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The Organisation of Productivity:

Re-thinking Skills and Work Organisation



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Preface

This report is the outcome of a workshop organised by the Advanced Institute of Management Research (AIM) and the British Journal of Industrial Relations (BJIR), held on 15th June 2006. The purpose of the workshop was to reflect on two related questions. Most importantly, it is widely claimed that the UK productivity record has improved in recent years; but there is also considerable questioning of whether the improvement has in fact been as great as might have been expected. Second, there has been major practitioner and academic analysis of the nature of productivity and the UK's record; and yet agreement on key issues remains elusive. The workshop brought together leading academics and practitioners. It did not expect to reach agreement on these major issues. The aim, rather, was to re-think and re-focus. A central conclusion was the importance of what goes on inside the production process at the level of firm: the famous 'black box'.

The workshop included formal presentations from: Nick Crafts, Jonathan Michie and Jill Rubery. Discussants were: John Godard, Howard Gospel and Ewart Keep. Policy implications were addressed by David Coats, David Yeandle and Ian Brinkley. We are very grateful to them and to the other participants for their informative and constructive contributions.

The present report draws on the deliberations of the workshop, looking in particular at the use of skills and their organisation in processes of production and service delivery. It reflects the views of the authors alone. A major role was played by the three AIM Scholars: John Forth, Peter Miskell and Jonathan Payne, in taking notes of the workshop and drafting the key sections of this report. Rick Delbridge and Paul Edwards, as organisers of the event and report editors, are very grateful to them for their skill and good humour.



Executive Summary

Government policy emphasises five ‘drivers’ of productivity: competition, enterprise, innovation, investment and skills and each of these has been the subject of major programmes of reform (HM Treasury, 2006). Despite this, and notwithstanding some improvement, UK productivity in terms of output per hour worked continues to lag the performance of other major economies, most notably France, Germany and the US.

This report outlines this ‘productivity paradox’ and addresses why UK productivity performance continues to disappoint despite major changes over the past twenty five years. Our core argument is that, while Government policy stresses two aspects of context (macro-economic management and the regulatory environment), the key to productivity remains what happens inside the firm and this is something of a ‘black box’. The further benefits that may be achieved from pulling levers that impact on the inputs to, and context of, operation are limited. The priority now is to link the external (macro) to the internal (micro) in a more coherent effort to support firms. The report focuses on two areas that are central to how inputs to firms are combined and utilised: skills and work organisation.

There are two key messages:

- 1** Skills can only make a substantive contribution to productivity performance if they are effectively deployed in the firm. Supply-side skills policies are not sufficient.
- 2** Attention to the ‘black box’ of productive performance requires a local focus on the specific mechanisms and processes involved in the translation of inputs into productive activity.

These represent very significant challenges for policymakers and those actively engaged in supporting firms in their efforts to improve. The final section of the report identifies some important principles in moving forward. These include:

- 1** Policy must better balance its supply-side emphasis (the ‘push’ of skills and ‘best practice’ models) with practices that meet individual firm needs for specific and targeted assistance.
- 2** Policy interventions at the workplace need to develop support for firm level adaptive learning and find ways to promote this.

The overarching theme is that policy approaches that rely on universal solutions are naïve. Instead we need a more nuanced policy and practice discourse that encourages new ways of thinking and takes into account the circumstances facing firms operating in different contexts and at different levels of maturity. To address the UK’s productivity paradox, policymakers, managers, employees and their various representative bodies have to work constructively and collaboratively to meet the local and specific productivity and performance challenges facing individual firms.



Introduction

The story of the 2006 football World Cup was, remarks John Kay, one of outstanding teams defeating groups of outstanding players (Kay 2006). He noted that all of the top sides are filled with very good players. But the trophy goes, not to the best players, but to the best team. The Italians – the eventual champions – were more than the sum of their parts; the Brazilian team was not. And the less said about England the better. Kay used the analogy to make a broader point about business success, something which is not just a matter of ‘acquiring the best people, technology and resources’ but ensuring that they are combined and utilised in ways that add value.

Commentators, both within and outside government, now readily celebrate the UK as being one of the most market-oriented and business-friendly economies in the world (Blair 1998, Porter and Ketels, 2003). Reforms over the past two decades have included the large-scale deregulation of product and labour markets, a decline in trade union influence (and membership), the end of tripartism, and a much reduced role for the state both through privatisation and the ‘marketisation’ of the public sector (Rubery, 2005). UK plc has also benefited from a relatively low tax regime, ‘the lowest level of product and labour market regulation in the OECD’, and significant improvements since 1979 in the stock of workforce qualifications (Porter and Ketels, 2003: 25). Here, then, were the foundations on which the UK was to build a productivity renaissance. Yet, while Britain has reduced the gap with major competitors such as France, Germany and the United States, productivity levels in the UK still lag some way behind these other countries¹. There has also been no appreciable acceleration in the overall rate of productivity growth in the UK when seen in historical perspective, despite an environment which has apparently been extremely favourable.

Why is it that widespread reforms to the UK economy and institutions over the last twenty-five years have not generated the kind of improvements in productivity performance that might have been expected or hoped for? Although the workshop certainly did not generate anything that might be described as a smooth consensus, there was nevertheless a coming together around a number of key themes, issues, or at least questions. Building on Kay’s team analogy, one prominent theme was the need to pay closer attention to what happens inside the ‘black box’ of the firm and, in particular, the way in which various inputs, such as capital or skills, need to be combined, utilised and managed if they are to generate improved performance. While government has transformed the regulatory context, delivered macro-economic stability and reformed the supply side, not least through efforts aimed at ‘up-skilling’ the workforce, rather less attention has been focused on whether, and how, firms can make the most productive use of the resources that are available to them.

This report focuses on two areas where new thinking or new policy initiatives seem merited. The first of these areas concerns the supply and utilisation of skills. The second concerns methods of work organisation. In both areas, the report argues that greater attention needs to be given to the mechanisms by which productivity growth is attained if Britain is to make further, substantive gains in its productivity performance. This report aims to contribute to this agenda. It begins by outlining the current productivity problem. It then addresses two key aspects of the utilisation of resources: skills, and their deployment in processes of production and service delivery. Policy implications and options are then outlined.



1 UK Productivity: An Overview

British productivity has undoubtedly increased in recent times – by just over 2% per annum between 1950-1979, and by around 3% per annum in the 1990s (Broadberry and Crafts, 2003; Broadberry and O’Mahony, 2005). However, levels of productivity remain lower than those of Britain’s major industrial competitors (notably the USA, Germany and France). Despite considerable effort on the part of policymakers, this ‘productivity gap’ has proven stubbornly difficult to close. What, then, has the government done to boost UK productivity; to what extent has this policy agenda proven to be effective; and how might such a policy agenda be rethought?

After summarising the government’s current policy approach to productivity, this section of the report will briefly outline the quantitative data on the size and the nature of the UK’s productivity gap. In doing so it seeks to emphasise several points. First, Britain’s productivity gap is not a new problem but something that has existed for many decades. Britain’s productivity problem has not been caused by some macro-economic shock, but rather appears to reflect deep-seated features of the economy that cannot easily be resolved simply by macro-economic policy initiatives. Second, much of Britain’s productivity shortfall appears to be attributable to the service sector of the economy. This sector deserves more attention than it has received to date; yet this does not necessarily mean that wholly new approaches are needed, and indeed many aspects of how services firms behave seem to be shared with other parts of the economy². Third, Britain’s relative under-investment in physical capital has been a continuing problem, while skills shortages or deficiencies in labour quality also appear to contribute. It is not so much the supply of skills as how they are utilised that is important. This leads to the final point: the evidence indicates that, even though the macro-economic environment in which firms operate is highly competitive and conducive to entrepreneurial behaviour, this has not resulted in firms themselves investing more heavily in capital or R&D. If Britain’s productivity problem lies within firms themselves, rather than the economic environment in which firms operate, then a closer analysis of what actually happens within the workplace will be required.

Government policy: the five levers

In attempting to tackle Britain’s productivity problem, the UK government has identified five ‘key drivers’ of productivity performance. These are: investment (in physical capital), innovation, skills, enterprise and competition. The government has devised measures for benchmarking British performance in these areas against its main international competitors. By driving up measures of investment, innovation, skills, entrepreneurship and competition, it is hoped that the productivity gap can be eroded (HM Treasury/DTI, 2006). To what extent has this happened?

The relative lack of physical capital is almost certainly a key determinant of Britain’s productivity gap with Germany, France and the US. Unfortunately, the last decade and a half has not seen much change in the relative propensity of British firms to invest in physical capital. Levels of investment vary over the course of the economic cycle, but at no point since 1990 have British levels of investment been higher than those of all its main rivals, while they have often been lower. The picture is no better in terms of government investment, where British spending levels have been consistently lower than those of the US, Germany and France since 1990. The overall quality of Britain’s infrastructure is, accordingly, some way below German, French or US standards (HM Treasury, 2004). All of this helps to explain why the ‘physical capital’ component of labour productivity remains largely unchanged (or indeed has increased) since the 1970s, even though the productivity gap itself has narrowed during this period (See Table 1).

Table 1: Decomposition of comparative labour productivity, 1970s-1990s

% gap between UK and:	France	Germany	USA*
1979			
Labour productivity gap	31	30	52
Labour quality	6	5	2
Physical capital	17	9	11
TFP	8	16	40
2000			
Labour productivity gap	21	17	24
Labour quality	4	4	0
Physical capital	17	12	13
TFP	0	1	11

Note: *US/UK figures for the 1970s are based on 1973. Source: Broadberry and O'Mahony, 2005.

In terms of innovation Britain's record over the last decade and a half is not much more encouraging. Theoretically, the British remain great innovators. On a per capita basis, they produce more academic research and receive more citations than the Americans, French or Germans. As ever, the problem the British face is turning the theory into practice. Levels of business investment in R&D are consistently lower than in Germany, France or the US, as are the numbers of patents awarded to British firms (HM Treasury, 2004).

Britain's record in developing skills is a further key issue to consider. Once again, we see that levels of human capital are typically lower in Britain than in the US, France or Germany. Contrary to much contemporary opinion, Britain's problem in terms of human capital is arguably not that it produces too many graduates, but that far too high a proportion of the population have no qualifications at all. Progress, however, is being made, and the proportion of Britons achieving only the lowest educational qualifications has steadily declined since 1990 (HM Treasury, 2004). This is reflected in the diminishing importance of labour quality in determining Britain's productivity gap (see Table 1)³.

With regard to enterprise, almost all the available indicators suggest that the UK is host to a more 'enterprising' business environment than France or Germany, but that it still lags behind the US. The British appear to face fewer barriers to entrepreneurship than the French or Germans: they are less afraid of the consequences of failure; it is quicker and cheaper to set up a new business; access to venture capital is easier. Yet on the key measure of actual entrepreneurial activity (the proportion of people who have recently established their own business), Britain is broadly in line with France and Germany, with all three European economies some way behind the US (HM Treasury, 2004).

The final 'key driver' of productivity identified by the government is competition. Here Britain can hardly be said to be lagging behind her competitors. It is a liberal free market economy that is open to competition. It is probably the least restrictive major economy in terms of product market regulation (Conway et al., 2005; HM Treasury, 2004, 2006). According to the ratings of competitive regimes used by the government, Britain comes out just above the OECD and EU averages, and is broadly in line with the US and Germany (HM Treasury, 2004).

According to the government's own benchmarking exercise, then, Britain appears to be lagging behind its major international competitors in terms of investment, innovation and to some extent skills, but not in enterprise or competition. Why is this the case: how can an economy that is highly competitive and relatively entrepreneurial underachieve in terms of innovation and investment? This, perhaps, is Britain's real productivity paradox. Solving it may require policy initiatives that go beyond the pulling of macro-economic 'levers'; the answer may well reside within firms themselves.

British productivity: historical perspectives and sectoral analysis

Britain's productivity gap with the US, France and Germany is by no means new (see Table 2). In 1870 the UK was ahead in the 'productivity race', but had lost this position by the outbreak of the First World War. By the midpoint of the twentieth century the UK remained the most productive of the major European economies, but its labour productivity levels were 60 per cent lower than those of the US. The second half of the twentieth century (and the 1990s in particular) witnessed a partial closing of this gap with the United States. The same period, however, also saw Britain lose its labour productivity lead over European economies such as France and Germany. In the 1950s and 1960s these countries 'caught up' with UK levels of productivity, and in the 1970s and 1980s forged ahead. There has been a closing of Britain's labour productivity gap with France, Germany since 1990, but again, only a partial one.

Table 2: Comparative levels of labour productivity (GDP per hour, UK=100)

	1870	1913	1929	1938	1950	1973	1990	1998
UK	100	100	100	100	100	100	100	100
USA	87	116	136	144	161	148	141	126
Germany*	61	80	79	81	56	105	116	111
France	52	65	75	89	72	113	138	123
Japan	18	23	32	37	26	72	89	82

Note: *Former West Germany for period after 1950. Source: Broadberry and O'Mahony, 2005.

Much attention has been given to rates of productivity growth in manufacturing sectors, partly reflecting the historic paucity of data on services. But the service sector is numerically dominant in terms of output and employment, and so is critical in explaining the emergence of Britain's productivity gap. Britain's comparative productivity in manufacturing has fluctuated over time (reaching a nadir in the 1960s and 1970s before recovering in the 1980s and 1990s), but placed in a long term historical perspective, continuity is more striking than change. Britain's labour productivity levels in manufacturing were broadly comparable with Germany's in the 1990s, as they had been in the 1870s (see Table 3). US manufacturers were approximately 50 per cent more productive than British ones in the 1990s, again, just as they had been in 1870. Comparative productivity in services, on the other hand, has undergone a much more pronounced long term change. Indeed, Britain's productivity performance in services (unlike agriculture or manufacturing) corresponds closely with the general trend for the economy as a whole. Whereas Britain was able to rectify its declining competitiveness in manufacturing in the 1960s and 1970s, so that its comparative productivity today is broadly in line with what it was a century ago, it has proved far more difficult to reverse productivity decline in services.

Table 3: Comparative labour productivity by sector (UK=100)

	1871*	1950*	1973*	1990	1995	2001
United States						
Total Economy	89.8	166.9	152.3	138.4	124.4	123.9
Agriculture	86.9	126.0	131.2	162.3	137.8	187.4
Industry	153.6	243.5	214.8	151.9	133.2	130.3
Services	85.9	140.8	137.4	133.1	121.4	120.6
Germany						
Total Economy	59.5	74.4	114.0	123.5	118.7	117.0
Agriculture	55.7	41.2	50.8	37.4	39.6	46.9
Industry	91.7	91.8	121.1	126.1	105.0	103.8
Services	62.8	83.2	120.1	126.9	127.7	122.2
France						
Total Economy	–	–	–	139.1	128.0	122.3
Agriculture	–	–	–	61.0	71.5	78.0
Industry	–	–	–	133.9	120.1	119.9
Services	–	–	–	152.2	137.7	127.2

Note: *Figures in these columns refer to GDP per person. Figures from 1990 onwards refer to output per hour worked.
Source: Derived from Broadberry and O'Mahony, 2005.

There are, undoubtedly, many difficulties involved in measuring productivity in services. One recent study argued that 'it is the services productivity measurements that are in a crisis – not the service sector as such' (Anderson and Corley, 2006). Even so, it still appears that Britain's productivity gap (at least with Europe) cannot be attributed to agriculture or manufacturing. In part this can be explained by the nature of the economic sectors themselves. Manufactured products are portable. If British manufacturers are unproductive they can be closed down and products imported from elsewhere. Much of the improvement in the productivity of British manufacturing took place in the 1980s and 1990s within a context of deindustrialisation as the less efficient producers went out of business. This process is far more difficult to replicate in the service sector. It matters little to consumers whether their cars, televisions, refrigerators or computers are manufactured locally or imported, but it does matter that retail outlets for these products, and associated after sales service facilities, are available locally. It is simply not viable to shut down inefficient service providers in the UK and buy in cheaper alternative services from abroad. By their nature services must be provided locally – at the point of consumption (Broadberry, 2006). There are some caveats to this. First, opportunities do exist for foreign multinationals in the service sector to invest in the UK, but as the example of Wal Mart shows, it can be very difficult for even the most efficient firms to replicate productivity levels when operating in foreign markets (see, for example, Greenwald and Kahn, 2005). Second, UK firms also have the option of relocating some service activities offshore, though there are limits to this. A UK-based telecoms firm, for example, would be able to relocate their call centres to India, but would still need to employ teams of service engineers across Britain. Closing the productivity gap in services is, perhaps, a key challenge facing the UK economy, but what will this entail?

For many firms, the challenge of improving productivity is not so much one of cutting costs but of rethinking strategy. Firms can only cut costs by so much and cost cutting drives may also have unintended negative consequences. An alternative approach, advocated by leading management scholars, is that for UK firms to achieve long term improvements in productivity and profitability they need to move 'up the value chain'. Firms, in other words, need to move out of those sectors of the economy dominated by low-cost / low-margin competitors, and focus instead on higher value added activities, which might include R&D, innovation, and brand marketing (Delbridge et al., 2006).

The problem facing the UK, however, is that much of its productivity shortfall appears to lie in a sector identified by Stephen Broadberry as ‘market services’ (namely: transport, communications, distribution, hotels and catering, financial and business services, and personal services). The question then is: how does a railway company, or a postal service, or a hotel, or a caterer move ‘up the value chain’? Firms cannot simply abandon these sectors of the economy, because the economy could not function without them. Equally, it would be irrational to recommend that rail companies should cater for first class passengers only, or that all UK hotels should aim to become 5 star. Firms operating in these sectors, wherever they are located, succeed by providing appropriate levels of quality service at low cost. Many are forced to adopt low-cost strategies not by government policy but by the force of consumer demand. These appear to be sectors, however, where UK firms are less productive than their counterparts in France, Germany or the US.

Addressing Britain’s productivity gap

Much has been done to improve the macro-economic climate within which UK firms operate over the last twenty-five years. These changes have helped pave the way for something of a renaissance in UK productivity levels when compared with its major competitors. British productivity performance, as measured against that of Germany, France and the US, has improved more significantly in the last two decades than in any other period since 1870. This improvement, however, is relative. Levels of productivity in the UK still lag behind those of its major competitors. Whatever acceleration there may have been in UK productivity, it has not been enough to close Britain’s long standing productivity gap.

So one might ask why UK productivity has not increased to a greater degree in recent periods: why has the gap narrowed but not been closed? And one might also ask how the UK can best ensure that the pace of productivity growth is either sustained or even increased in years to come? Government policy may have been partially successful over the last decade or so, but what more can be done to ensure that British firms are able to compete with their American and continental rivals? The policy ‘levers’ that the government have been pulling may well be appropriate ones, but could these policies be implemented more carefully and effectively? In terms of skills, for example, government has made real progress in increasing the proportion of workers with intermediate or higher level qualifications. However, this has made only a small impact on Britain’s relative measure of ‘labour quality’. There may be very good reasons why the government should want to create a more educated and skilled workforce, but is a more skilled workforce necessarily a more productive one? Translating skills into productivity is a complex problem, and one that involves employers as much as it does government.

For policymakers, the real problem may be that there is limited scope for further initiatives to improve the environment within which firms operate. In terms of providing a competitive and liberal market, encouraging entrepreneurship and improving skills supply, some notable successes have been achieved. That the favourable macro-economic environment has not been translated into higher levels of investment or innovation suggests that the real problem may well reside within firms themselves.

The aim of this report is not to provide a ‘magic bullet’ that will solve the UK’s longstanding productivity problem, but rather to highlight alternative approaches to addressing the question. The sections that follow will question and challenge some aspects of the government’s current approach to improving productivity, while also highlighting alternative paths/approaches that could be followed. Section 2 examines the government’s strategy for improving skills, and questions how much more can be gained from such a strategy in terms of productivity growth. Section 3 focuses on something not identified by the government as a ‘key driver’ of productivity growth, but an area which is important nonetheless: namely the role of workplace organisation and job design. The final section, suggests alternative paths to productivity improvement that the government may, or may not, wish to pursue.

Conclusion

The above discussion has pursued the established debate on productivity by looking at specific factors independently. The exercise is important in charting the nature of the issue, but it can lead to a premature dismissal of certain influences. Weighty reports have, for example, addressed the alleged short-termism of financial institutions and concluded that it is not in fact a problem (Owen, 1999). Yet it may well be significant in combination with other factors, for example an encouragement to firms to think in short-term ways and to rely on deep-seated assumptions favouring cost minimisation strategies (Thompson, 2003). Similarly, a lack of physical capital may be a reflection of deeper influences, notably unwillingness to make long-term commitments, as much as it is an independent 'cause'. There is good historical evidence of UK firms' failures to invest even when conditions seemed favourable; pointing to a lack of capital may simply raise the further question of how it is to be explained.

As for productivity in services, it is sometimes argued that lessons from manufacturing are not applicable. It is true that any sector has distinct features and that models cannot be read across from others. Yet to dismiss lessons from manufacturing would be too simple. First, there is a substantial amount of research on the organisation of work in such growing areas as call centres and on the meaning of skill in service work (Korczynski, 2002). This shows that 'lean production' ideas are widespread, with the implication that there are major similarities with manufacturing. Second, there is a danger of erecting too sharp a divide between the two sectors: ideas such as team work are equally applicable in broad terms; and there are also as many differences within 'services' as there are between the sector as a whole and manufacturing.

The remainder of this report therefore addresses two central aspects of the way in which the five 'levers' are put into effect in the production process: skills and work organisation. It is for example true that the supply of skills in Britain is less of an issue than it was; but this point says nothing about how those skills are in fact put to use. The report's key contribution to the productivity debate is to take an integrated view of how such aspects combine at the point of productive activity.

2 Skills

The aim of this section is to facilitate new thinking on the role that workforce skills might play in improving productivity⁴. The key message is that skills can only make a substantive contribution to higher productivity if they are utilised within organisations. This, in turn, depends upon a range of factors such as firms' choice of competitive strategy, together with their approaches to work organisation and job design, and the way in which employees are managed. Current policies, aimed primarily at increasing the supply of skills/qualifications, need to be combined with broader measures designed to impact upon these wider areas of in-firm activity, so as to ensure that skills are brought into productive play and used to generate improved economic performance.

As noted in the previous section, skills are a key, if not the key, element in the government's productivity and competitiveness agenda. According to the Prime Minister:

"This is simply the most important national purpose for us, in the first years of the twenty-first century: to raise our educational standards significantly... If we don't have a first-class, well-educated workforce then we can't compete. It is the single biggest driver of increased productivity." (Blair, cited in St John-Brooks, 2000: 4).

Supply of skills

Since the 1970s, large amounts of public money, not to mention political capital, have been invested in achieving a 'skills revolution' aimed at securing Britain's future prosperity. During this period, policymakers have been concerned to address what is seen as a persistent and damaging 'skills crisis', and to improve the UK's standing in international league tables of national skills stocks (mainly measured in the form of qualifications). The foreword to the present government's skills strategy insists therefore that, 'Sustaining a competitive, productive economy which delivers prosperity for all requires an ever growing proportion of skilled, qualified people' (DfES et al., 2003: 7). Current policy priorities in the area of skills revolve around increasing the proportion of the adult workforce qualified to level 2 (five 'good' GCSEs or equivalent) and meeting a 50% target for the proportion of the 18-30 age cohort entering higher education by 2010. However, there is already a growing belief in policy circles that qualification targets may need to increase further if the UK is to develop 'a labour force with skills to match the best in the world', and thereby improve its competitiveness, productivity and employment (DfES, 2006: 1, HM Treasury, 2005).

Challenging the idea that more skills or qualifications can be anything other than a 'good thing' is extremely difficult. Besides confronting a powerful policy narrative fashioned over a quarter of a century, it seemingly flies in the face of the need to keep ahead of other countries, notably China and India, which are making substantial investments in education and training. Interrogating the assumptions which underpin current education and training policies may also be seen as form of elitism and a threat to progressive notions of 'education for all'. However, this ought not to prevent us from asking whether current skills policy is 'fit for purpose'.

It is clear that significant progress has been made in the UK over the last twenty years in terms of boosting the supply of skills (as measured by formal qualifications). Between 1991 and 2002, the proportion of 25-64 year olds in the UK qualified to degree or sub-degree level increased from 16% to 27% (Work Foundation, 2005). There has also been a marked reduction in the share of adults with no qualifications, dropping from around one fifth of the working population in the mid-1990s to 14% today (HM Treasury, 2005: 7). Meanwhile, the proportion of people who lack a qualification at level 2 has fallen from 43% to 33% over the last decade (HM Treasury, 2005: 8).

Despite continuing concerns about lack of training, surveys suggest that employer spending on continuing vocational training may be higher in the UK (at 3.6% of labour costs) than in the Netherlands (2.8%), Finland (2.4%), Sweden (2.8%), France (2.4%) and Denmark (3.0%) (OECD, 2004). Nor is it easy to make a convincing argument that the UK suffers from a major problem with skill shortages. According to the 2005 National Employers Skills Survey (LSC, 2006), the proportion of establishments spontaneously reporting 'skill shortage vacancies' has remained unchanged since 2001 at around 4%. The incidence of 'skills gaps', where members of the workforce were deemed to lack sufficient skills for their current job role, fell from 22% of establishments in 2003 to 16% in 2005, accounting for just 6% of the workforce. Furthermore, around three quarters of these 'skill gaps' were transitory in that they applied to new recruits or recently promoted staff.

Skills utilisation

Given substantial headway on the skills front, why is it then that the UK has not witnessed a dramatic improvement in its productivity performance? One plausible explanation might be that this progress has not been matched to anything like the same extent on the other remaining drivers of productivity, with the result that skills may not have been utilised to maximum effect.

There is now a range of evidence which suggests that in so far as the UK suffers from a 'skills crisis', it is not a crisis of skills supply (as policymakers tend to assume) but reflects a much deeper and more systemic problem to do with the relatively low level of employer demand for, and usage of, skills within the economy as a whole. One issue relates to the structure of the UK economy. As a recent DTI report makes clear, outside pharmaceuticals and aerospace, the bulk of large UK firms are located in low or very low R&D intensity sectors (DTI, 2005: 13). These sectors, such as food production and hotels and hospitality for example, tend to have higher concentrations of low skilled workers.

Within sectors, consideration also needs to be given to where firms are located in the value chain and the basis upon which they choose to compete. Research, drawn mainly from manufacturing, has confirmed that firms which compete on the basis of higher-quality or more sophisticated products often require a workforce with higher levels of skill (Streeck, 1989, Regini, 1995, Wilson and Hogarth, 2003, Mason, 2004). While the relationship between product strategy and skills has been explored less extensively in services and may well be more complex (see Lloyd, 2005), a number of studies have found evidence of such a link. For example, Batt's work on US call centres found that that knowledge and skill requirements were often greater among those serving higher value markets (Batt, 2000).

Unfortunately, there is evidence to suggest that many UK firms compete through neo-Fordist production approaches centred on relatively standardised goods and services delivered by a predominantly low skill, low wage workforce (Finegold and Soskice, 1988, Keep and Mayhew, 1998, 1999, Brown et al., 2001, Lloyd and Payne, 2002a&b, Wilson and Hogarth, 2003). This is not necessarily an irrational approach on the part of these firms, many of which are relatively successful. Nor should it be assumed that this situation will automatically be transformed as a result of global competitive pressures since many firms (e.g. hotels) operate in national or local markets and are not fully exposed to international competition (Mason, 2004).

In thinking about skill utilisation, one also needs to consider current trends in the UK labour market. Research indicates that rather than there being a universal demand for higher level skills from everyone, the labour market is, in fact, polarising, with growth in professional and managerial occupations occurring alongside the rapid expansion of jobs affording low pay, little training, and few opportunities for progression (see Thompson et al., 2001, Nolan and Wood, 2003, Goos and Manning, 2003, Hogarth and Wilson, 2005). Thus, the fastest growing jobs (in absolute numbers) in the 1990s were those of shelf-stackers, sales assistants, hairdressers, nursery nurses, prison officers and domestic house-keepers (Nolan, 2000: 6). Other studies predict that retailing and personal and protective services will continue as major areas of job growth for the foreseeable future (Campbell, 2001).

The Second UK Skills Survey also estimates that in 2001 there were 6.5 million jobs in the UK economy that did not require a single qualification to obtain them (Felstead et al., 2002: 11), providing further support for those commentators who speak of the development of an 'hourglass economy' in the UK.

Indeed, a convincing argument can be made that the supply of qualifications may already be beginning to exceed the underlying level of employer demand. Despite the current policy emphasis on raising the proportion of the workforce qualified to level 2, research suggests that there is a widespread over-supply of workers with qualifications at this level. The Second Skills Survey estimates that in 2001 there were '5.3 million people qualified at level 2, but only 3.9 million jobs that require[d] a highest qualification at this level' (see Felstead et al., 2002: 11). Furthermore, the 'returns to many vocational qualifications are zero or even, in some cases, negative (e.g. NVQ qualifications) at both levels 1 and 2', i.e. there is no wage premium for the worker in having such qualifications (Felstead et al., 2002: 32). The same survey highlighted an increasing trend towards 'over-qualification' more generally, noting that, among 20-60 year-old employees, the proportions holding qualifications at levels higher than needed to obtain their current jobs grew from 33% in 1997 to 37% in 2001 (Felstead et al., 2002: 48). Similar conclusions emerge from the 2004 Workplace Employment Relations Survey (WERS) which found that over half of employees surveyed thought that the skills they possessed were higher than those required to do their job (Kersley et al., 2006: 86).

It would appear then that the UK is already well on the way to cracking the problem of skills supply and that what policymakers may now be confronted with is a much more difficult and challenging agenda of how to ensure that organisations make full and effective use of a more highly qualified workforce. In recent years, there has been some official recognition within sections of the policy community that issues around employer demand for, and usage of, skills may be important. The Cabinet Office's Performance and Innovation Unit's project on workforce development (PIU, 2001) noted that, besides possible market failure, there was evidence that many UK firms might be trapped in a 'low skills, low quality equilibrium' of the kind identified some thirteen years earlier by Finegold and Soskice (1988). Skills, the PIU argued, are a 'derived demand', driven by business need, such that policy needed to find appropriate means of impacting upon firms' wider business and organisational strategies. Reflecting these earlier conclusions, the Leitch report also acknowledges that skill utilisation is a key issue:

"Skills are a derived demand: employers' skill needs will be a consequence both of their product strategy (for example, whether the firm faces high or low competition) and the firm's characteristics. For the supply of skill to turn from merely potential change in performance into a tangible increase in productivity, the available skills of the workforce have to be effectively utilised. People need to be in jobs that use their skills and capabilities effectively. There are clearly implications here for the way in which skills are factored into business strategy, the way people are managed once in a job and for recruitment practice," (HM Treasury, 2005: 108).

However, the report has very little to say about how, in practical terms, policy might address this challenge and, if anything, threatens to reinforce the current stockpiling approach to qualifications by insisting that the UK must become world class in terms of its relative stock of skills. Underpinning this position is the assumption that the problem is still primarily one of skills supply and that it is the lack of appropriately skilled workers which is holding many firms back from moving towards higher value added, more skill intensive modes of production. The idea that employers will, in the long run, shift their strategies to make greater use of a more qualified labour force remains prevalent in policy circles. As the Treasury noted, for example, when launching Employer Training Pilots in 2002:

"If...Government, employers and individuals invested in training and this had a significant impact on the skills base, then firms could begin to adopt more skill-intensive (and more productive) strategies...," (HM Treasury/DfES, 2002: 15).

However, as noted above, while the lack of particular skills might be a constraint for some firms, it is not clear that it is a major problem for the majority who compete successfully through low skill, low value added approaches. Moreover, there are real dangers with assuming that countries with larger skill stocks will necessarily perform better than those with lower stocks. This depends on a range of other supportive factors being in place such as high quality product market strategies, high levels of investment in capital equipment, R&D and innovation, together with appropriate forms of work and organisation and people management. If these conditions are lacking across large parts of the economy, then the UK may find it difficult to meet the central competitiveness challenge identified by Porter and Ketels (2003: 5), namely that of 'moving from a location competing on relatively low costs of doing business to a location competing on unique value and innovation.'

The case of Scotland provides a practical illustration that it is possible to achieve a skills revolution without generating a major step change in productivity. As the Leitch Review acknowledges, Scotland has a skills profile in advance of that in England. Scotland has already reached 50% participation in higher education, and over the last two decades public investment in skills has been about 18% higher per head of population each year than that of its neighbour. According to a recent report by Future Skills Scotland:

"Scotland's labour quality stands comparison with the world's best performing economies. The same is true of Scotland's standing within the UK. Labour quality is one of Scotland's strengths. In contrast, the quantity of demand is not sufficient to employ the available labour. In the first instance, therefore, the quality of human capital is not a leading cause of Scotland's relatively low ranking in the economic performance league tables," (FSS, 2005: 3-5).

The danger, then, is that the UK becomes locked into an international battleship-building race for skills, whereby policy treats organisations as a 'black box' (skills/qualifications in, higher performance out) and neglects issues of skill demand and utilisation.

Implications

This is not to argue that skills are unimportant, only that their role and thus the significance of skills supply, has tended to be somewhat overplayed. Skills are best viewed as a necessary but not sufficient condition for achieving the goal of a high skills-high productivity economy. In light of the above analysis, how might the current policy approach to skills be developed to support a more productive economy?

First, if skills do have an important role to play in improving productivity more consideration needs to be given to the type and level of skills that are most likely to be effective for particular sectors, firms and employees.

This suggests an important corrective to the current tendency to focus on blanket, 'one-size-fits-all' approaches, based on increasing the stock of graduates or those holding level 2 qualifications. More targeted solutions, which link skill requirements to broader changes in business and organisational strategies, may produce better results as well as represent a more efficient use of public resources.

Second, if managers are to make effective use of available skills to generate improvements in productivity, then, as the next section argues, they need to be able to engage with issues of work re-organisation and job redesign as well as evaluate their own approaches towards managing their employees. In part, this may mean re-thinking the design of management education, and in particular the content of MBA programmes, which often tend to focus on strategy, accounting and financial management to the neglect of work organisation and people management issues. Perhaps more crucially, however, it means changing managers' mind-set so that they move away from 'command-and-control' approaches and actively seek to engage the trust, commitment and motivation of their employees.

To summarise, while it is perfectly possible for government to create a more highly qualified workforce, the real challenge with regard to productivity is ensuring that their skills are utilised and harnessed to improved economic performance. This highlights the need to design new policy interventions capable of impacting upon what happens inside the 'black box' of the firm, finding new ways of joining-up the design and delivery of both business support and skills support, and evolving more tailor-made solutions for different sectors and firms. This would take UK skills policy into new and largely uncharted territory. However, there are a number of useful international examples which policymakers might learn from. One recent innovation which attempts to develop a more holistic and integrated approach to skills policy is Australia's 'skills ecosystem' projects which may provide a useful starting point for Sector Skills Councils and Regional Development Agencies seeking to make headway on this front (see Box 1). This type of interventions needs to start with the needs of the firm, be able to provide expert advice and support that is practicable and useful, as well as challenge management to re-think current approaches.

Box 1: Australian skills ecosystem projects

In early 2000, the New South Wales Board of Vocational Education and Training (BVET) commissioned new research on the future of work aimed at exploring how skills policy might be better integrated with labour market and economic development issues. The subsequent report, *Beyond Flexibility* (Buchanan et al., 2001), warned of the tendency towards a bifurcated labour market, with growth in high end and low end jobs, and proposed that the VET system should respond to these developments in new ways that:

- Encourage investment not in skills alone but in bundles of innovative practice that help develop and utilise a skilled workforce.
- Address the adverse effects on workers of occupational and industrial restructuring.
- Trial a new 'work, skills and innovation' initiative ('skills ecosystems') that targeted productivity and performance, skill development and the promotion of better jobs.

The project is funded by the Australian government and led by the NSW Department of Education and Training (DET), with additional funding from the NSW Board of Vocational Education and Training (see www.skillsecosystem.net). Nine demonstration projects have been conducted across Australia over a three-year period to test different aspects of this model. The projects address issues such as skills and labour shortages, the role of VET as an innovation partner, quality improvement across the supply chain, and creating a more supportive context for skills development by addressing structural issues in organisations and labour markets.

Besides linking skills to wider issues relating to business goals, technology, models of service delivery, job design and employment systems, the projects aim to encourage industry parties to take more responsibility for skill development and creating the right conditions for this to take place. Early evaluations suggest that the development of a successful and vibrant skills ecosystem is not always easy and confronts many challenges (see Windsor, 2006). Small suppliers may be reluctant to share information with large clients, conflicts may arise between professional and non-professional groups in relation to job and role redesign, and in some cases those involved in the network may lack the full support of the organisation they represent. Most progress tends to occur where VET professionals, industry representatives and intermediaries display a good grasp of the problem at hand, are flexible in their mode of working, and where the members of the network take ownership of the project and seek to drive it forward with enthusiasm rather than rely on outside consultants.



3 A Workplace Perspective

This section moves on from the previous discussion of skills to delve further inside the firm. It seeks to emphasise the importance of a detailed firm or workplace perspective on the productivity debate, highlighting the value of approaches which consider the inter-relationship between the multiplicity of factors that combine to deliver productivity within a particular organisation. Labour management practices, workforce skills, business strategies, work processes and technologies are each important in their own right. But they must combine successfully if productivity and performance are to be maximised. This requires that more detailed attention is given to the ways in which employees are managed and work is organised within the confines of individual firms or workplaces. The section illustrates these broad points by reference to the work of MacDuffie (1995) and others on bundles of 'innovative' human resource management practices. However, it goes on to caution against the promotion of a universal model and thus beyond a supply-driven push of 'best practice', and offers some suggestions as to how policymakers and other stake-holders might usefully take these issues forward in the future.

Organisation of workplace efficiency

The evidence presented in Section 1 indicates that inputs alone cannot account for the gap in productivity levels with some of the UK's competitors, nor can differential growth in inputs account for the divergent growth trends of the UK and US in recent years. Differences in total-factor productivity account for sizeable proportions of the productivity gap with countries such as the US and Germany – at least in market services (Broadberry and O'Mahony, 2004, Table 3). Moreover, the US and UK appear to have experienced notably divergent trends in TFP growth in the second half of the 1990s (see Basu et al., 2003, for example). Section 2 similarly concluded that efforts to improve the supply of skills will be most effective when detailed consideration is also given to the how those skills can be most successfully utilised in the actual process of production or service delivery. This reflects a broader acknowledgement that factor inputs – whether consisting of physical or human capital – can be combined and utilised to varying degrees of efficiency. Improving this process can play an important role in raising overall levels of productivity growth.

Unpacking the concept of 'technical efficiency' is not straightforward. There are many potential determinants – management strategies, institutions, regulations, motivations – which combine in complex ways within the organisation to leave what is sometimes referred to as a 'black box' (Blanchard, 2003: 11). However, at its heart are the interactions between management, labour and capital that take place inside the workplace. As Gunderson notes (2002: 1), productivity emanates from the workplace – this being the place in which inputs are combined and productivity is delivered – and the practices that are pursued there can serve both as independent sources of productivity advantage and as facilitators or barriers to the gains that may potentially come from more aggregate initiatives. If one takes this view of the workplace as the 'engine' of productivity growth, it is self-evident that one must attend carefully to the mechanics of how workplaces operate, as these can either facilitate or hinder the pursuit of higher productivity.

A focus on the workplace is justified not least by the appreciation that there is considerable dispersion in productivity levels between establishments within both manufacturing (Haskel and Martin, 2002) and services (Oulton, 1996). This may have various causes, but one issue that is increasingly raised is the way in which work is organised and people are managed. It is increasingly considered that contemporary labour management practices can play a key role in enabling firms to realise the full productive potential of their employees. And it has also been argued that the uneven adoption of such approaches may go some way to helping explain productivity differences, both between workplaces and nations (Black and Lynch, 2004).

High involvement and high performance systems

When seeking to identify such practices, many have drawn attention to the potential benefits from so-called 'high involvement' or 'high performance work systems': sets of job-related and personnel practices that seek to provide greater flexibility in the use of employees' skills and capabilities, to promote collaboration between employees and managers in designing and improving working methods, and to link reward structures more closely to performance outcomes. These have been lauded in academic circles, though unqualified welcome has been more common among US than UK writers (see for example Lawler et al., 1995, 1998). They have also been taken up by organisations representing employers, HR professionals and trade unions (CIPD-EEF, 2003; CBI-TUC, 2001), alongside the UK government (DTI, 2004), the European Commission (1998) and the OECD (1999). We also focus on the 'high-involvement' approach, but rather than promoting it necessarily as the answer to Britain's productivity problems, we instead use the concept to illustrate a number of points about the importance of a holistic, workplace-centred approach to the question of productivity improvement.

Labels are not innocent. Research speaks of high 'involvement' and also high 'performance'. But performance can be achieved through work intensification and the denial of involvement as well as through engaging employees positively. Intensification of effort was a key trend in Britain during the 1980s and 1990s, and also in other countries albeit to a lesser degree (Green, 2006). Some of the more adulatory accounts failed to make this distinction. Different routes to performance, and different combinations of 'involvement' and 'intensification' need to be taken into account.

This argument underlines the value of recognising the connected nature of the many factors that are brought together within a firm or workplace and which play a part in the conversion of inputs into saleable products and services. The work of MacDuffie (1995) is highlighted as it provides a clear example of the potential value of systematically linking market characteristics and the technical and operational features of work processes with methods of work organisation and the activities of workers, and of underpinning this whole approach with appropriate personnel practices. MacDuffie studied data on the operation and output of 62 car assembly plants from a variety of countries, including the United States, Europe and Japan. His research highlighted two things. The first was that task-related practices – such as team-working and the use of problem-solving groups – positively affected labour productivity when combined with supportive human resource practices – such as contingent pay – that were designed to enhance employee motivation and commitment. The second was that these internally-consistent 'bundles' of HR practices raised productivity most when there was complementarity with the manufacturing practices in operation at the plant. Plants pursuing a 'flexible production' approach with team-based work systems, supporting HR practices and low inventory and repair buffers 'consistently outperformed mass production plants'.

Just as it is important to understand the interactions between product markets, labour markets and enterprise at an aggregate level, it is also important to understand the linkages that exist within the 'black box' of the firm between management practices and orientations, employees' skills and abilities and the technical process of production or service delivery. The value of the 'high-involvement' approach is that it has a firm sense of the importance of these interrelationships.

This is not to suggest, however, that the particular configuration of practices identified by MacDuffie or his successors comprises some form of 'magic bullet' that might be universally beneficial to all types of firm. Indeed, we would specifically caution against such a conclusion. There are a large number of empirical studies which seek to investigate the effectiveness of so-called high-performance work systems. Extensive reviews of the literature are provided by Ichniowski et al. (1996), Wood (1999), Godard (2004) and Wall and Wood (2005), among others.

In general, the enthusiasm for 'high-involvement' approaches that was generated by studies of manufacturing plants (MacDuffie, 1995; Ichniowski et al., 1997; Ichniowski and Shaw, 1999; Appelbaum et al., 2000) has been tempered by a less than consistent body of evidence that has emerged from subsequent analyses seeking to investigate the broader generalisability of these findings (see Delbridge, forthcoming). Wall and Wood (2005) summarise the current position by concluding that, whilst there remain strong theoretical grounds for believing that a system centred on enhancing employee involvement should benefit workplace performance, 'the evidence is promising, but only circumstantial'.

One reason – proposed by Schuler and Jackson (1987) among others – is that HR practices need to be in line with the organisation's strategic approach. Developing the idea of the inter-connected nature of production, research has indicated that moves towards more involved modes of work organisation are most effective in organisations emphasising quality and value-added, and are unlikely to deliver maximum benefits for those operating under a cost-minimisation model (Michie and Sheehan, 2005). However, it is argued that many UK managers continue to compete on the basis of low-skill, low-wage labour, and that many have become stuck in this mode of operation (Geary, 2003: 306), encouraged by the weakness of trade unions and an institutional framework that emphasises light regulation of the labour market in order to facilitate numerical (rather than functional) flexibility (see, for example, Delbridge et al., 2006: 36).

A second argument against the universal promotion of 'high-involvement' approaches is that they have been shown in some circumstances to bring about negative consequences for employees. Work re-organisation is not merely a technical process, but involves 'cognitive and emotional beings who possess free will' (Wright et al., 2001). Consequently, one must take account of employees' (and managers') fears and insecurities, and their desires for greater or lesser degrees of responsibility or flexibility. So whilst the theory of 'high-involvement' may focus on the medium or long-term economic benefits at the level of the firm, it is perhaps inevitable that conflicts of interest may arise at the level of the individual. There are at least three potential causes. First, it has been shown that pursuit of the 'high-involvement' approach can, in some circumstances, bring about little change in job content or lines of responsibility and authority, with the result that the balance between control and commitment remains firmly in favour of the former (Delaney and Godard, 2001: 412). Second, whilst potentially making work more interesting, the inherent objective within the 'high-involvement' approach to elicit a greater amount of discretionary effort from employees may raise the prospect of work intensification, with potentially negative consequences for employees' health and family lives (Ramsay et al., 2000, White, 2003). Third, employees' natural insecurities over workplace change may lead to reticence or even resistance, which inhibits attempts to achieve a greater identification with the firm and its performance objectives. Employee enthusiasm may be limited by past experience, which leads them to be suspicious of managerial motives, or by fears that greater levels of efficiency may eventually result in some degree of job loss (Godard, 2004: 366-8). Each of these three factors may become even more important at higher levels of adoption. Summing up a number of US and Canadian studies, Kumar (2000: 1) concludes that:

"The introduction of high performance work practices in a lean production environment is generally associated with downsizing, increased work loads, long hours, a higher pace of work, and a loss of control and autonomy."

Recognition of the human face of work reorganisation thus emphasises the importance of cohesiveness and reciprocity if changes are to be sustainable and deliver mutual gains. However, this may be difficult to achieve in practice, given 'circumstances in which employer objectives in the labour process and employment relationship are frequently at odds under the inter-related impacts of globalisation, the shift to shareholder value in capital markets and systemic rationalisation across the whole value chain of firms' (Thompson, 2003).

The identification of a universal 'best practice' approach is of undoubted appeal – not least to policymakers seeking straightforward advice that can be effectively disseminated among the business community. However, lessons from the study of 'high-performance work systems' suggest that the reality is far more complex and contingent.

That is not to say that policymakers are powerless to affect the 'black box'. Nor do we intend to suggest that things can be left as they are. There are notable concerns about the persistence of what has been termed the UK's low-cost model – described by Porter and Ketels (2003) as one of the main competitive disadvantages facing UK companies. The international expansion of trade, which brings UK producers into more direct competition (both at home and abroad) with producers based in other countries with lower labour costs and less stringent labour regulations, represents a significant threat to the long-term viability of this approach. The value of moving to competitive strategies based on 'smarter' working and higher value-added is then apparent; but this will require managers and their workforces to reflect on their current position and to be creative. Nevertheless, innovation in the deployment of human resources can play an important role in providing a sustainable source of competitive advantage. The detailed features of work processes and human resource practices are less transparent to competitors than are the features of the products or services sold by a firm on the open market. It is therefore seemingly more difficult to become a 'fast follower' of innovative workplace organisation than it is to be a 'fast follower' of product or service innovation.

Policies for promoting improvement

So what could policymakers be doing to encourage innovation and creativity in workplace organisation?

First, and in spite of the cautionary statements made earlier, there is a role for policymakers in identifying and disseminating examples of effective workplace organisation. Guest (2005) notes the importance of sectoral relevance, with managers placing little weight on research evidence from industries other than their own. But more generally, there is demand among employers for insights into what innovative approaches to the organisation of work and the management of employees might look like. The Government's recently-launched promotional campaign (www.iandc.dti.gov.uk) provides some limited opportunities in the area of information and consultation. For example, companies are invited to attend training sessions led by experts from the Advisory, Conciliation and Arbitration Service (ACAS) or to visit exemplar businesses. However, there are few equivalent examples outside this particular area.

Second, there is a role for policymakers in promoting firm-specific solutions by supporting adaptive learning. And, as in Section 2, there may be some value in policymakers taking a closer look at what their counterparts in other countries are doing. The Finnish Workplace Development Programme provides one interesting example of the principles of this proposed approach. Run by the Ministry of Labour, in conjunction with the social partners, the programme was set up in 1996 to 'improve productivity and the quality of working life by furthering the full use and development of staff know-how and innovative power at Finnish Workplaces'. The programme funds the use of external experts (researchers, consultants) in various development projects which should strive to effect a holistic change in an organisation's entire mode of operation (e.g. management approaches, work organisation, HR practices, skills and training) and involve the whole workforce in bringing about change (see Payne, 2004).

Evaluations indicate a high level of support for the scheme from the social partners and suggest that many projects have been successful from a user perspective. The nature of these evaluations has been questioned, in particular their reliance upon soft measures (e.g. self-assessment questionnaires by those in receipt of funding) (see Payne, 2004). However, the Finnish example is important in demonstrating a new way of promoting innovative and integrated approaches to workplace re-organisation.

Finally, there is a role for the research community, in terms of furthering our understanding of the determinants of productivity at workplace level, and exchanging this knowledge with the business community. Despite the extensive amount of research effort that has already been devoted to the links between the high-involvement approach and workplace performance, there remains a pressing need to understand what might be referred to as the 'deep structures' of workplace productivity. This is intended to refer primarily to the causal linkages between workplace practices, employee behaviours and workplace performances, but it also includes the role of competitive strategies, market conditions and the broader institutional context. The chain of reactions is complex, and the detailed mechanisms by which different modes of organisation actually deliver higher levels of productivity in practice (as opposed to theory) are still not fully understood (see, for example: Gunderson, 2002, Edwards and Wright, 2001, Edwards et al., 2005). In terms of effective dissemination, some have noted the difficulties firms face in exchanging social science knowledge with those involved in business research, both because of the common distance between the two communities but also because of business reluctance to share information on workplace innovations that provide a competitive advantage⁵. One recent attempt to overcome some of these challenges is the Innovation Exchange (IXC UK), a pilot scheme led by the University of Birmingham Business School, in partnership with the Birmingham Chamber of Commerce and the InnovationXchange Australia, set up to facilitate confidential university-to-business and business-to-business exchange and development (see www.bham.ac.uk). There are a number of similar ventures in the physical sciences and technology, but seemingly few in the social sciences.

Innovation in work organisation is considered to be inhibited by the pressure to deliver results in the short-term. Research with chief executives, operations directors and human resource directors, investigating the lack of diffusion of sophisticated human resource practices, has suggested that the pressure of production deadlines inhibits companies from taking a long-term, strategic view of human resource issues (Guest, 2005), whilst pressure to deliver returns to shareholder returns is said to create a similar pressure for downsizing rather than employee development (Thompson, 2003: 367). The complexity of HR innovation, in contrast, is likely to require continued commitment and a clear, long-term view of the likely costs and benefits. There is a clear role for policymakers in facilitating and supporting such initiatives. The final section of this report goes on to present some more detailed proposals as to how this might be achieved.



4 Policy Implications

A key implication of the above discussion is that it is behaviour inside the firm – the bringing together and co-ordination of the factors of production – that is critical for productive performance. Such behaviour can be affected by the national rules of the game and by more micro-level institutions and contexts. We discuss each in turn.

National facilitating conditions

Our perspective could lead to three very different approaches to policy. The first says that, if everything depends on what firms do, then nothing the government does, apart from establishing basic conditions, makes a difference. But this would be to assume that firms land on the most appropriate technical and social organisation of work for their circumstances. Yet we have seen that productivity varies widely even within sectors and that there is no one best way to organise a productive process. Firms make choices and can be encouraged to change behaviour.

Second, government might continue to deploy the five 'levers', in the hope that they have some effects inside the workplace. We do not argue that the levers are of no value, but we have demonstrated that they are weaker than is often thought. Moreover, UK policy intervention in these areas may be facing diminishing returns. Increasing the supply of skills will be of little use unless there is demand for them. The levers need to be re-thought from a different perspective.

Third, therefore, is an approach which starts from the workplace and asks how co-ordination can be enhanced. There is one key objection here: how can governments or advisory bodies know better than firms themselves how to operate? This point is readily buttressed by examples from past eras of industrial policy, when governments tried to 'pick winners' and when bureaucracy interfered with productive activity. A new approach would not commit this mistake. It is not about picking winners but providing models and shaping expectations. As is well-known, firms operate through what institutional economics calls rules and routines, or the embedded practices of economic sociology. They are thus not necessarily operating in the most efficient manner, and the purpose of the approach is to encourage them to think in different ways. Our examples from Australia and Finland suggest the benefit of a more holistic and multi-partnered approach to improving productivity.

It is of course true that recent legislation has encouraged changes of practice in such areas as the information and consultation of employees and working time. Yet such legislation tends to operate at a minimalist level, establishing rights and requirements and not directly trying to show how practice can be improved (Edwards, forthcoming). More can be done to affect the choices that are made in organisations. A common issue here is that approaches that work in other countries may lack resonance in the UK context. The following suggestions explicitly 'go with the grain' of current assumptions and are thus feasible.

The essence of the idea here is the avoidance of blanket solutions and a focus on the mechanisms and processes involved in the translation of inputs of capital and labour into productive activity. As is increasingly recognised, firms 'seek ever more specialised niches' (Bennett and Robson, 2003: 806). They thus need specific and targeted assistance. Consultancies can play a role, but they tend to operate on existing models in that firms need to be willing to pay for their services. In addition, firms need bodies that will challenge existing ways of thinking.

An illustration of the core idea comes from a study of the Trade Boards (bodies established in 1909 to set pay in low-wage sectors, becoming in 1945 the Wages Councils). The study reports the visit of an inspector to a factory where work organisation was poor; he pointed out the deficiency, and output improved (Sells, 1939: 326). A paper discussing this issue notes several other studies that report concrete work organisation improvements as a result of external advice of this kind (Edwards and Gilman, 1999: 29).

Another important illustration is offered by Purcell (2000: 174-5): the Work Research Unit, a body initially set up in the then Department of Employment, transferred to ACAS in 1985, and closed in 1993. The WRU engaged in what it called action research, particularly in relation to the quality of working life; its largest single activity was 'organisational change'. Its approach was to work with firms, deploying the core ACAS principle of requiring a joint approach by management and worker representatives and offering disinterested advice rather than specific solutions. As with ACAS work more generally, the emphasis was on helping the parties to find their own solutions.

A particular lack in Britain is institutions that connect firms to wider networks. As a result, 'central government has tried to fill the gap with agencies that can relate to local firms, but these have lacked local embeddedness and expertise... Formal business associations... have never been strong' (Crouch and Trigilia, 2001: 219). The lack of embeddedness is key: invented institutions find it hard to generate trust. This is where the WRU is helpful, in pointing to the idea of assisting the parties rather than having pre-defined objectives. If the workplace is indeed the key, the need is to assist processes within it.

Although the British approach makes this difficult, the task is not impossible. The example of Ireland is pertinent, for much of the country's institutional legacy is similar to the British, and both countries tend to be classified as 'liberal market economies'. Not only has Ireland developed national-level bodies to handle wages and taxation policy, starting with the Programme for National Recovery of 1987, but there are also sector-level arrangements to promote economic development. Hannon (2006) contrasts the Irish and British dairy industries, and demonstrates a much more integrated approach in the former, embracing state-funded new technology parks and a wide set of other measures.

There is growing evidence that employee voice and representation can play a role in encouraging positive attitudes to innovation and hence productivity (Michie and Sheehan, 1999). There are thus grounds for strengthening the institutions that allow such effects to operate. One focus is corporate governance and the explicit engagement of employees as 'stakeholders'. It has, for example, been argued that tax concessions for employee share ownership schemes should be given only where there is an employee trust that can use its voice as a 'stakeholder' (Michie et al., 2002). Similarly, Wedderburn (2004) calls for employee representatives to be included in firms' governance structures, with a start being made with remuneration committees that set the pay of senior executives.

Three institutional levers

Three sorts of more specific institution – which might on the analogy of the five productivity principles discussed in Section 1 be called levers – can be identified. The first are purely voluntary bodies, organised in a sector or a locality. The second are set up with the support of the government or appropriate agencies such as the Regional Development Agencies. These two forms operate above the level of the firm itself. The third, based on the WRU example, works directly with firms. Each will be discussed in turn.

Voluntary bodies are, as Crouch and Trigilia note, rare in the UK, but examples exist. For example in the East Midlands there is the Food and Drink Forum, which is an association of mainly small and medium-sized firms funded by subscriptions and also through project work undertaken for the East Midlands Development Agency. The Forum provides courses in business development and is also active in local 'food parks'. These provide purpose-built facilities in which firms can develop new products, thus saving firms themselves the cost of risky capital investment. Such developments remain limited, however, and the Forum does not have counterparts across the country.

A policy option in respect of voluntary bodies is to provide them with a degree of relatively secure state funding. They would need to demonstrate that they could perform functions of general value. And there would be an element of risk in that some may fail. But there is no guarantee that other uses of state funds produce returns, the failed attempt to sustain MG Rover being a case in point.

The second approach entails bodies have some shared, rather than purely voluntary, structure. The most recent illustration of this approach is that of sector forums, as advanced in the Warwick Agreement of 2004 between the Labour Party and the trade unions but little developed in concrete terms, is one model. The agreement spoke of forums in low-wage sectors, with the idea of encouraging good practice. The core principle is to develop institutions where none currently exists. It is worth elaborating on this idea.

It goes back at least to the Trade Boards, which were established in specific sectors with the intention that they understand the relevant product and labour market conditions and develop approaches accordingly. They were charged with setting several pay rates as well as a minimum and with dealing with hours and holidays. There is some evidence that they did indeed develop standards and encourage some good practice. But they were limited to specific aspects of employment and had no role in wider issues of work organisation. And, though intended to act as a catalyst for voluntary collective bargaining, they tended to be a substitute for it (Craig et al., 1982). But it is not hard to see how some of these principles could be developed in new forums. These would need to place at centre stage the economic development of the firm and to integrate employment issues rather than isolate them. Unlike the Trade Boards, they would not have statutory powers, but they would instead promote good practice. They could, for example, take some of the core principles of high performance models and identify approaches relevant to their sectors. As we saw above, one problem with these models is that they contain many different elements, and it is not clear which elements are pertinent in which contexts. Sector forums could translate the ideas into practice.

The third element is bodies that work directly with firms. There are already some, such as the Manufacturing Advisory Service, and we have commented on the WRU as another model. There is also a potentially large role for ACAS to offer guidance on good practice. ACAS publications offer many examples of ways in which firms have improved their operations as the result of advice, in areas including attendance management and payment systems. There is a great deal more that could be done here to help firms improve their productive systems.

There is also a case for making state aid to firms dependent on their taking advice on work organisation and related matters. That is, if they receive grants for capital equipment there is a public interest in ensuring that appropriate arrangements for work organisation and employee information and consultation are at least taken into account. Evidence shows that firms do not in fact resent all 'intrusions'. They often welcome guidance as to what they need to do in employment and other areas, and they prefer some simple guidance as opposed to being left to develop their own arrangements from scratch.

Concluding remarks

All these suggestions raise challenges for governments, firms and their organisations, and trade unions. Governments would need to repose trust in voluntary and quasi-voluntary bodies, and to reduce centralised control and reliance on tight performance targets. Firms would need to adopt a more shared and collective mentality, and they and their organisations would need to develop genuine partnership approaches. Trade unions would similarly need to treat partnership as an opportunity, and they would need to be convinced that the opportunity is real. That is, some unions have reasonable doubts about the emptiness of some partnership arrangements, and these doubts need to be addressed.

That said, there is also an opportunity to develop new approaches. Ideas of partnership have some currency, and there is a widespread feeling that a target-driven approach is reaching the end of its useful life. There is space for a new approach to the UK productivity problem to become established.



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Notes

¹ Productivity is defined here in terms of output per hour worked. Measured in terms of output per person, British productivity is broadly comparable with that of its major competitors (except the US). This figure can be broken down into two components: labour force utilisation and labour productivity. The US is one of the few major economies that performs significantly better than the UK in terms of labour force utilisation (France, Germany and Italy all have higher rates of unemployment and shorter average working weeks). In terms of labour productivity, however, the UK lags behind not just the US, but also its main European competitors. The average British worker, in short, currently produces about as much as the average French or German worker, but has to work longer hours in order to do so.

² Indeed many firms operate as both producers and service suppliers, making simple comparisons across sectors problematic.

³ It is worth noting that 'labour quality' in Table 1 is calculated on the basis of wages not skills, with higher wages indicating higher labour quality. It is entirely possible that a country could increase its stock of skilled workers, without employers in that country increasing wages by an equivalent amount. If this were to be the case (and the new, more highly skilled workforce was also a more productive one), then the additional productivity would show up not in 'labour quality' as measured here, but in TFP. It is interesting to note, in this respect, that both the UK and the US lag behind France and Germany in terms of labour quality, but not TFP.

⁴ This section draws heavily on Keep et al., forthcoming.

⁵ There may, of course, also be a reluctance to share information on innovations that 'failed', born out of a concern to uphold a company's public image.



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