'THE ECONOMICS OF GLOBAL TURBULENCE'

A SYMPOSIUM

Thirty years ago, the field of late medieval and early modern economic history was the scene of a famous discussion in the pages of Past and Present, *set off by a path-breaking essay by Robert Brenner, 'Agrarian Class Structure and Economic Development in Pre-Industrial Europe'. The international controversy aroused by his arguments became a landmark, since referred to simply as 'The Brenner Debate', and published under that name. Ten years ago,* NLR *devoted a special number of the journal to Brenner's equally remarkable entry into the field of modern economic history, 'Uneven Development and the Long Downturn: the Advanced Capitalist Economies from Boom to Stagnation, 1950–1998'—no less of a historiographic landmark. In this issue we publish a symposium on the book which emerged out of this essay,* The Economics of Global Turbulence *(2006). Three distinguished scholars, from the Anglosphere, the Eurozone and the Far East, give their critical assessment of Brenner's work below. Nicholas Crafts is widely regarded as the leading economic historian in Britain today. Michel Aglietta is the founder of the Regulation School in France, whose intellectual influence has been worldwide. Kozo Yamamura is perhaps the outstanding authority on the post-war economic development of Japan, a historian who has also ranged widely across the comparative institutional landscape of the advanced industrial states. The issues raised by their symposium include the reality or otherwise of a long downturn; the relative productivity records of the major industrial economies; the concrete ways in which rates of profit are formed; the historical impact of technological change; the differences between American, German and Japanese models of capitalism; the implications of China's dynamism as a manufacturing power; and the prospects for the global economy as a whole, as it confronts its most severe crisis since the 1930s. In a setting where few economists are historically minded and few historians are economically trained, it is rare to find an exchange of this quality. In a subsequent issue Robert Brenner will respond to his critics.*

NICHOLAS CRAFTS

PROFITS OF DOOM?

The scope of Robert Brenner's *The Economics of Global Turbulence* is vast. It proposes both a description of, and a theory to explain, the macroeconomic performance of the advanced capitalist economies from 1945 to 2005, focusing around close studies of the top three—the US, Germany and Japan. No other single work has attempted anything comparable in combined breadth of field and duration of coverage: both the 'golden age' and what Brenner terms 'the long downturn', running from the early 1970s to the present day. A number of significant studies have examined the post-war world economy up to the 1980s, among them Stephen Marglin and Juliet Schor's *The Golden Age of Capitalism* and Hermann Van Der Wee's *Prosperity and Upheaval: World Economy, 1945–80*; while Jeffrey Frieden's *Global Capitalism* offers comparisons between the current era and the 1930s, but does not provide a historical narrative as such. The majority of economic historians, it seems, prefer to operate under the 30-year rule: although much interesting work is now being done on the 1960s and 70s, after the 1980s we are largely in limbo. Barry Eichengreen's *The European Economy Since 1945* is one of the few analyses that does cover the whole period, but its geographical scope is much narrower than Brenner's.[1]

Recent work by world-economic historians, by contrast, has tended to focus on the very long run: the institutions necessary for economic growth—Douglass North's work on property rights, Daron Acemoglu's on dictatorship and democracy, Avner Greif's study of Maghrebi trader networks and informal social structures, for example—or the origins of capitalism and the 'great divergence' between the West and the rest in

the modern era; the latter two both fields to which Brenner has also contributed. As regards contemporary capitalist development, however, perhaps—taken as a pair—the two books by the late Andrew Glyn, his earlier *Capitalism Since 1945* and his final work, *Capitalism Unleashed*, published in 2006, offer the closest comparator to *The Economics of Global Turbulence*; though Glyn was never as grindingly pessimistic as Brenner on the overall outlook for the advanced capitalist economies.[2]

This salience makes it all the more important to subject *Global Turbulence* to serious critical scrutiny. To make my task manageable, I will confine my comments to the period that Brenner labels 'the long downturn' which began, he suggests, at the end of the postwar Golden Age in 1973 and is still with us today. This is described as 'an era of slower growth and increasing economic turbulence . . . marked by deeper recessions and the return of devastating financial crises absent since the Great Depression'.[3] By narrowing my focus in this way, I can address in detail the aspects of the book that strike me as the most contentious and where an assessment first made in 1998 seems in need of more revision than Brenner concedes.

Brenner makes three main claims which I wish to examine with regard to the experience of Europe and, especially, the United States. First, he describes the economic performance of the advanced countries as worsening over each business cycle during the long downturn in terms of the growth of output, productivity, capital stock and real wages. Second, he argues that the rate of profit, especially in manufacturing, is the fundamental determinant of an economy's growth performance and that adverse trends in profitability are the root cause of the long downturn. Third, he rejects the suggestion that trends in productivity, driven by the

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[1] Robert Brenner, *The Economics of Global Turbulence*, London and New York 2006, hereafter EGT; Stephen Marglin and Juliet Schor, *The Golden Age of Capitalism: Reinterpreting the Postwar Experience*, Oxford 1991; Hermann Van Der Wee, *Prosperity and Upheaval: World Economy, 1945–80*, New York 1986; Jeffrey Frieden, *Global Capitalism*, New York 2006; Barry Eichengreen, *The European Economy Since 1945*, Princeton 2006.

[2] Douglass North, *Institutions, Institutional Change and Economic Performance*, Cambridge 1990 and *Understanding the Process of Economic Change*, Cambridge 2004; Daron Acemoglu and James Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge 2005; Avner Greif, *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*, Cambridge 2006; Andrew Glyn, with Philip Armstrong and John Harrison, *Capitalism Since 1945*, Oxford 1991 [1984] and *Capitalism Unleashed*, Oxford 2006.

[3] EGT, p. ix.

pace of technological progress and success in catch-up growth, can be seen as the main drivers of the growth process.[4]

I wish to raise three questions. Is the description of economic performance accurate? What explains the chronology of productivity growth? And does the rate of profitability in manufacturing really matter so much?

The 'long downturn': fact or artefact?

Brenner's description of developments in the advanced capitalist economies since 1973 is remorselessly pessimistic. The title of his book sets the tone with the phrase 'global turbulence'. The reader of this book would hardly guess that the literature of macroeconomics has labelled the period since the 1980s the 'Great Moderation' in respect of its exceptionally low volatility of GDP in a low-inflationary era.[5] Whether this is the result of better policy, changes in the structure of OECD economies or simply good luck in the absence of nasty exogenous shocks is not clear but this has not stopped politicians such as Gordon Brown, the British Chancellor of the Exchequer from 1997 to 2007, claiming the credit for ending boom and bust and presiding over an unprecedented period with no quarter of negative GDP growth.

Clearly, there was a big growth slowdown after 1973. Growth of real GDP per person in the countries of western Europe averaged 4.06 per cent per year in the years 1950–73, but only 1.86 per cent from 1973 to 2005, while for the United States growth in these two periods was, respectively, 2.45 per cent per year and 1.91 per cent.[6]

Table 1, overleaf, offers a closer look at productivity performance in the market sector, i.e., removing the non-marketed public sector from GDP, taking account both of labour productivity in terms of output per hour worked, and also of total factor productivity (TFP) in terms of output

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[4] EGT, pp. xxiv–xxv, xx–xii and xxiv–xxvi.

[5] See the overview in Peter Summers, 'What Caused the Great Moderation? Some Cross-Country Evidence', *Federal Reserve Bank of Kansas City Economic Review* (2005). The term 'Great Moderation' seems to have originated with James Stock and Mark Watson, 'Has the Business Cycle Changed and Why?', NBER Working Paper No. 9127 (2002), and moved into general usage when Ben Bernanke gave a speech with this title to the Eastern Economic Association in February 2004.

[6] For more details, see Nicholas Crafts and Gianni Toniolo, 'European Economic Growth, 1950–2005: An Overview', CEPR Discussion Paper No. 6863 (2008).

Table 1: *Growth of GDP and Capital Stock per Hour Worked, and Total Factor Productivity in the Marketed Sector (% per year)*

	France	*Germany**	*UK*	*US*
1950–73				
GDP/hw	5.2	5.4	3.4	2.7
Capital stock/hw	4.8	6.2	4.9	2.7
TFP	3.5	2.9	1.9	1.8
1973–95				
GDP/hw	2.9	2.7	2.6	1.2
Capital stock/hw	3.9	3.2	3.0	1.3
TFP	1.7	1.6	1.7	0.7
1995–2004				
GDP/hw	1.9	1.8	2.7	3.2
Capital stock/hw	2.7	4.1	4.4	4.3
TFP	1.1	0.5	1.4	1.9

* West Germany prior to 1995. Sources: Mary O'Mahony, *Britain's Relative Productivity Performance, 1950–1996*, London 1999 and Mary O'Mahony and Catherine Robinson, 'UK Growth and Productivity in International Perspective', *National Institute Economic Review*, 200 (2007), pp. 79–86.

relative to an aggregate of both capital and labour inputs. Here, the post-1973 period is split at 1995, as is now conventional in the mainstream economics literature. This table suggests that the 'long downturn' is a more apt description of the experience of the big European economies than for the United States. For France and Germany, there is a marked fall in productivity growth after 1973 and a further sizeable reduction after 1995. For the United States, however, after a period of very weak productivity growth between 1973 and 1995, a strong revival followed such that productivity growth was slightly above the 1950 to 1973 level.

Table 2 reports the results of a growth accounting exercise which divides the sources of labour productivity growth into contributions from capital accumulation and from TFP, which in turn are decomposed into the shares of information and communications technology (ICT) and of everything else. This shows that ICT played a big part in the American productivity revival. It is also instructive to break down labour productivity growth into contributions from different sectors. This shows that services

TABLE 2: *Contributions to Labour Productivity Growth in the Marketed Sector (% per year)*

	1980–95	*95–2005*		*1980–95*	*95–2005*
EU-10			*EU-10*		
Labour Productivity	2.6	1.5	Labour Productivity	2.6	1.5
ICT Capital	0.4	0.5	ICT Production	0.4	0.5
TFP in ICT	0.2	0.3	ICT-Using Services	0.6	0.5
Other Capital	0.8	0.5	Other Sectors	1.6	0.5
Other TFP	0.9	0.0			
Labour Quality	0.3	0.2			
US			*US*		
Labour Productivity	1.9	3.0	Labour Productivity	1.9	3.0
ICT Capital	0.7	1.0	ICT Production	0.5	0.8
TFP in ICT	0.3	0.6	ICT-Using Services	0.5	1.6
Other Capital	0.3	0.3	Other Sectors	0.9	0.6
Other TFP	0.4	0.8			
Labour Quality	0.2	0.3			

EU-10 is based on the countries for which the requisite data are available: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Spain, UK. Source: data provided by Bart van Ark based on EUKLEMS project.

intensive in the use of ICT (especially retail and wholesale distribution) were responsible for the post-1995 upturn. Thus, Table 2 identifies the ICT revolution as the most important reason for the end of the productivity slowdown in the United States. By contrast, Europe was clearly less successful in exploiting these opportunities, although this is by no means the only weakness in recent European productivity performance.

Table 1 also reports that the growth of capital per hour worked in the United States also rose appreciably, to 4.3 per cent per year in 1995–2004, which is well ahead of the 2.7 per cent per year recorded during 1950–73 and reverses the sharp decline of the 1973–95 period. Of itself, this indicates that Brenner's claim of a trend towards ever-weaker investment is misleading. In fact, the standard NIPA series shows that the share of business sector output allocated to investment is quite similar to that in the 1960s.[7]

[7] EGT, p. 332.

However, it may also be argued that a good deal of investment in the modern economy is not recorded as such because it is in intangibles (including R & D, software and expenditures aimed at enhancing company value), a category of rapidly growing importance. Indeed, recent estimates suggest that business investment in intangibles is of about the same magnitude as investment in tangible capital in the American economy. If this is taken into account, then investment as a share of business output has been higher in every year since 1980 than at any time in the pre-1973 period, and in 1995–2003 was about 5 percentage points above the 1960s average.[8]

Trends in the rate of profit in the United States are also inconsistent with Brenner's claims. Paul Evans's careful econometric analysis showed that, although profitability experienced highs and lows, there was no downward trend in the net rate of return on capital in the United States in the period 1947–98. A more recent investigation by Nicholas Oulton and Ana Rincon-Aznar for 14 countries based on the EU KLEMS database also concluded that the real rate of return was trendless from the early 1970s to 2005. Moreover, the average rate of return in manufacturing exceeded the average for the market sector as a whole in most countries.[9]

Brenner's concerns about trends in real wages have more substance. Although the share of labour compensation in national income in the United States is very similar now to what it was in the 1950s and 1960s, the distribution of wages and salaries has become much less equal with a major increase in skewness at the very top.[10] The implication is that blue-collar real compensation has grown much less rapidly since the 1970s, squeezed by changes in labour market institutions and policies, globalization, and skill-biased technological change.

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[8] For more details, see Carol Corrado, Charles Hulten and Daniel Sichel, 'Intangible Capital and Economic Growth', NBER Working Paper No. 11948 (2006). As these authors point out, proper accounting for intangibles has important implications for growth accounting and will raise the growth of labour productivity while attributing more to capital accumulation and less to TFP. These complications do not really matter for the present purpose.

[9] Paul Evans, 'US Stylized Facts and their Implications for Growth Theory', mimeo, Ohio State University, 2000; Nicholas Oulton and Ana Rincon-Aznar, 'Rates of Return and Alternative Measures of Capital Input for 14 Countries', paper presented to EU KLEMS Final Conference, Gröningen, June 2008.

[10] Robert Gordon and Ian Dew-Becker, 'Controversies about the Rise of American Inequality: A Survey', NBER Working Paper No. 13982 (2008).

In sum, Brenner's use of the phrase 'long downturn' is seriously misleading when used for the United States to describe the whole period since 1973. In particular, it is not correct to claim that investment has been weaker, the rate of profit lower, and productivity growth slower than in the 'long boom'. Further, the importance of the ICT revolution is significantly underplayed. That said, it may well be right to point to fragilities in the American economy which will be cruelly exposed in the near future. The credit crunch, the oil shock, the correction of the twin deficits all represent major challenges to the 'Great Moderation' and could indeed herald a turbulent period, meaning that the strong performance since 1995 is not sustained. But that does not excuse the inaccurate representation of the historical record.

Why do productivity growth rates differ?

In considering the economic history of productivity growth, it is helpful to treat the United States and Europe separately. In each case, however, it is correct to think of technological progress as the underlying source of long-run productivity growth and the antidote to diminishing returns to capital accumulation. It is also clear that the rate of technological progress has varied over time. 'Great Inventions' appear at irregular intervals and the full impact of new general-purpose technologies (GPTs) takes considerable time to come through.

Recent research by Alexander Field has clarified the chronology of American TFP growth over the long run.[11] Based on his analysis, the 1930s emerges as the most technologically progressive decade of the century. At that point TFP growth was widespread with roughly equal shares for manufacturing on the one hand and distribution, transport and utilities on the other. For manufacturing, the 1920s were the period of fastest TFP growth as electricity transformed production, and that was the last point at which manufacturing predominated. In the Golden Age after World War Two, only about a quarter of TFP growth was attributable to manufacturing and strong TFP growth was underwritten by distribution, transport, communication and utilities. These sectors all benefited from the major inventions of the 'second industrial revolution'.

[11] Alexander Field, 'Technological Change and US Productivity Growth in the Interwar Years', *Journal of Economic History*, vol. 66 (2006), pp. 203–36 and 'The Origins of US Total Factor Productivity Growth in the Golden Age', *Cliometrica*, vol. 1 (2007), pp. 63–90.

By the 1970s, however, their impetus had weakened, and the ICT revolution was not yet able to compensate because the weight of ICT in the economy was too small. For a while the so-called 'Solow Productivity Paradox' was much discussed but then ICT delivered (see Table 2 above). When this happened, the striking feature is that a strong impact was felt relatively soon after the technological breakthrough, compared with earlier GPTs. The American economy appears to have been historically remarkable in the success of its exploitation of the opportunities presented by this new GPT.[12]

Post-war European productivity growth is standardly analysed in terms of catch-up growth. Brenner does not like this approach to explaining his perceived slowdown after the Golden Age, because catch-up was incomplete in 1973 and there was a substantial technological backlog still to be used up.[13] At the very least, this point needs substantial qualification.

There is no doubt that Golden Age Europe is a case of rapid catch-up growth. Growth rates across countries are inversely related to initial income levels, and econometric analysis clearly shows that growth was substantially boosted by short-term factors such as reconstruction and the shift of labour out of agriculture.[14] An important implication of this that has long been recognized in the growth-accounting literature is that rapid TFP growth during the Golden Age was quite largely a result of improvements in economic efficiency, not of technological progress, and that around 1 percentage point of the subsequent slowdown in European TFP growth reflects the drying-up of these efficiency gains.[15]

The rate of growth during catch-up depends not only on the productivity gap but also on the leader's growth rate. By 1973, the combination of slowing growth in the United States, a narrowing of the productivity gap and the exhaustion of transitory components of growth implied that European growth would slow down appreciably, and probably

[12] Nicholas Crafts, 'Steam as a General Purpose Technology: a Growth Accounting Perspective', *Economic Journal*, vol. 114 (2004), pp. 338–51.

[13] EGT, pp. 243–9.

[14] Peter Temin, 'The Golden Age of European Growth Reconsidered', *European Review of Economic History*, vol. 6 (2002), pp. 3–22.

[15] See Angus Maddison, 'Growth and Slowdown in Advanced Capitalist Economies: Techniques of Quantitative Assessment', *Journal of Economic Literature*, vol. 25 (1987), pp. 649–98.

accounts for a reduction of at least 2 percentage points in the growth of labour productivity compared with the Golden Age in cases like France and Germany.

In the 1973 to 1995 period, western Europe as a whole continued to catch up with the United States in labour productivity, but not in real GDP per person. This discrepancy is explained by developments in the labour market. Europeans on average endured higher unemployment and worked fewer hours per year (especially through having longer holidays) than Americans. A vigorous but inconclusive debate continues as to how far the European experience reflects collective bargaining systems, distortions such as taxation or different preferences.[16]

Nevertheless, it is correct to say that the large European countries generally experienced a larger decline in productivity growth than the simple catch-up model alone would predict, even before 1995, and that since 1995, there have been clear signs of productivity growth failure, particularly in the market services sector.[17] There are plenty of candidates to explain these problems, including rising taxation and regulation. A more sophisticated argument might propose that the point is not that these burdens rose much after the 1970s, but rather that they were more costly in an environment where flexibility to embrace the new ICT era became increasingly important.[18] And it might even be suggested that the late twentieth-century constraints on productivity performance are the (hard-to-reform) legacy of the post-war settlements that were the framework for rapid catch-up in the Golden Age.[19]

In sum, productivity growth in the modern world is clearly influenced by the scope for catch-up and the irregular arrival of new GPTs. It is also, of course, true that innovation and diffusion of new technologies are influenced by socio-economic factors. Finally, in the recent past, it is TFP

[16] See the survey in Giulia Faggio and Stephen Nickell, 'Patterns of Work Across the OECD', *Economic Journal*, vol. 117, pp. 416–40.
[17] As is made abundantly clear in Bart van Ark, Mary O'Mahony and Marcel Timmer, 'The Productivity Gap between Europe and the United States: Trends and Causes', *Journal of Economic Perspectives*, vol. 22 (2008), pp. 25–44.
[18] This is the clear implication of research at the OECD summarized in Guiseppe Nicoletti and Stefano Scarpetta, 'Regulation and Economic Performance: Product Market Reforms and Productivity in the OECD', OECD Economics Department Working Paper No. 460 (2005).
[19] Eichengreen, *The European Economy*.

growth in services, not the manufacturing sector, that really matters in explaining comparative productivity performance.

A profitability explanation?

Brenner's fundamental thesis is that the long downturn is a result of declining profitability, especially in manufacturing. This has led to reduced investment and productivity growth. The underlying problem is the increased competition for producers in the West resulting from globalization.[20]

I have already reviewed a variety of evidence that casts serious doubt on these claims. First, there are problems with the concept of the long downturn, especially as applied to the United States where neither a declining rate of profit, nor consistently lower productivity growth, nor continually declining investment rates are observed. Second, technological progress and its exploitation in services are central to the growth revival in the United States and Europe's productivity problem after 1995; profitability in manufacturing is hardly relevant to these developments. Third, waves of technological progress are not determined by levels of profitability—the 1930s were the most technologically progressive decade and the one in which profitability was desperately low.[21]

Now consider the validity of Brenner's basic premise in terms of the links between profitability, measured by mark-ups of price over cost, and investment and innovation in manufacturing. The context for this analysis is that the typical manufacturing sector is characterized by monopolistic competition and that owners are unable fully to control managers, so that principal-agent problems arise within firms. In these circumstances, it is perfectly possible that increased entry threats (for example, as a result of globalization) which put downward pressure on mark-ups will lead to greater investment, innovation and productivity growth.

In the model of investment proposed by Alberto Alesina and colleagues, the mechanism works through a more elastic demand curve such that the penalty of losing supernormal profits through expanding output is

[20] EGT, pp. 153–7.

[21] See the evidence compiled in Gerard Duménil, Mark Glick and Dominique Lévy, 'The Rise of the Rate of Profit During World War II', *Review of Economics and Statistics*, vol. 75 (1993), pp. 315–20.

reduced; more capital accumulation reflects some combination of more firms and more capital per firm. In various models of innovation developed by Phillipe Aghion and his collaborators, the mechanism works either through innovative effort to prevent successful entry—where the incentive is provided by the increased difference between post-innovation and pre-innovation rents—or through competition, making sleepy management more active in innovation.[22]

The theory says that positive outcomes in the face of entry threats that reduce mark-ups are possible but not certain. In fact, empirical evidence suggests that in the recent experience of European countries, entry threats to profitability have had positive effects on both investment and innovation. In cross-section studies of European industries, Rachel Griffith and Rupert Harrison show that investment responds quite strongly to reduced mark-ups and Griffith, Harrison and Helen Simpson find that reduced mark-ups lead to more R & D and faster productivity growth.[23]

Overall, there is plenty of reason to doubt the argument that in a globalized world declining profitability in manufacturing has undermined economic growth in the West. Neither microeconomic nor macroeconomic evidence supports this proposition.

Concluding comments

I find *The Economics of Global Turbulence* to be a stimulating but ultimately unconvincing book. At the outset, I raised three questions and my answers to them explain this verdict. First, it seems to me that the description of economic performance put forward by Brenner is misleading in several respects. In particular, a reader of this book might be surprised to learn that the rate of return has been trendless, that

[22] See Alberto Alesina, Silvia Ardagna, Giuseppe Nicoletti and Fabio Schiantarelli, 'Regulation and Investment', *Journal of the European Economic Association*, vol. 3 (2005), pp. 791–825; and Phillipe Aghion and Peter Howitt, 'Appropriate Growth Theory: A Unifying Framework', *Journal of the European Economic Association*, vol. 4 (2006), pp. 269–314.

[23] Rachel Griffith and Rupert Harrison, 'The Link between Product-Market Reform and Macroeconomic Performance', European Commission Economic Paper, no. 209 (2004); Griffith, Harrison and Helen Simpson, 'Product Market Reform and Innovation in the EU', Institute for Fiscal Studies Working Paper No. 06/17 (2006). Obviously, if mark-ups get very low, there is no incentive to incur the fixed costs of R & D; but this does not apply in the industries investigated by Griffith et al., for which they report an average price–cost margin of 20 per cent.

business investment as a share of GDP has risen appreciably since the 'long boom' and that the ICT revolution had a substantial positive impact on American productivity growth.

Second, my reading of the literature suggests that Brenner's explanation of the chronology of productivity growth is seriously flawed. It is clearly important to take account of catch-up growth; periods of low profitability like the 1930s can experience rapid technological progress, and the key to rapid productivity growth in a de-industrialized OECD lies in services, not manufacturing. Again, none of this is apparent in Brenner's exposition.

Third, it is really surprising to me that Brenner places so much emphasis on manufacturing profitability and its weakness in the face of the intensification of international competition. Manufacturing is a small sector in today's advanced economies and its profitability surely does not determine the rate of technological progress in services. As for manufacturing itself, the threat to mark-ups presented by new entry seems to have positive rather than negative effects on innovation and investment.

None of this is to deny that the advanced economies are enduring a difficult period at present. Oil shocks, the credit crunch and global imbalances comprise a major challenge for macroeconomic policymakers. Brenner's pessimistic analysis may well prove prescient, but it is not persuasive economic history.