

Supply-Side Policy and British Relative Economic Decline

Nicholas Crafts*

London School of Economics
Houghton Street
London WC2A 2AE

1. Introduction

This paper offers a perspective on growth and productivity performance in Britain in the recent past. An analysis of relative economic decline is presented that draws on comparisons both across countries and over time. In the light of this information, various aspects of government economic policy are scrutinized around the focal point of whether the radical change in direction at the end of the 1970s had favourable effects.

Two specific changes in policy stance are highlighted, namely, the move away from industrial policy towards greater emphasis on competition and the reorientation of fiscal policy. Both are reviewed in the context of recent ideas from growth economics. The underlying assumptions are that incentive structures, both for firms and for politicians, are central to growth outcomes and that examination of supply-side policy must therefore take centre stage.

In addition, an endogenous innovation based growth accounting of productivity gaps in 1979 and 1999 is presented to provide evidence on the impact of the new supply-side policies. This is an exercise in benchmarking rather than a definitive statement but, if policy lessons are sought from Britain's peer group, it seems important to establish whether the shortfall with various countries stems from similar sources.

2. An Overview of Relative Decline from 1870 to the 1970s

This section looks at long term economic performance drawing both on recent ideas from growth economics and detailed research by economic historians. In considering the previous century or so, a useful dividing line is World War II. Discussion of the record since 1979 is left until the next section. The general conclusion of what follows is that any British failure was much more serious during the Golden Age after the war than earlier. These post-1950 deficiencies were, of course, partly a result of the legacy from the first half of the century which was not particularly helpful in the new postwar environment.

It is generally accepted that scope for catching-up has a profound impact on growth outcomes and that it is important to integrate this aspect of productivity performance into comparative analysis. This idea now needs to be put in the context of a more general view of economic growth and the forces for convergence or divergence in the OECD countries. The following summary draws on the more extensive discussions in Crafts (1998) (1999). There are three key points.

First, catch-up is not automatic nor does it necessarily lead to complete convergence. Catching-up is based on having in place appropriate institutions and policies to facilitate investment, innovation and technology transfer and also to prevent vested interests from obstructing the growth process. Econometric research suggests both that the experience of leading economies is not consistent with the view that productivity levels are tending to equalization and that countries differ in their labour productivity levels by a lot more than would be expected simply on the basis of

their investment in human and physical capital. This is because their economies are organized on the basis of varying degrees of inefficiency and/or because technology does not always transfer easily. In other words, there is room to succeed or to fail and differences in scope for catch-up are a conditioning rather than a determining factor in growth.

Second, it is not always possible or desirable to adopt other countries' technology and this may be a reason for persistent divergence in income or productivity levels that does not connote failure. Countries differ in terms of their factor endowments and cost conditions, so that techniques discovered and adopted in one location may not be economically rational elsewhere. Moreover, much technological knowledge is 'tacit' and is a product of experience in the form of localized learning of 'know-how' rather than 'know-why' and not readily communicated or employed in foreign parts.

Third, in successful countries, economic growth in the twentieth century was much faster than in the nineteenth century, in particular through Total Factor Productivity (TFP) growth at unprecedented rates. In this context, Industrial Revolution Britain should be seen as an economy whose achievements based on an early embrace of capitalism and comparative advantage were hugely impressive compared with what had gone before but whose growth potential was very limited by later standards. The economy invested less than 10 per cent of GDP, only about half the population was literate, and, notwithstanding the spectacular technological advances associated with textiles and steam power, TFP growth was less than 0.5 per cent per year. From today's perspective, it is striking how much effort was directed towards rent-seeking and warfare rather than productive entrepreneurship and education, how weak were the incentives for innovation and how primitive was the legal infrastructure underpinning company and capital market organization.

Bearing these points in mind, relative economic decline prior to World War II can be examined. Broadly speaking, the major shortfall in British performance at this time was relative to the United States rather than Europe and this will be the focal point of the following discussion. Even in the late nineteenth century, productivity growth was modest; TFP growth in both the UK and the USA was around 0.5 per cent per year (Abramovitz, 1993; Matthews et al., 1982) but in the early twentieth century the United States moved to a faster growth path with TFP growth around 1.5 per cent per year based on much greater technological prowess and economic scale than hitherto. These developments were difficult for Europeans to emulate - in large part for reasons beyond their control. At the same time, the United States followed Britain to an employment structure in which relatively few worked in agriculture.

American advantages stemmed from ample natural resources and a large domestic market and were complemented by unprecedented investments in R & D and college education. The technological learning which accumulated in the United States was hard to transfer and often of limited relevance in European conditions (Nelson and Wright, 1992). In manufacturing, large markets permitted more scale economies while encouraging the

* This paper draws very heavily on Crafts and O'Mahony (2000) and on Crafts (2000). I am deeply grateful to Mary O'Mahony for her help in developing much of the substance of the paper but she is not to blame for any errors.

development of large corporations and greater R & D whose fixed costs could be spread over a larger volume of sales. In the services sector, American productivity advance was based on the development of new hierarchical forms of organization based on large volumes and reduced costs of monitoring workers as communication costs fell (Broadberry and Ghosal, 2000). This was a new world unlike 1850 when Britain had been the industrial and market services leader.

Although at one time it was fashionable to allege that slower British growth reflected 'entrepreneurial failure', notably in the late Victorian and Edwardian periods, on the whole these charges have not been sustained (Pollard, 1994). For example, detailed studies of the cotton and steel industries have shown that, although British managers often did not adopt American methods, their decisions were rational given British cost conditions. Similarly, the relatively slow move to corporate capitalism in the UK can, at most, explain only a small part of the productivity gap between British and American manufacturing (Broadberry and Crafts, 1992).

Nevertheless, institutions and policy did play some part in the widening gap between American and British growth and productivity before World War II. When there was failure to perform adequately, the economy lacked effective mechanisms to remove inefficient firms and managers. Hostile takeovers were virtually unknown, financial reporting was primitive and internal control mechanisms in large firms were weakly giving rise to significant agency problems (Hannah, 1983). Exposure to adverse world economic conditions in the interwar period encouraged protectionism and the spread of restrictive practices which further weakened market disciplines on the inefficient. Finally, the tradition of craft rather than managerial control of the shopfloor, which had largely been eradicated in America where the incentives provided by standardization for the mass market made this attractive to management (Haydu, 1988), was an obstacle to the introduction of American methods to Britain in some sectors, for example, automobiles (Lewchuk, 1987).

If relative economic decline prior to World War II was largely unavoidable, this seems much less true of the 1950s through the 1970s when Britain was overtaken by so many European countries. In this period, although the UK grew faster than at any time in its history, the verdict must be one of opportunities missed. The following discussion draws on the more detailed treatment in Bean and Crafts (1996).

In the postwar period, the possibilities of catch-up growth were much greater than previously but to exploit these circumstances fully it was necessary to have appropriate institutions and to make the right policy choices. Technology transfer was enhanced by the further spread of multinational companies, the growing integration of markets, investments in higher education and R & D, and the increased codification of technological knowledge with the result that Europe (and Japan) could rapidly narrow the large mid-century productivity gap with the USA (Nelson and Wright, 1992).

More stable macroeconomic conditions, trade liberalization and the repairing of the damage caused by depression and war promoted structural change and rapid recovery. At the same time, the reconstruction of European economies generally succeeded in reforming relationships between capital and labour in ways which encouraged high investment in return for wage moderation (Eichengreen, 1996). Overall for fast-growing European economies, rapid TFP growth and a much strengthened contribution to growth from capital accumulation was the outcome.

The UK clearly did develop a higher growth potential in the postwar world but did not take full advantage of the situation. Even allowing for lower scope for catch-up, European experience suggests that a growth rate of 0.75 to 1 per cent per year faster was surely possible. Policy errors and institutional failings became more

costly in this new environment. These seem to have lain in the areas of misdirected interventionism, ineffective exploitation of new technology, and unreformed, ultimately deteriorating, industrial relations. Immediately after the war, economic policy options were severely circumscribed by its legacy of repressed inflation and balance of payments problems which, for example, seriously compromised attempts to inject greater competition into the economy and thus weakened productivity performance (Broadberry and Crafts, 1996).

Subsequently, however, during the Golden Age there was a great deal of experimentation in economic policy-making involving efforts to enhance productivity growth as well as to reduce economic insecurity and inequality. Surprisingly to modern eyes, supply-side policy did not focus effectively on addressing market failures in human capital formation or the diffusion of technical knowledge. Instead the thrust of policy was to subsidize physical capital, to nationalize and/or not to privatize, to finance prestige research projects notably in aerospace and nuclear power, to promote 'national champion' firms and to maintain a highly distortionary tax system. In addition, macroeconomic considerations often took priority.

To some extent, similar policy errors were made throughout Europe but overall the damage done in Britain was relatively high, as international comparisons have often shown. Thus, Tanzi (1969) concluded that the British tax system was the least conducive to growth of any OECD country that he studied, Adams (1989) found that early entry into the European Community provided an antidote to misdirected industrial policies absent in Britain, Kormendi and Meguire (1985) obtained econometric results to show that unpredictable macroeconomic policies hurt growth in the UK more than in any other major European economy, the share of total investment carried out in nationalized industries was unusually high and the return on it astonishingly low (Vickers and Yarrow, 1988), while Ergas (1987) contrasted the success of Germany's technology policy in speeding up diffusion with the failure of the invention-oriented British policy.

Technological change speeded up in postwar Britain but its implications for productivity growth were frequently diluted. There were several reasons for this. Changes in the capital market unleashed by the 1960s a ferocious merger and takeover boom in which pursuit of size rather than efficiency or long term investment seemed to many the best survival strategy (Singh, 1975). In some sectors, it seemed clear that technology was pushing in the direction of Americanization which required much better qualified management and an end to craft control of the shopfloor. It also often turned out to be difficult to negotiate the reductions in personnel necessary for the full productivity improvements to be obtained (Prais, 1981).

Finally, Britain did not achieve the transformation in industrial relations that happened elsewhere in Europe and remained an outlier, the only case of powerful, long-established but decentralized trade unionism (Crouch, 1993). The British system was characterized by multiple unionism, unenforceable contracts and, increasingly, by plant bargaining with shop stewards, while with full employment and relatively weak competition in product markets workers' bargaining power was strong. The evidence suggests that this environment, in which, unlike countries such as Germany, workers and firms could not commit themselves to 'good behaviour', acted as a serious deterrent to investment and innovation (Bean and Crafts, 1996; Denny and Nickell, 1992).

3. Addressing Relative Economic Decline since 1979

The election of the Thatcher government in 1979 marked the start of a new approach to reversing relative economic decline and improving 'competitiveness' that has largely been sustained by the

Labour government since 1997. This section appraises the impact of these reforms on relative productivity performance and its determinants.

The central assumption underlying this section is that government policy can influence long run growth performance a bit. This view is consistent with modern growth economics but not with traditional neoclassical growth theory. The chief insight that is relevant to the analysis is that growth outcomes are crucially dependent on incentive structures which are shaped by a wide range of microeconomic policies decided by politicians whose own incentives therefore also matter. Four key points from the new growth economics are important to the argument.

First, the driving force of long run growth is technological progress (both through invention and technology transfer) which is brought about through 'endogenous innovation', that is by attempts to reduce costs and develop new products in the pursuit of profit. Well-designed policy and institutions can increase innovative activities by increasing expected returns for a given volume of effort. In this context, productive expenditure by government, say, on infrastructure or human capital, will have a positive effect but distortionary taxation a negative effect on growth.

Second, in designing policy to promote faster growth, it is important to distinguish between profit-maximizing firms and so-called 'conservative' firms in which agency problems loom large and managers who are not tightly controlled by shareholders delay cost-reducing initiatives which require effort to discover and implement, subject to the constraint of keeping the firm afloat. Aghion et al. (1997) provide the following tableau of the impacts of agency costs on the adoption of new technology.

Figure 1. Policy Impact on the Rate of Technology Adoption

	π -maximizing firm	conservative firm
competition policy	negative	positive
industrial policy	positive	negative

For profit-maximizing firms, industrial policy in the form of subsidies to innovation speeds up adoption by raising profitability but strong competition policy tends to reduce innovation by making it harder to appropriate returns. For conservative firms, industrial policy cushions managers and thus reduces innovative effort while competition policy does the opposite.

Third, in growth accounting estimates, an acceleration in the rate of endogenous innovation will generally show up both in faster TFP growth and in an enhanced contribution of growth in factor inputs from new varieties of capital goods. This implies the need for more caution in interpreting results than is often realized.

Fourth, the central role of innovation in economic growth highlights the importance of 'creative destruction' in which technologies become obsolete and firms exit. Thus, it has been estimated that in American manufacturing about half of all TFP growth comes from the reallocation of production from losers to winners in this process (Foster et al., 1998). In such cases job losses are good news for productivity performance but are rarely acclaimed as such by press or by politicians. Slowing down or blocking exit of the inefficient is a perennial temptation for politicians who can clearly identify the votes of the losers to be helped but cannot expect any reward for the promise that their pain will be good for the living standards of unidentified future citizens on average.

Among the key elements of the new supply-side policy have been privatization and deregulation, downsizing of industrial policy, reform of industrial relations, restructuring of taxation and restraint on the growth of public expenditure, radical revision of vocational training and expansion of higher education. Foreign direct investment has been encouraged and rapid de-industrialization

more or less accepted. Many of these policies would have been inconceivable to earlier Conservative governments let alone the 'Old' Labour governments of Attlee, Callaghan and Wilson. In principle, leaving aside details of implementation, the change in policy stance would be consistent with the insights of modern growth economics especially if agency problems are prevalent.

Against this background, Table 1 places British productivity performance in a comparative context. The main message appears to be that since 1979 relative decline compared with France and Germany, which had been rapid previously, has ceased but not been reversed. Catch-up of the United States has continued, at least until the last few years. Japanese catch-up of the UK as measured by TFP has faltered. This relatively better showing has come about through a markedly greater slowdown in France, Germany and Japan since the Golden Age rather than an acceleration in UK productivity growth. Capital per worker in the UK in 1999 remained well below the levels in the other countries.

Table 2 looks much more closely at comparative TFP performance in an attempt to identify the sources of the continuing productivity gap. This is accomplished by working with successively more sophisticated concepts of TFP. TFP1, which is taken from Table 1, is the most basic concept which takes no account even of human capital. TFP2 takes explicit account of endogenous innovation in the form of stocks of R & D and an estimate of their contribution to output growth. TFP3 also allows for labour force skills based on the usual methodology of weighting qualifications by their associated wage differentials. TFP4 measures the impact of skills econometrically and tries to capture spillover effects on other workers' productivity.

The results suggest that there is an important difference in the productivity gap between the UK and Germany on the one hand and the United States on the other. With respect to the latter, comparison of the different rows of Table 2 suggests that virtually all the TFP gap now comes from differences in R & D which accounted for a bigger TFP gap in 1999 than in 1979. With respect to the former, labour force skills accounted for an important part of the gap in 1999 albeit the contribution was distinctly lower than in 1979, and R & D played a supporting role. Taking this table together with Table 1, it appears that at the end of the twentieth century labour productivity gaps between the UK and these countries were almost entirely explained by broad capital including R & D and that inefficient use of labour was no longer a major source of British weakness.

Manufacturing has been extensively studied and has emerged as the sector where, in the 1980s, Thatcherism had a particularly marked impact. Table 1 shows a notable turn around in trends in TFP relative to other countries before and after 1979. Detailed empirical studies suggest that this was associated with a major shakeout associated with stronger competitive pressures and a transformation in industrial relations which eliminated the hold-up problems and overstaffing of the 1970s (Bean and Crafts, 1996; Haskel, 1991; Metcalf, 1994). The average skill level of the workforce improved somewhat as the proportion with no qualifications fell from 72 per cent in 1979 to 54 per cent in 1993 (O'Mahony, 1999). Foreign direct investment, by stimulating technological change, has been estimated to have accounted for about 30 per cent of labour productivity growth between 1985 and 1995 (Barrell and Pain, 1997). However, by the end of the twentieth century, manufacturing was quite a small part of the total economy.

Several fast-growing countries have overtaken the UK in terms of real GDP/person in the last twenty years. It seems natural to ask both whether they offer a yardstick by which to judge the UK's economic reforms a failure and also what lessons they offer for British policymakers. Table 3 reports some growth accounting comparisons with which to approach these questions.

The most obvious point to make about the East Asian countries in Table 3 is that they all represent cases of catch-up growth and have accessed sources of growth not available to the UK. This remained true in the 1990s when labour productivity was still well short of the leading OECD countries (Crafts, 1999). East Asian growth is seen to have relied very heavily on strong contributions from both capital accumulation and labour force growth while TFP growth has been unimpressive for a phase of rapid catch-up growth. Low initial capital to output ratios and a demographic transition that has involved a marked, albeit temporary, reduction in the dependency ratio have been conducive to rapid growth in East Asia but cannot be replicated in the UK.

Some may have concluded that taking lessons from East Asia is now inappropriate since the financial crisis shows that the developmental state model favoured by most Tigers is fatally flawed. In fact, the financial crisis is better seen as a failure of regulation of the financial systems familiar from the earlier economic history of Britain and the United States. Nevertheless, it would be incorrect to see the East Asian experience as making the case that Britain would have been better to strengthen industrial policy rather than competition policy in the recent past. The developmental state has succeeded in generating high investment but detailed studies of interventionist subsidy and capital allocation policies have concluded that they have been to the detriment of productivity growth both in Japan (Beason and Weinstein, 1996) and Korea (Borensztein and Lee, 1999).

The case of Ireland may be a more likely source of lessons partly because the much-used label of 'Celtic Tiger' is rather misleading. Irish growth has benefited from strong labour force growth, as Table 3 reports; this has come from demographic trends and changes in labour market behaviour that the UK cannot imitate. At the same time, unlike East Asia, Irish TFP growth has been highly impressive and is far above what Britain has achieved since the mid-1980s. Moreover, this has been achieved under the auspices of a 'social contract' that might seem attractive to many opponents of Thatcherism, although, unlike the early postwar European examples, it has been organized around tax cuts and a reduced share of government spending in GDP.

Does the evidence offer any support to those who believe that British long run growth prospects have improved as a result of the changed policy stance of the last two decades? There are two quite strong grounds to think that this may be the case but it is perhaps too soon to be confident.

First, there are reasons to think that agency problems have been pervasive in British industry and politics and that the switch from industrial policy towards allowing a greater role for competition is justified. Econometric analysis has found that greater (though not perfect) competition promoted innovation in the 1970s and 1980s (Blundell et al., 1999; Geroski, 1990). In the (typical) absence of a dominant external shareholder, the results obtained by Nickell et al. (1997) were that reducing supernormal profits from 15 to 5 per cent of value added raises TFP growth by 1 percentage point per year and that financial pressure raised productivity growth especially where competition was weak - when rents are 25 per cent of value added a rise in interest payments from 10 to 30 per cent of cash flow raises productivity growth by 1.7 per cent per year - so subsidies by easing cash flow problems would cut cost-reducing effort.

Control of managers in nationalized industries was even weaker but has been strengthened by privatization; financial performance had no effect on the probability of top executives resigning or being fired under public ownership but after several years in the private sector there is a strong inverse relationship (Cragg and Dyck, 1999). An unweighted average of 12 former nationalized industries experience growth rates of real output per worker of 1.3 per cent in 1972-1980 rising to 5.6 per cent in 1980-1988 and 6.8 per cent

in 1988-97 (Europe Economics, 1998).

The evidence regarding the interventionist policies of the 1970s also vindicates the retreat from industrial policy. The picture is that "it was losers like Rolls Royce, British Leyland and Alfred Herbert who picked Ministers... What was described as 'picking winners' appeared in practice to amount to spending huge sums shoring up ailing companies..." (Morris and Stout, 1985, p.873). For example, government contributions to civil aircraft and engine development from 1945 to 1974 totalled £1.5 billion at 1974 prices and produced receipts of £0.14 billion (Gardner, 1976). Similarly, Greenaway and Milner (1994) concluded that the pattern of protection in the form of tariffs in the UK in 1979 was primarily accounted for in terms of the adjustment costs associated with threatened contraction of industries with high import penetration and intensive use of unskilled labour.

Second, recent econometric studies of fiscal policy have found that, when the financing aspect of government spending is explicitly taken into account, tax and public investment do influence growth outcomes in the OECD. Broadly speaking, it appears that taxes on income are distortionary and have an adverse impact whereas taxes on consumption are neutral and that productive expenditures by government have a positive effect whereas higher transfer payments are neutral. Thus, an increase in, say, unemployment benefits financed by income taxes is growth-reducing whereas higher infrastructure spending financed by higher VAT is growth enhancing. In both cases a change of 1 per cent of GDP has been estimated to change the growth rate by at least 0.1 percentage point per year (Kneller et al., 1999).

In the light of these results, Tables 4 and 5 make interesting reading. Throughout the OECD, government spending is now vastly higher than before World War II and the surge in transfer payments financed by distortionary taxation during the 1960s and 1970s emerges as a candidate to explain part of the subsequent growth slowdown. In comparative terms, the UK has been less prone to these developments than has the average European country. Thus Table 5 reports a rise of 3.4 percentage points in the share of distortionary taxes in GDP since 1955 compared with an average in other European countries of 13.4 percentage points.

Although there has been no dramatic fall in total government outlays relative to GDP in the last twenty years, there has been a switch from direct to indirect taxation and in 1980 benefits, including pensions, were decoupled from earnings and linked instead to prices which implied a saving by the mid-1990s of about 3 per cent of GDP (Tyrie, 1996). Using the equations estimated in Kneller et al. (1999), these reforms to fiscal policy taken together would be predicted to raise the growth rate by 0.5 per cent per year or more. Indeed, on this line of argument, the timidity of the Conservatives in backing away from radical welfare reform and in failing to widen the VAT base - which is quite narrow by European standards (Owens and Whitehouse, 1996) - would seem disappointing.

Here, however, we reach a point at which evaluation becomes very difficult. In particular, it is important to recognize that pursuing faster growth by these means has had consequences for the distribution of income. The Gini coefficient of income inequality rose by around 8 percentage points in the later 1980s and early 1990s and this seems to have resulted primarily from the squeeze on benefits and the change in the structure of taxation noted above as potentially good for growth (Atkinson, 1999, p. 70). Whether this has been worthwhile or should have been pushed further is a matter of value judgements on which there is no consensus.

In sum, relative economic decline against a European peer group is probably less likely in future than before 1979. In that sense, 'national competitiveness' has improved. There has been no miracle but a continuation of the policies of the 1970s would surely have resulted in a less favourable outcome. At the same time, some

might see the cost of the whole experience, paid in terms of rising inequality, as 'too high'.

4. Test Questions

Two important questions remain that have not been directly addressed in the preceding section. First, whether Britain's position relative to its European peer group will change as ICT plays a larger role in the growth process and second, whether the McKinsey Report correctly identifies a way to address major shortcomings in the Conservative governments' strategy for competitiveness.

How does the UK compare with its European rivals in exploiting the opportunities for faster productivity growth brought about by the ICT revolution? The early evidence from growth accounting is mildly encouraging. A recent paper by Schreyer (2000) has reported that the contribution of ICT equipment (not including software) to growth in the UK from 1985 to 1996 averaged 0.28 per cent per year compared with 0.18 per cent in both West Germany and Japan and 0.20 per cent in both France and Italy. To this may be added the relative ease of establishing new businesses in the UK where procedures can be completed in 11 days at a cost of 0.56 per cent of GDP per person which is the cheapest and quickest by far of any European country included in the survey by Djankov et al. (2000).

On the other hand, educational standards still lag well behind the best in Europe in terms of preparation to the level of (broadly defined) literacy skills needed to participate effectively in the knowledge economy. In tests conducted by the OECD in the mid-1990s only 49 per cent of the working age group had this level of achievement (Level 3 or better) compared with 74 per cent in the top country, Sweden (OECD, 2000b). Also, the American experience highlights that a large part of the productivity surge resulting from the ICT revolution stems directly from TFP growth in producing computers and semi-conductors (Oliner and Sichel, 2000), an activity which is relatively small in Britain compared with the European leader, Ireland, although a bit larger than France or Germany.

McKinsey Global Institute (1998) claimed that incentive problems due to excessive regulation, especially planning restrictions, and weak competition policy lay at the heart of Britain's inferior productivity performance. Prima facie, if the agency costs view of the preferred design of microeconomic policy discussed in the last section is accepted, this may seem a plausible argument. In this context, the Competition Act of 1998 is a step in the right direction and the Conservatives' inactivity in the area of anti-trust seems unfortunate. Indeed, there is tentative econometric evidence that tight regulation of product markets has been inversely related to growth performance across European countries (Koedijk and Kremers, 1996).

Nevertheless, if regulation really were the key to comparative European productivity outcomes, Britain would probably outperform both France and Germany. As Table 6 reports, in the mid-1990s the UK experienced less regulatory interference in the establishing of new businesses and was further ahead in implementing the Single Market than either of those countries. The sample survey by Blondal and Pilat (1997), also reported in Table 6, found that UK productivity in the five sectors investigated suffered a lower productivity handicap from regulation than either France or Germany, although considerably more than in the United States. Moreover, if, as Table 2 suggests, human capital accounts for much of the productivity gap with Germany, it is hard to see that this is primarily the result of weak competition policy or restrictions on land use.

Although it is quite possible that further deregulation would be good for British productivity performance, it does not follow that it would be attractive to government, an aspect of incentives that

went unexplored by McKinsey. Relaxing planning restrictions seems likely to be quite risky for vote-seeking politicians for much the same reasons that they seek to restrain the growth promoting forces of creative destruction or free trade.

5. Summary and Conclusions

- (1) The early postwar years were a Golden Age of economic growth in Europe. At this point, the UK grew faster than ever before or since, but less than other European economies. The present growth potential of the economy is, however, well above that of the late nineteenth century or even the industrial revolution periods.
- (2) The most serious British failures are to be found in the 1950s through the 1970s. Before World War II our inability to keep up with the United States was largely unavoidable and was shared by the rest of Europe. The interventionist approach and outmoded institutions of early postwar Britain were costly in era of strong growth opportunities. Microeconomic policy seriously under-estimated the importance of agency costs within firms.
- (3) Relative economic decline has resulted from weak productivity performance rather than simply from low investment. A relatively weak capacity for innovation and for making effective use of technological change have been at the heart of disappointing British growth.
- (4) Since 1979, relative decline against OECD countries has largely ceased. Nevertheless at the end of the twentieth century there still is a substantial labour productivity gap with peer group countries such as Germany and the United States. This is almost entirely explained by physical and human capital per hour worked in the former case and by physical capital and R & D per worker in the latter case.
- (5) The reforms pursued by the Conservatives after 1979 and largely accepted subsequently by New Labour have improved the incentive structures facing firms and workers and imply that growth performance has been better than would have been expected under a continuation of the policies of the 1970s.
- (6) Although there has been a growth payoff to these reforms, for those whose main concern is with the distribution of income, the overall outcome might be regarded as negative since income inequality has risen sharply, largely as a result of changes in taxation and benefits policy that have been pro-growth.
- (7) The likely impact of the spread of the ICT revolution across Europe in the next decade on relative economic decline is still unclear, although in some respects the UK appears reasonably well-placed relative to France and Germany.

References

- Abramovitz, M. (1993), "The Search for the Sources of Growth: Areas of Ignorance, Old and New", *Journal of Economic History*, 53, 217-243.
- Adams, W. J. (1989), *Restructuring the French Economy*. Washington: Brookings.
- Aghion, P., Dewatripont, M. and Rey, P. (1997), "Corporate Governance, Competition Policy and Industrial Policy", *European Economic Review*, 41, 797-805.
- Atkinson, A. B. (1999), "The Distribution of Income in the UK and OECD Countries in the Twentieth Century", *Oxford Review of Economic Policy*, 15(4), 56-75.
- Barrell, R. and Pain, N. (1997), "Foreign Direct Investment, Technological Change and Economic Growth within Europe", *Economic Journal*, 107, 1770-1786.

- Bean, C. R. and Crafts, N. F. R. (1996), "British Economic Growth since 1945: Relative Economic Decline ... and Renaissance?", in N. F. R. Crafts and G. Toniolo (eds.), *Economic Growth in Europe Since 1945*. Cambridge: Cambridge University Press, 131-172.
- Beason, R. and Weinstein, D. E. (1996), "Growth, Economies of Scale and Targeting in Japan, 1955-1990", *Review of Economics and Statistics*, 80, 286-295.
- Blondal, S. and Pilat, D. (1997), "The Economic Benefits of Regulatory Reform", *OECD Economic Studies*, 28(1), 7-45.
- Blundell, R., Griffith, R. and van Reenan, J. (1999), "Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms", *Review of Economic Studies*, 66, 529-554.
- Borensztein, E. and Lee, J-W. (1999), "Credit Allocation and Financial Crisis in Korea", IMF Working Paper No. 99/20.
- Broadberry, S. N. and Crafts, N. F. R. (1992), "Britain's Productivity Gap in the 1930s: Some Neglected Factors", *Journal of Economic History*, 52, 531-558.
- Broadberry, S. N. and Crafts, N. F. R. (1996), "British Economic Policy and Industrial Performance in the Early Postwar Period", *Business History*, 38, 65-91.
- Broadberry, S. N. and Ghosal, S. (2000), "Explaining Comparative Productivity Levels in Services", mimeo, University of Warwick.
- Collins, S. M. and Bosworth, B. P. (1996), "Economic Growth in East Asia: Accumulation versus Assimilation", *Brookings Papers on Economic Activity*, 2, 135-191.
- Crafts, N. F. R. (1998), "Forging Ahead and Falling Behind: The Rise and Relative Decline of the First Industrial Nation", *Journal of Economic Perspectives*, 12(2), 193-210.
- Crafts, N. F. R. (1999), "East Asian Growth Before and After the Crisis", *IMF Staff Papers*, 46, 139-166.
- Crafts, N. F. R. (2000), *Britain's Relative Economic Decline, 1870-1999*. London: Social Market Foundation, forthcoming.
- Crafts, N. F. R. and O'Mahony, M. (2000), "A Perspective on UK Productivity Performance", mimeo, LSE and NIESR.
- Cragg, M. I. and Dyck, I. J. A. (1999), "Management Control and Privatization in the UK", *Rand Journal of Economics*, 30, 475-497.
- Crouch, C. (1993), *Industrial Relations and European State Traditions*. Oxford: Clarendon Press.
- Denny, K. and Nickell, S. (1992), "Unions and Investment in British Industry", *Economic Journal*, 102, 874-887.
- Djankov, S., La Porta, R., Lopez de Silanes, F. and Schleifer, A. (2000), "The Regulation of Entry", paper presented to Summer Research Workshop, World Bank, Washington.
- Durkan, J., Fitzgerald, D. and Harmon, C. (1999), "Education and Growth in the Irish Economy", in F. Barry (ed.), *Understanding Ireland's Economic Growth*. London: Macmillan, 119-135.
- Eichengreen, B. (1996), "Institutions and Economic Growth: Europe after World War II", in N. F. R. Crafts and G. Toniolo (eds.), *Economic Growth in Europe since 1945*. Cambridge: Cambridge University Press, 38-72.
- Ergas, H. (1987), "Does Technology Policy Matter?", in B. R. Guile and H. Brooks (eds.), *Technology and Global Industry*. Washington: National Academy Press, 191-245.
- Europe Economics (1998), *Water and Sewage Industries: General Efficiency and Potential for Improvement*. Birmingham: Ofwat.
- Foster, L., Haltiwanger, J. and Krizan, C. J. (1998), "Aggregate Productivity Growth: Lessons from Microeconomic Evidence", NBER Working Paper No. 6803.
- Gardner, N. (1976), "The Economics of Launching Aid", in A. Whiting (ed.), *The Economics of Industrial Subsidies*. London: HMSO.
- Geroski, P. (1990), "Innovation, Technological Opportunity and Market Structure", *Oxford Economic Papers*, 42, 586-602.
- Greenaway, D. and Milner, C. (1994), "Determinants of the Inter-Industry Structure of Protection in the UK", *Oxford Bulletin of Economics and Statistics*, 56, 399-419.
- Hannah, L. (1983), *The Rise of the Corporate Economy*. London: Methuen.
- Haskel, J. (1991), "Imperfect Competition, Work Practices and Productivity Growth", *Oxford Bulletin of Economics and Statistics*, 53, 265-279.
- Haydu, J. (1988), "Employers, Unions and American Exceptionalism: Pre World War I Open Shops in the Machine Trades in Comparative Perspective", *International Journal of Social History*, 33, 25-41.
- Kneller, R., Bleaney, M. F. and Gemmell, N. (1999), "Fiscal Policy and Growth: Evidence from OECD Countries", *Journal of Public Economics*, 74, 171-190.
- Koedijk, K. and Kremers, J. (1996), "Market Opening, Regulation and Growth in Europe", *Economic Policy*, 23, 445-467.
- Kormendi, R. C. and Meguire, P. C. (1985), "Macroeconomic Determinants of Growth", *Journal of Monetary Economics*, 16, 141-163.
- Lewchuk, W. (1987), *American Technology and the British Vehicle Industry*. Cambridge: Cambridge University Press.
- Lindert, P. H. (1994), "The Rise of Social Spending, 1880-1930", *Explorations in Economic History*, 31, 1-37.
- Lindert, P. H. (1996), "What Limits Social Spending?", *Explorations in Economic History*, 33, 1-34.
- Maddison, A. (1996), "Macroeconomic Accounts for European Countries", in B. van Ark and N. F. R. Crafts (eds.), *Quantitative Aspects of Postwar European Economic Growth*. Cambridge: Cambridge University Press, 27-83.
- Maddison, A. (1998), *Chinese Economic Performance in the Long Run*. Paris: OECD.
- Matthews, R. C. O., Feinstein, C. H. and Odling-Smee, J. C. (1982), *British Economic Growth, 1856-1973*. Stanford: Stanford University Press.
- McKinsey Global Institute (1998), *Driving Productivity and Growth in the UK Economy*. London: McKinsey & Company.
- Metcalf, D. (1994), "Transformation of British Industrial Relations? Institutions, Conduct and Outcomes, 1980-1990", in R. Barrell (ed.), *The UK Labour Market*. Cambridge: Cambridge University Press, 126-157.
- Morris, D. J. and Stout, D. (1985), "Industrial Policy", in D. J. Morris (ed.), *The Economic System in the UK*. Oxford: Oxford University Press, 851-894.
- Nelson, R. R. and Wright, G. (1992), "The Rise and Fall of American Technological Leadership: the Postwar Era in Historical Perspective", *Journal of Economic Literature*, 30, 1931-1964.
- Nickell, S., Nicolitsas, D. and Dryden, N. (1997), "What Makes Firms Perform Well?", *European Economic Review*, 41, 783-796.
- OECD (1981), *Long Term Trends in Tax Revenues of OECD Member Countries*. Paris.
- OECD (1999), *Revenue Statistics, 1965-1998*. Paris.
- OECD (2000a), *Economic Outlook*. Paris.
- OECD (2000b), *Literacy in the Information Age*. Paris: OECD.
- Oliner, S. D. and Sichel, D. E. (2000), "The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?", mimeo, Federal Reserve Board.
- O'Mahony, M. (1999), *Britain's Productivity Performance 1950-1996*. London: NIESR.
- Owens, J. and Whitehouse, E. (1996), "Tax Reform for the 21st Century", *Bulletin for International Fiscal Documentation*, 50, 538-547.

Pollard, S. (1994), "Entrepreneurship, 1870-1914", in R. Floud and D. McCloskey (eds.), *The Economic History of Britain since 1700*. Vol. 2. Cambridge: Cambridge University Press, 62-89.

Prais, S. J. (1981), *Productivity and Industrial Structure*. Cambridge: Cambridge University Press.

Rossi, N., Sorgato, A. and Toniolo, G. (1992), "Italian Historical Statistics, 1890-1990", University of Venice Dipartimento di Scienze Economiche Working Paper No. 92-18.

Schreyer, P. (2000), "The Contribution of Information and Communication Technology to Output Growth: A Study of the G7 Countries", OECD STI Working Paper No 2000/2.

Singh, A. (1975), "Takeovers, Natural Selection and the Theory of the Firm: Evidence from the Postwar UK Experience", *Economic Journal*, 85, 497-515.

Tanzi, V. (1969), *The Individual Income Tax and Economic Growth*. Baltimore: Johns Hopkins University Press.

Tanzi, V. and Schuknecht, L. (1997), "Reforming Government: An Overview of Recent Experience", *European Journal of Political Economy*, 13, 395-417.

Tyrie, A. (1996), *The Prospects for Public Spending*. London: Social Market Foundation.

Vickers, J. and Yarrow, G. (1988), *Privatization: An Economic Analysis*. Cambridge, Mass.: MIT Press

Table 1. International Comparisons of Productivity Performance, 1950-1999

a) Growth Rates of Real GDP/Hour Worked (% per year)

	UK	France	Germany	Japan	USA
1950-73					
Total Economy	2.99	4.62	5.18	6.11	2.34
Manufacturing	4.69	5.85	6.62	8.46	2.76
1979-99					
Total Economy	2.11	2.15	2.02	2.62	1.10
Manufacturing	4.04	3.20	2.33	4.36	2.62

b) Levels of Labour Productivity, Capital Intensity and TFP in Total Economy (Manufacturing) (UK = 100)

	France	Germany	Japan	USA
GDP/HW				
1950	79 (77)	72 (74)	41 (47)	195 (290)
1973	116 (101)	119 (115)	74 (94)	168 (186)
1979	130 (133)	131 (147)	79 (126)	154 (190)
1999	133 (130)	129 (126)	87 (147)	126 (171)
K/HW				
1950	134 (106)	135 (95)	70 (47)	339 (269)
1973	120 (142)	168 (152)	95 (121)	193 (173)
1979	132 (149)	174 (150)	107 (132)	170 (168)
1999	140 (171)	160 (156)	165 (185)	125 (161)
FP				
1950	72 (72)	68 (85)	46 (75)	133 (214)
1973	109 (89)	104 (102)	75 (88)	138 (159)
1979	121 (118)	114 (133)	77 (116)	132 (168)
1999	120 (103)	113 (108)	75 (116)	118 (142)

Sources: O'Mahony (1999) updated using Crafts and O'Mahony (2000). Estimates for manufacturing in the final year refer to 1996 for GDP/HW and 1995 for K/HW and TFP.

Table 2. International Comparisons of Different Concepts of TFP (UK = 100)

	France	Germany	Japan	USA
1979				
GDP/HW	130	131	79	154
TFP1 (K)	121	114	78	132
TFP2 (K, R&D)	122	114	82	117
TFP3 (K, R&D, HK)	na	107	na	115
TFP4 (K, R&D, HK with externalities)	na	92	na	108
1999				
GDP/HW	133	129	87	126
TFP1 (K)	120	113	75	118
TFP2 (K, R&D)	119	108	70	101
TFP3 (K, R&D, HK)	na	104	na	101
TFP4 (K, R&D, HK with externalities)	na	95	na	102

Source: Crafts and O'Mahony (2000); estimates are for total economy.

Table 3. Accounting for Growth in Europe and Asia (% per year).

	Growth Contribution From			ΔY/Y
	Capital	Labour	TFP	
1950-1973				
France	1.6	0.3	3.1	5.0
Germany	2.2	0.5	3.3	6.0
Italy	1.6	0.2	3.2	5.0
Japan	3.1	2.5	3.6	9.2
UK	1.6	0.2	1.2	3.0
1986-1996				
Ireland	0.8	1.8	2.7	5.3
1960-1994				
Singapore	4.4	2.2	1.5	8.1
South Korea	4.3	2.5	1.5	8.3
Taiwan	4.1	2.4	2.0	8.5
1978-1995				
China	3.1	2.7	1.7	7.5

Sources: France, Germany Japan and UK based on Maddison (1996); Italy from Rossi et al. (1992); Ireland from Durkan et al. (1999); Singapore, South Korea and Taiwan from Collins and Bosworth (1996); China based on Maddison (1998) adjusted to use Collins and Bosworth weights. Labour force includes adjustment for schooling.

Table 4. Government Expenditures/GDP, 1870-1998 (%)

	1870	1913	1937	1960	1980	1998
Total Outlays						
Australia	18.3	16.5	14.8	21.2	31.6	32.9
Belgium ^a	na	13.8	21.8	30.3	58.6	49.4
France	12.6	17.0	29.0	34.6	46.1	54.3
Germany	na	14.8	34.1	32.4	47.9	46.9
Italy ^a	11.9	11.1	24.5	30.1	41.9	49.1
Japan	na	8.3	25.4	17.5	32.0	36.9
Netherlands ^a	9.1	9.0	19.0	33.7	55.2	47.2
Norway	5.9	9.3	11.8	29.9	37.5	46.9
Sweden	5.7	10.4	16.5	31.0	60.1	58.5
UK	9.4	12.7	30.0	32.2	43.0	40.2
USA	7.3	7.5	19.7	27.0	31.8	32.8
	1880	1910	1930	1960	1980	1995
Social Transfers						
Australia	0.0	1.1	2.1	7.4	12.8	17.7
Belgium	0.2	0.4	0.6	13.1	30.4	31.7
France	0.5	0.8	1.1	13.4	22.6	30.2
Germany	0.5	na	5.0	18.1	25.7	24.8
Italy	0.0	0.0	0.1	13.1	21.2	25.3
Japan	0.1	0.2	0.2	4.0	11.9	18.3
Netherlands	0.3	0.4	1.2	11.7	28.3	31.8
Norway	1.1	1.2	2.4	7.9	21.0	23.4
Sweden	0.7	1.0	2.6	10.8	25.9	29.6
UK	0.9	1.4	2.6	10.2	16.4	21.4
USA	0.3	0.6	0.6	7.3	15.0	19.5

a. Central government only through 1937.

Sources: total outlays from Tanzi and Schuknecht (1997) updated using OECD (2000a); social transfers, defined to include spending on pensions, welfare, unemployment benefits and health from Lindert (1994) (1996) updated using Roseveare et al. (1996).

Table 5. Distortionary Tax Revenues (%GDP).

	1955	1980	1997
Australia	14.9	21.5	21.6
Austria	19.5	28.9	31.8
Belgium	15.3	33.0	33.7
Canada	13.5	24.9	27.8
Denmark	15.0	29.0	33.2
Finland	15.2	20.5	32.1
France			32.5
Germany	20.2	27.6	26.9
Greece			23.9
Ireland	11.8	21.3	19.8
Italy	17.1	22.0	32.9
Japan	11.4	22.3	24.0
Netherlands	17.9	35.6	30.2
New Zealand	20.2	25.0	23.8
Norway	15.8	30.9	26.8
Portugal	9.3	18.0	19.8
Spain			24.0
Sweden	18.2	38.5	40.3
Switzerland	12.9	24.9	27.6
UK	19.6	26.2	23.0
USA	19.1	26.3	24.8

Sources: OECD (1981) (1999)

Table 6. Product Market Regulation in France, Germany and UK.

	Establishing New Business	Competition Policy	Liberalizing Shop Hours	Implementing Single Market	Potential Productivity Gain from Reform
France	6=	4	3	9	2.3
Germany	11	1==	10	11	3.5
UK	1	8=	7	4=	2.0

Sources: Koedijk and Kremers (1996) except column (5) from Blondal and Pilat (1997). The first four columns report rankings out of 11 European countries where 1 is best. Column (5) reports total potential labour productivity gain from deregulation in airlines, electricity, distribution, road transport and telecommunications as a percentage of GDP. For comparison the potential gain in the relatively deregulated USA was estimated at only 0.5 per cent of GDP.