring formulation of dual revolutions.²⁸

The Great Divergence builds upon classic writings on coal and British industrialization. The energy approach may be traced back to the nineteenth century with works such as the *Coal Question* by William Stanley Jevons. In the 1930s, John Nef published a major two-volume study of the rise of the British coal industry. The most important recent exponent of the energy approach is Tony Wrigley, who, in 1988, brought coal back to the centre of the story of Britain's exceptional path of economic development. Pomeranz also draws upon the work of Eric Jones, who introduced the concept of 'ghost acres' in his classic study of divergence, *The European Miracle*, and in a more indirect way on Eric Williams' study of Caribbean slavery and English growth.

Why Europe Grew Rich and Asia Did Not picks up on other significant strands of writing on the British Industrial Revolution. The book's focus on cotton has a long lineage and may be traced back to nineteenth-century works such as Edward Baines' *History of the Cotton Manufacture in Great Britain*. In the twentieth century, cotton was central to numerous classic accounts – from that of Paul Mantoux's *The Industrial Revolution in the Eighteenth Century* to David Landes' *Unbound Prometheus* and Eric Hobsbawm's *Industry and Empire*. It was Hobsbawm who declared that 'whoever says industrial revolution says cotton.'²⁹ *Why Europe Grew Rich and Asia Did Not's* periodization of British industrialization into stages, cotton followed by coal, is faithful to that offered by John Clapham.

As the overview of the debate on divergence has indicated, the lines of debate and disagreement are many. These revolve around the relative 'levels' of economic development in the advanced areas of Europe and Asia, the nature of the industrialization process, the contribution of institutions, and the contribution of science and knowledge to that process. How are we to judge between competing explanations and settle upon which one is right or true?

In the case of several of these issues, adjudicating between different positions rests on the interpretation of qualitative data.³⁰ The contribution of institutions to the process of economic development or the level of scientific knowledge is not amenable to quantification; thus, to some extent, the judgement of these factors is subjective and 'in the eye of the beholder'. The interpretation of these sorts of factors is made more difficult by the lack of research on them in the Asian context, and thus places limits on our historical knowledge. The historical scholarship is far thinner on science in the seventeenth and eighteenth centuries for India than for Europe, for example.

A focus on factors that can be quantified is not a solution to this dilemma. If only such factors, such as wages, incomes, and prices, are part of the analysis, important dimensions of social, cultural, economic, and political life, which play a significant role in economic development, could be excluded. Quantification does not eliminate the interpretive and subjective elements that are present in the case of qualitative evidence. Making sense of quantitative evidence is no less 'in the eye of the beholder'.

The creation of quantitative data rests upon hundreds, if not thousands, of judgements, each of which can introduce error into the final figures. This is the case today when economists construct national income and other figures of economic performance. However, these difficulties are compounded when dealing with historical data and are made worse the further back we go. Eric Hobsbawm, who was not averse to quantification but recognized the difficulties, put it well more than fifty years ago when he pointed to the complexities of calculating money wages for even British workers in the nineteenth century: 'We know next to nothing of what people actually earned. How much overtime or short time did they work? How often were they unemployed and for how long? Who knows?'³¹ Converting these money wages into real wages introduces further pitfalls and is no easy task even in contemporary times. Hobsbawm writes: 'We know from modern experience how full of pitfalls cost-of-living indices can be even in our own time, when considerable efforts are made to collect statistics specially for their compilation.'³²

Kent Deng and Patrick O'Brien have pointed to a number of these same issues in a critical review of the wage and price data that are available for China. They urge scholars to 'remain sceptical towards all published comparisons of wage levels and trends for the Chinese and by extension other Asian empires.'³³ While their careful analysis focuses on the sources for a quantitative economic history of China, they conclude that the same limitations apply to those for India and the Middle East.

Even if we were able to assemble quantitative information that was able to accurately represent economic reality, that data would still have to be interpreted, which is neither simple nor straightforward. Stephen Marglin, in his classic comparison of economic paradigms, writes that it is difficult to conclude on the basis of empirical tests whether

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neoclassical or non-neoclassical frameworks better describe the workings of the economy because even sophisticated statistical analysis yields results that are consistent with both theoretical approaches.³⁴ Marglin draws this conclusion from the analysis of savings in the US economy, and the difficulty is that the results of even sophisticated statistical analysis are consistent with a number of approaches to why individuals and firms save.

What is one to do? Marglin argues: ‘We must either back off from purely empirical means of distinguishing between theories, or despair of sorting out the competing claims. Consistent positivists should prefer agnosticism. The rest of us will prefer to look more closely at the premises of the theories ... to examine the extent to which these theories correspond to a plausible conception of the world. In short, if we are to choose between theories of saving at this stage of our knowledge, it must be on the basis of their inherent plausibility.’³⁵

Applying Marglin’s recommendation to the divergence debate, a plausible explanation must take into account *all* the available evidence, both quantitative and qualitative. At a minimum, such an explanation must acknowledge three important facts about China, India, and the global economy in the period between 1600 and 1900. First, for 200 years, the advanced regions of China and India maintained what might be thought of as export surpluses.³⁶ These regions shipped large quantities of manufactured goods throughout the world, cotton textiles in the case of India and porcelains and silk cloth (as well as an agricultural product, tea) in the case of China, in exchange for silver, and in the Indian case, to a lesser extent gold. These exports suggest that these regions possessed sophisticated economies and commercial systems which were able to maintain a competitive hegemony for a period of centuries. Second, the military encounters between Europeans and Asians were evenly matched till the early nineteenth century, which indicates that technological capability was comparable and that technological development in places like India was not stagnant.³⁷ Finally, it is widely acknowledged that the economies of the advanced regions of India and China regressed in the nineteenth century. This regression suggests some degree of prosperity in the eighteenth century from which the economies of these areas fell back.

The divergence debate in China and India

In the English-speaking-and-reading world, the divergence debate has been dominated by scholars based in the United States and Western Europe. However, a surprising degree of discussion of the question has been taking place in East Asia. South Asia, by contrast, has witnessed very limited interest in the issue, perhaps because of the decline in economic history in what had been major global centres of research in economic history, such as the Delhi School of Economics.

Driven by scholars in China and some Western Sinologists, two pre-existing debates in Chinese historiography have been connected to that on divergence. One debate was about whether the late imperial Chinese economy had contained within it ‘sprouts of capitalism’, and if so, what had prevented them from blossoming. The second debate

ensued as it became clear that the absence of a thorough capitalist transformation in China could not be fully explained by external forces such as the Manchu conquest in the seventeenth century or Western imperialism in the nineteenth as some scholars had suggested, and therefore, had to have explanations rooted in Chinese society.³⁸ This discussion centred on to what extent rural China in particular could have experienced any sustained per capita growth within the late imperial social system, and what the relationship might be between the limited (or according to some, non-existent) extent of per capita growth and the undoubted growth in population during the late imperial period. Both these debates thus take us back to ‘agrarian fundamentalism,’ but in two rather different guises: one essentially Marxist, the other Malthusian.

The Marxist debate has analogues in Indian history, particularly Mughal, where in the 1960s the ‘potentialities of capitalist development’ in Mughal India were explored, most extensively by Irfan Habib. Since then, South Asian history has moved away from the applicability of these types of totalizing frameworks that have been derived from the European historical experience, which marked a larger retreat from Marxism. An important moment in this shift was the debate in the *Journal of Peasant Studies* in the early 1980s on the applicability of feudalism to medieval India, which was initiated by Harbans Mukhia. Parthasarathi developed Mukhia’s insights to query the utility of the category of capitalism for the study of early modern India in a volume of essays in honour of Mukhia.³⁹

In Chinese economic history, one of the central debates in the People’s Republic of China – which, not coincidentally, often focused on the *advanced* Yangzi Delta – concerned the so-called ‘sprouts of capitalism’: whether or not one could find in the sixteenth to eighteenth centuries an emerging Chinese capitalism that was then aborted by the Qing conquest of 1644 (or for some scholars, by the Opium War of 1839–42). The emphasis in this debate was firmly on identifying China’s dominant ‘mode of production’ in a Marxist sense, and development was charted above all based on evidence that wage labour was becoming increasingly prevalent (with a subsidiary effort to track growing markets for land and capital), rather than by looking for changes in per capita income, productivity, or technology.⁴⁰ While many scholars were, by the late 1980s, increasingly unsatisfied with this focus, it was not clear what might replace it in Chinese historiography.

More than anyone else, Li Bozhong began to push Chinese economic history towards an emphasis on output, rather than labour relations. He also argued for a long period of slow but generally steady per capita growth based on market-driven organizational and technical change, beginning perhaps as early as the eighth century, but becoming particularly strong between the mid-sixteenth and mid-nineteenth centuries.⁴¹ Some important senior scholars once associated with the ‘sprouts’ debate, such as Wu Chengming, endorsed Li’s approach, though most have not been willing to go as far as he did; the scholars who were impressed by Li’s work have been generally receptive to *The Great Divergence*.

The Sinologists who have been most sceptical about *The Great Divergence*, both in China and in the United States, have been those who have combined some influences

from the 'sprouts of capitalism' literature with a strong emphasis on the negative consequences of late imperial population growth. Probably the most notable has been the Chinese–American historian Philip Huang (Huang Zongzhi); while based for many years at the University of California, Los Angeles (UCLA), Huang has also been active in scholarly circles in China. Huang reaffirmed the argument of his UCLA colleague Robert Brenner that only capitalist farms based on wage labour (and ruthlessly minimizing costs by driving 'excess' workers off the land) could generate rising labour productivity, capital accumulation, and sustained growth. Much of Brenner's work has been devoted to insisting that these essential dynamics emerged only in England, and to explaining why.⁴²

In an influential 1990 book, Huang took China, including the Yangzi Delta, to represent an even more extreme case of the qualitative stagnation that Brenner attributes to continental Europe. As he sees it, most Chinese peasants held on to their land (much like in France, but unlike in Britain). As population grew and plot sizes shrank, they had to maximize per acre yields; this is what enabled them to pay such high rents that landlords had no incentive to replace them with wage labourers. These high yields were achieved by working extraordinary numbers of labour days per acre, and by putting even more days into labour-intensive handicrafts; this labour intensification continued even at the cost of reducing peasants' earnings per labour day to extraordinarily low levels. Households working this hard could sustain large families, but only at bare subsistence levels, and at the cost of further increasing pressure on the land in the next generation. This locked in a process of numerical growth that was the antithesis of true development, and which Huang calls 'involution'.⁴³

This is not the place to rehearse all the details of the debate that followed.⁴⁴ Suffice it to say that Pomeranz's views have largely prevailed, in part because the debate uncovered a basic error in Huang's work: In estimating the earnings per labour day for Yangzi Delta weavers, he misplaced a decimal point, throwing his calculations of gross earnings off by a factor of 10 (and of net earnings by even more).

Unsurprisingly, it is the sections of *The Great Divergence* that deal with China (as opposed to Europe or other places) that have excited the most interest in China. Most of that discussion has treated the book as part of a larger 'California school' which has become the topic of a number of articles. The members of this 'California school' vary with the person defining it – which is hardly surprising since it has never had a firm institutional identity or a complete consensus on the issues – but R. Bin Wong, James Lee and his collaborators, Li Bozhong, Robert Marks, Richard Von Glahn, Jack Goldstone, and Pomeranz are usually included.

Chinese responses to this 'school' have naturally been varied, but it is fair to say that it has stimulated increased interest in comparative history within China. Moreover, this has been comparative history which, unlike the 'sprouts' and 'involution' literatures, goes beyond comparing China to a 'typical' (i.e. stylized European capitalist) path. In fact, one common feature of 'California school' comparisons has been an insistence that neither society should be treated as defining a norm from which the other society is a deviation.⁴⁵ It has helped stimulate new approaches to the Qing era, in which the state is (for better or worse) a less overwhelming presence, and the motors of social change are to be found

elsewhere in society. Increased interest has been paid to long-run, slowly developing trends in Chinese society – perhaps going all the way back to the Song dynasty – that continue up into the twentieth century. Such a view, quite forcefully expressed in a conference volume called *The Song-Yuan-Ming Transition*,⁴⁶ seems to be replacing older stories in which ‘revolutionary’ changes in Song and late Ming were followed by equally sharp reversals, frustrating what both Marxism and Western modernization theory thought ‘should’ have happened next, and defining Chinese history in terms of those alleged blockages.

Conclusion

As this chapter has shown, the debate on divergence is remarkably broad, touching upon not only prices and incomes, the traditional bread and butter of economic historians, but also ranging far and wide to include science, rationality, the environment, politics, and the state. While the debate has raised difficult empirical questions, it has also brought to the fore equally challenging problems of method. Its sheer scope and complexity make the question an enduring one not only for historians but also for a range of social scientists from sociologists to economists and political scientists. It will continue to remain a central problem for decades to come.

Notes

1. K. Marx (1978 [1853]), ‘The future results of British Rule in India’, in R. C. Tucker (ed.), *The Marx-Engels Reader*. New York: Norton, 659.
2. M. Weber (1930), *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons. New York: Scribner; M. Weber (1951), *The Religion of China*, trans. H. H. Gerth. New York: Free Press; M. Weber (1958), *The Religion of India*, trans. H. H. Gerth and D. Martindale. New York: Free Press.
3. North and Thomas, *The Rise of the Western World*; E. L. Jones (1981), *The European Miracle: Environments, Economies, and Geopolitics in the History of Europe and Asia*. Cambridge: Cambridge University Press; D. Landes (1998), *The Wealth and Poverty of Nations*. New York: W.W. Norton; Mokyr, *The Gifts of Athena*.
4. Pomeranz, *The Great Divergence*; Parthasarathi, *Why Europe Grew Rich and Asia Did Not*.
5. E. A. Wrigley (1988), *Continuity, Chance and Change: The Character of the Industrial Revolution in England*. Cambridge: Cambridge University Press; A. P. Wadsworth and J. de Lacy Mann (1931), *The Cotton Trade and Industrial Lancashire*. Manchester: Manchester University Press.
6. B. Li and J. L. Van Zanden (2012), ‘Before the Great Divergence? Comparing the Yangzi Delta and the Netherlands at the beginning of the nineteenth century’, *Journal of Economic History*, 72 (4), 956–89.
7. R. C. Allen (2000), ‘Economic structure and agricultural productivity in Europe, 1300–1800’, *European Review of Economic History*, 4 (1), 20.

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8. See for instance R. Brenner (1985), 'Agrarian class structure and economic development', and 'The agrarian roots of European capitalism', in T. H. Aston and C. H. Philpin (eds), *The Brenner Debate*. Cambridge: Cambridge University Press, 10–63, and 213–327; M. Overton (1996), *Agricultural Revolution in England: The Transformation of the Agrarian Economy 1500–1800*. Cambridge: Cambridge University Press. For the term 'agrarian fundamentalism' see: R. C. Allen (1992), *Enclosure and the Yeoman: The Agricultural Development of the South Midlands*. New York: Oxford University Press, 2–3.
9. S. Broadberry, H. Guan and D. Li (2014), 'China, Europe, and the Great Divergence: A study in historical national accounting, 980–1850', <http://eh.net/eha/wp-content/uploads/2014/05/Broadberry.pdf>. Guan and Li had previously argued that China was far behind by the fifteenth century, if not earlier, and had fallen even further behind over the succeeding centuries. See H. Guan and D. Li (2010), 'Mingdai GDP ji jiegou shitan' [A study of GDP and its structure in China's Ming dynasty], *Zhongguo jingji jikan*, 9 (3), 787–829, http://en.cnki.com.cn/Article_en/CJFDTotal-JJXU201003003.htm
10. P. O'Brien and K. Deng (2016), 'Nutritional standards of living in England and the Yangtze Delta (Jiangnan), circa. 1644 – circa 1820: Clarifying data for reciprocal comparisons', *Journal of World History*, 26 (2), 233–67; P. O'Brien and K. Deng (2017), 'How well did the facts travel to support protracted debate on the history of the Great Divergence between Western Europe and Imperial China?' February 2017, available at New Economics Papers, <http://econpapers.repec.org/paper/pramprapa/77276.htm>; K. Pomeranz (2017), 'The data we have vs. the data we want: A comment on the date of the Divergence Debate', Pt. I and Pt II, New Economics Papers (8 June 2017) <https://nephist.wordpress.com/2017/06/06/the-data-we-have-vs-the-data-we-need-a-comment-on-the-state-of-the-divergence-debate-part-ii/> (Part I, immediately below).
11. P. Parthasarathi (1998), 'Rethinking wages and competitiveness in the eighteenth century: Britain and South India', *Past & Present*, 98, 79–109.
12. S. Broadberry and B. Gupta (2006), 'The early modern Great Divergence: Wages, prices and economic development in Europe and Asia, 1500–1800', *Economic History Review*, 59 (1), 2–31.
13. S. Sivaramakrishna (2009), '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 (3), 695–733; Parthasarathi, *Why Europe Grew Rich and Asia Did Not*, 37–46.
14. L. Brennan, J. McDonald, and R. Shlomowitz (1994), 'Trends in the economic well-being of South Indians under British rule: the anthropometric evidence', *Explorations in Economic History*, 31 (2), 225–60; M. Davis (2002), *Late Victorian Holocausts: El Niño Famines and the Making of the Third World*. London: Verso.
15. A. Maddison (2001), *The World Economy: A Millennial Perspective*. Paris: OECD, 42, suggesting that Western Europe overtook China in c. 1300.
16. See D. Lal (1998), *Unintended Consequences: The Impact of Factor Endowments, Culture, and Politics on Long-Run Economic Performance*. Cambridge, MA: MIT Press; London: Eyre Methuen; E. Jones (1987), *The European Miracle*, 2nd edn. Cambridge: Cambridge University Press; I. Wallerstein (1976), *The Modern World-System, Volume I*. New York: Academic Press.
17. Landes, *The Wealth and Poverty*, 33–5, 59, and *passim*.
18. See Li and Van Zanden, 'Before the Great Divergence'.
19. R. C. Allen, J. P. Bassino, D. Ma, C. Moll-Murata and J. L. Van Zanden (2011), 'Wages, prices and living standards in China 1738–1925: In comparison with Europe, Japan, and India',

- Economic History Review*, 64 (1), 8–38. This article's estimates of agricultural wages in China are, as the authors note, actually very close to Pomeranz's. R. C. Allen (2009), 'Agricultural productivity and rural incomes in England and the Yangzi Delta, ca. 1620–1820', *Economic History Review*, 62 (3), 544, suggests that Lower Yangzi wages were about the same as English ones in the mid-seventeenth century, and Delta peasants were far more prosperous than English farm labourers at that time. *Ibid.*, 546. And see R. C. Allen (2004), 'Mr. Lockyer meets the index number problem: The standard of living in Canton and London in 1704', available at <http://www.iisg.nl/hpw/papers/allen.pdf>, for a different (smaller) dataset, suggesting comparable wages in Canton and London in 1704.
20. C. Tilly (1984), 'Demographic origins of the European proletariat', in D. Levine (ed.), *Proletarianization and Family History*. Orlando: Academic Press, 1–85 uses a looser definition, and gets even higher figures: see esp. 36.
 21. Calculations in K. Pomeranz (2006), 'Standards of living in rural and urban China: Preliminary estimates for the mid-eighteenth and early twentieth centuries'. Paper for Panel 77, World Economic History Congress, Helsinki.
 22. On market integration in China and Europe, see W. Keller and C. Shiue (2007), 'Markets in China and Europe on the eve of the Industrial Revolution', *American Economic Review*, 97 (4), 1189–216.
 23. See esp. Rosenthal and Wong, *Before and Beyond Divergence*. See also Pomeranz, *The Great Divergence*, 180–2, on why interest rates per se may not be the best indicators of whether credit markets were obstructing development.
 24. R. C. Allen (2009), *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge University Press; Pomeranz, *Great Divergence*.
 25. M. Jacob (2014), *The First Knowledge Economy: Human Capital and the European Economy, 1750–1850*. Cambridge: Cambridge University Press; Mokyr, *Gifts of Athena*; and O'Brien's chapter in this volume.
 26. Parthasarathi, *Why Europe Grew Rich and Asia Did Not*, ch. 7.
 27. H. J. Cook (2007), *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age*. New Haven: Yale University Press; K. Raj (2007), *Relocating Modern Science: Circulation and the Construction of Scientific Knowledge in South Asia and Europe*. Delhi: Permanent Black.
 28. E. Hobsbawm (1962), *The Age of Revolutions: Europe, 1789–1848*. London: Weidenfield and Nicolson.
 29. Eric Hobsbawm (1969), *Industry and Empire*. London: Penguin, p. 56.
 30. See the chapter by Jack A. Goldstone in this volume.
 31. E. J. Hobsbawm (1964), *Labouring Men: Studies in the History of Labour*. London: Weidenfield and Nicolson, 107.
 32. Hobsbawm (1964), *Labouring Men*.
 33. K. Deng and P. O'Brien (2016), 'Establishing statistical foundations of a chronology for the great divergence: A survey and critique of the primary sources for the construction of relative wage levels for Ming–Qing China', *Economic History Review*, 69 (4), 1075. Also see K. Deng and P. K. O'Brien (2016), 'China's GDP per capita from the Han Dynasty to communist times', *World Economics*, 17 (2), 79–123; and Deng and O'Brien (2017), 'How well did the facts travel?'
 34. S. A. Marglin (1984), *Growth, Distribution, and Prices*. Cambridge, MA: Harvard University Press, ch. 18.

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35. Marglin (1984), *Growth, Distribution, and Prices*, 430.
36. But on the dangers of treating precious metals as equivalent to modern money, as an 'export surplus' reading does, see: D. O. Flynn (1995), 'Arbitrage, China, and world trade in the early modern period', *Journal of the Economic and Social History of the Orient*, 38 (4), 429–48; and D. O. Flynn and A. Giraldez (1997), 'Introduction', in D. O. Flynn and A. Giraldez (eds), *Metals and Monies in an Emerging World Economy*. Aldershot: Variorum, xv–xl.
37. It might be objected here that since the battles were fought in Asia, leaving Europeans with very long supply lines, this is a risky inference. But for an argument that the decisive advantage of East India Company forces in India was not technological, see: K. Roy (2011), 'The hybrid military establishment of the East India Company in South Asia, 1750–1849', *Journal of Global History*, 6 (2), 195–218.
38. It is worth noting that the earlier preference for externally driven explanations of Chinese 'failure' was convenient both for mainland scholars committed to the universality of a rigid Marxist set of stages of society and for nationalists wishing to emphasize the damage done to China by imperialism.
39. T. J. Byres and H. Mukhia (eds) (1985), *Feudalism and Non-European Societies*. London: Frank Cass; P. Parthasarathi (2008), 'Was there capitalism in early-modern Indian history?' in R. Datta (ed.), *Rethinking a Millennium: Perspectives on Indian History from the Eighth to the Eighteenth Century: Essays for Harbans Mukhia*. New Delhi: Aakar Publications, 342–60.
40. W. Chengming (1985), *Zhongguo zibenzhuyi yu guonei shichang* [Chinese capitalism and the national market]. Beijing: Zhongguo shehui kexue chubanshe; and X. Dixin and W. Chengming (1985), *Zhongguo zibenzhuyi de mengya* [The Sprouts of Capitalism in China]. Beijing: Zhongguo shehui kexue chubanshe, are the most important compendia of this work.
41. B. Li (1998), *Agricultural Development in Jiangnan, 1620–1850*. New York: St. Martin's Press; B. Li (2000), *Jiangnan de zaoqi gongyehua* [Proto-industrialization in Jiangnan]. Beijing: Shehui kexue wenxian chubanshe; B. Li (2003), *Fazhan yu zhiyue: Ming Qing Jiangnan shengchanli yanjiu* [Development and Constraint: Research on Productive Capacity in Ming-Qing Jiangnan]. Taibei: Lianjing; B. Li (2005), 'Farm labour productivity in Jiangnan', in R. Allen, T. Bengtsson and M. Dribe (eds), *Living Standards in the Past: New Perspectives on Well-Being in Asia and Europe*. Oxford: Oxford University Press, 55–76; B. Li (2010), *Zhongguo de zaoqi jindai jingji: Huating-Louxian diqu GDP yanjiu* [China's Early Modern Economy: Research in the GDP of the Huating-Louxian Region]. Beijing: Zhonghua shuju.
42. R. Brenner (1985), 'Agrarian class structure and economic development', and 'The agrarian roots of European capitalism'; R. Brenner and C. Isett (2002), 'England's divergence from the Yangzi Delta: property relations, microeconomics, and patterns of development', *Journal of Asian Studies*, 61 (2), 609–62. Pomeranz's complete answer to Brenner is not yet published (it is supposed to appear in a long-delayed volume based on a debate we held at UCLA) but some comments are included in K. Pomeranz (2009), *La Force de L'Empire: Révolution industrielle et écologie, ou pourquoi l'Angleterre a fait mieux que la Chine*, ed. with an introduction by Philippe Minard. Alfortville: Éditions ère, 77–110.
43. P. Huang (1990), *The Peasant Family and Rural Development in the Lower Yangzi Region, 1350–1988*. Stanford: Stanford University Press.
44. P. Huang (2002a), 'Development or involution in eighteenth century Britain and China? A Review of Kenneth Pomeranz's *The Great Divergence: China, Europe and the Making of the Modern World Economy*', *Journal of Asian Studies*, 61 (2), 501–38; P. Huang (2002), 'Fazhan haishi neijuan? Shiba shiji Yingguo yu Zhongguo – Ping Peng Mulan 'Da fenliu: Ouzhou, Zhongguo ji xinadai shijie jingji de fazhan', *Lishi yanjiu*, 149–76; P. Huang (2003), 'Further thoughts on eighteenth-century Britain and China: Rejoinder to Pomeranz's response to my

critique', *Journal of Asian Studies*, 62 (1), 157–67; K. Pomeranz (2002), 'Beyond the East-West binary: Resituating development paths in the eighteenth century world', *Journal of Asian Studies*, 61 (2), 539–90; K. Pomeranz (2003), 'Facts are stubborn things: A response to Philip Huang', *Journal of Asian Studies*, 62 (1), 167–81; K. Pomeranz (2003), 'Shijie jingji shi zhong de jinshi Jiangnan: bijiao yu zonghe guan'cha' [Early modern Jiangnan in global economic history: comparative and integrative perspectives], *Lishi yanjiu*, 284, 3–48. See also essays by R. B. Wong (2003), 'Integrating China into world history', *Journal of Asian Studies*, posted at www.aasianst.org/catalog/wong.pdf; J. A. Goldstone (2003), 'Europe vs. Asia: Missing data and misconceptions', *Science and Society*, 67 (2), 184–94; J. Lee, C. Campbell, and F. Wang (2002), 'Positive check or Chinese checks?' *Journal of Asian Studies*, 61 (2), 591–607; S. Cao and Y. Chen (2002), 'Maerasi lilun he Qingdai yilaide de Zhongguo renkou: ping Meiguo xuezhe jinnianlai de xiangguan yanjiu' [Malthusian theory and Chinese population from the Qing dynasty onwards: A critique of recent American scholarship], *Lishi yanjiu*, 275, 41–54; and A. Wolf (2001), 'Is there evidence of birth control in late Imperial China?', *Population and Development Review*, 27 (1), 133–54, among others.

45. R. B. Wong (1997), *China Transformed: Historical Change and the Limits of European Experience*. Ithaca, NY: Cornell University Press; Pomeranz (2000), *The Great Divergence*.
46. P. Smith and R. Von Glahn (eds) (2003), *The Song Yuan Ming Transition in Chinese History*. Cambridge, MA: Harvard University Press.