

# SKILLS IN BUSINESS

The role of business strategy, sectoral  
skills development and skills policy

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# 1

## THE CHALLENGES FACING SKILLS POLICY IN THE 21<sup>ST</sup> CENTURY

As a matter of fact, capitalist economy is not and cannot be stationary. Nor is it merely expanding in a steady manner. It is incessantly being revolutionized *from within* by new enterprise, i.e., by the intrusion of new commodities or new methods of production or new commercial opportunities into the industrial structure as it exists at any moment. Any existing structures and all the conditions of doing business are always in a process of change.

J.A. Schumpeter ([1942]2003: 31)

### Overview

The aim of this chapter is to further our understanding of the national context within which business leaders and the leaders of large public organisations make decisions about the business strategy, which in turn shapes the skills they demand and the ways in which they use them. We highlight three major factors that shape this national context. The first is the nature of the opportunities that are available to the business or organisation leaders to pursue their objectives, which in the case of businesses is to deliver a profit. These opportunities are structured by the position of the company in national and increasingly global markets. This is also the case for political leaders as it is their remit to help business deliver economic growth and create quality jobs. This international context therefore plays an important part in influencing the type of approach that the nation adopts to skills policy.

The second is the political struggle within the country, the alignment of interest groups and political parties and the outcome of this struggle

for power that shapes the dominant ideology and institutional framework through which the various components of the national approach to skills policy, including the vocational education and training (VET) system, are delivered. The third major factor is the type of productive system that dominates the economy at any one point in time. We use the term 'productive system' to refer to the types of market the company chooses to compete in and the ways in which the process of production is organised, the type of technology it uses and the ways in which it manages employees. This has a very important influence on shaping the level of skills demanded by employers in order to operate their businesses and the ways in which they use those skills.

These factors interact in a specific historical context, which itself affects the outcomes in terms of how the economy develops. To illustrate this we examine how approaches to skills policy change in three different countries that industrialised at different points in time. Each has passed through a distinct series of phases during which the interaction of these forces created distinctive challenges and produced different outcomes in terms of the skill policy that they adopted and which they have modified over time. This interaction also gives rise to different academic theories that seek to explain what is happening and what the appropriate policy solution would be. Our argument here is that the UK and other Anglo-Saxon countries developed a policy based on reliance on the market to deliver skills and informed by human capital theory that may have been appropriate at an earlier stage of economic development but is now failing to meet the demands of an economy facing increasingly competitive conditions in a global market.

What this exercise shows is that the type of policy framework adopted by the state (and the academic theories that underpin it) interacts with the productive system and influences the direction in which the economy moves. The intention of the analysis is to provide the reader with a greater understanding of the forces that shape policy and the business strategies that employers adopt. Just how these factors interact at the level of the firm and so shape the demand for different levels of skills and the ways in which employers use them is the task of the main body of the book. Once we have made headway in this task we return in the final chapters to re-examine the policy process and the potential we have for improving the effectiveness of policy.

## Introduction

The above quote from Schumpeter reinforces the main message of this chapter, namely that economies are constantly in the process of change. Yet at any one point in time they are characterised by specific types of

productive systems, be they early industrial mass production, Taylorist mass production, where a detailed division of labour was combined with assembly line technology, mature mass production where high-performance working practices were combined with modern mass production technology, or knowledge-intensive production. From our perspective each of these creates specific types of skill demands. In response to these, politicians create policy frameworks to deliver what they perceive to be the skills required. Our argument here is that the most recent change from Taylorist mass production to globalised forms of mature mass production and knowledge-intensive production has shifted the point of political intervention from the supply side to the demand side. (This is illustrated in Figure 0.1, where the intervention shifts from the right-hand side of the diagram to the left-hand side.) While other countries have sought to adapt their frameworks to these changing demands, especially the most recent industrial countries such as the Asian Tigers, the UK and some other Anglo-Saxon countries have failed to adapt their policy frameworks in an appropriate manner.

In order to show empirically how these relationships change through time we have identified a series of stages that symbolise major changes in the systems of production. Economies and societies are never self-contained systems, so we start by briefly examining the international context which shapes the ways in which these relationships play out at the national level. Then in each stage at the national level we outline the dominant type of productive system that generated a particular type of skills demand. Next, we examine the theoretical ideas and policy framework through which politicians respond to these skill demands. Finally, we explore the effectiveness of these policy responses.

While the processes we are examining are universal, the precise form taken by policy responses and, to a limited extent, the demand for skills generated by the productive system are also shaped by the values and institutional structures of each society. Here we are talking not just about the VET systems but also the broader institutions that structure relations between the state, employer and union organisations and the broader legal framework within which they are embedded. These not only affect the policy response of governments to changes in skill demand, they also have an impact on the business strategies that are crucial in shaping those changes in demand, a reciprocal influence.

So in terms of Figure 0.1, what we witness over a time is that changes in economic, political and cultural institutions result in changes in business strategies, which in turn trigger changes in the productive system. These create new demands on employees in terms of the level of skill required to operate within the business and the ways in which those skills are used. During the 1950s and 1960s a policy response that just acted on the right-hand side of Figure 0.1 and increased the supply of

skills was appropriate to meet the demands of the productive system, but over time, as the business strategies of employers have changed the need has arisen for an approach that tackles skills policy from the left-hand side. As we shall see, other countries have already moved much further in this direction.

The countries we use to illustrate this are the UK to represent the Anglo-Saxon countries, Germany for the Germanic countries that use the dual system and Singapore for the developmental states of South-East Asia. All of these countries are responding to the same changes in the global economy, but the way in which employers have responded (namely the productive system) is influenced by the policy environment within their political boundary. In a short treatment of the issues such as this we cannot go into detail about all of the three models, but we can use them to illustrate the ways in which these global changes impact on the productive system and the associated demand for skills in different institutional contexts.

### Three contrasting approaches to skills policy

To place these divergent approaches in context we provide a brief description of the historical evolution of these approaches to skills policy. The UK being the first industrial nation in world markets never developed a coherent policy approach to employee training. The early industrial training was governed by legislation concerning the master-servant relationship with its origins in the guild system. Abuses of this by early industrial employers led to legal regulation of the conditions of child and female labour, but in general employers and unions were left to agree among themselves on the regulation of training and where unions were ineffective employers were left to control the process of training. For the professions, these were regulated during the late 19th century by their professional bodies. It was not until the early 20th century that, with increasing competition from the USA and Germany, the government started to initiate moves towards some form of regulation of industrial training. These culminated in the tri-partite system of industrial training boards after the Second World War but they were largely dismantled and an attempt at government direct regulation ended in the 1980s. Following that the UK relied on the 'free market' to deliver training and skills. This does not mean that these activities were not regulated at all, only that the regulations and legal framework meant that employers were left to determine the levels and types of training offered subject to the restrictions laid down in employment law and to any conditions that unions or professional bodies were able to impose.

Germany industrialised after the UK and USA but did so very rapidly and by the early 20th century was a major contender in world markets and a serious political threat to the UK. However, because the process of industrialisation took place within the framework of the old guild system, the apprenticeship remained as a strong institution that shaped the training of those entering craft work. At the national level the unions developed a strong base. This system was rebuilt after the Second World War when there was an urgent need to regenerate German industry and help the country regain its position in world markets. To this end the government, unions and employers agreed on a strong institutional framework to govern the apprenticeship, which was to embrace not just narrow vocational training but also more a broadly based system of schooling for citizenship. This ensured that young people had a thorough training comprising both off-the-job college education in theory and practical on-the-job training under the direction of a ‘Meister’, a qualified person responsible for overseeing their training in the workplace. The system was overseen by the Federal Institute for Vocational Training (BIBB) responsible for research and development and for ensuring that the system was constantly modified to accommodate changes in the industrial and occupational structures.

In Singapore the situation was very different. From its birth after the Second World War as a small trading nation with high levels of poverty and no natural resources it faced a difficult task to break into world markets and stimulate the process of industrialisation. From the start the government took an active role in attracting foreign capital and providing the infrastructure that would encourage employers to grow their businesses. Initially this was to take advantage of the low-cost labour but as the economy developed the government actively steered the economy into the production of higher value-added goods and services. To achieve this it provided higher levels of education and training and delivered higher standards of living until today it has one of the highest standards of living for its citizens in the world.

## Changes in our understanding of national business and skills policy frameworks

Even such a cursory examination of these different approaches to skills or workforce development highlights three major sources of change that shape national approaches. These are the international context in which the policies are formed, the outcomes of the national political struggles and the type of productive system that characterises the economy. The international context is important because, as we will show, it shapes the country’s competitive position in world markets and provides the context in which

skills policy is to deliver its outcomes. All too often the study of VET systems fails to take this into account and these systems are treated as if the only factor that affects their development is the national political context. While the national context is important, it cannot explain why some countries have developed highly coordinated systems. These are crucial if the country has to break into existing markets. For politically powerful countries such as the UK in the 19th century they were not necessary as they could forcibly impose their goods on the countries they dominated.

The national political context is important because that provides the resources and ideological guidance for policy makers. The characteristics of the productive system are crucial because this determines the type of skills required by employers. The major changes that characterise the various phases in the development of the productive systems and the policy responses are summarised in Table 1.1. It illustrates in summary form how these various factors change through time and also how our theoretical understanding changes in accordance with them.

## Phase 1: 1950s, 1960s

### *International context*

We pick up the story in the post-Second World War period, which contains the origins of the present problems in the Anglo-Saxon world. This was the time when the USA dominated world markets and trade was governed by international institutions such as the World Bank (WB), the International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade (GATT). The objective was to stabilise and consolidate world markets in the pursuit of free trade. In ideological terms the USA was firmly wedded to free-market principles precisely because it was in their interest to remove barriers to trade as it enabled their national companies to grow, exploiting the advantages of mass production in manufacturing companies competing at the leading edge of national markets.

Internationally, the UK was also committed to the free market, competing across a wide range of markets, both at the high end and the low end, but this was in the context of its Empire which it was in the process of losing, thereby exposing UK companies to the full weight of global competition.

### *Changes in the productive system and skill demands*

Within the Western countries during this period the economies were increasingly dominated by large corporations, able to exploit systems

**Table 1.1** The impact of changes in productive systems on skills policy

| Phase      | International context   | Changes in productive system   | Theoretical understanding   | Anglo-Saxon (UK) policy   | Germanic (German) policy   | Asian Tigers (Singapore) policy   |
|------------|---|--|---|---|--|---|
| 1950–60s   | International markets dominated by US and UK MNCs.  | Growth of large bureaucracies using Taylorist mass production.                               | Birth of human capital theory.  | Initial attempts to influence demand and supply side.   | Building the dual system.  | Demand side attract foreign capital, supply side establish education and training system.                 |
| 1970–80s   | Germany and Japan enter markets. Relocation of low value-added production.                          | Challenge of mature mass production. Growth of Taylorist mass production in services.        | Dominance of human capital theory.  | Eradicate most demand side measures. Reliance on supply side investment in education. Free market approach. | Start amending the dual system to meet changes in productive system.     | Demand side measures to move up value-chain, supply side measures coordinated to ensure skills available. |
| 1990–2000s | Tigers and later BRICs enter global markets, intensify competition for high value-added production. | Growth of knowledge-intensive production. TNCs fragment production process across countries. | Inadequacies of human capital theory revealed as demand side issues become more pressing. Importance of skill utilisation recognised. | Supply side, free market policy continues but demand side issues fragment overall policy.                   | Dual system starts to struggle to adapt to changes in productive system. | Demand side policy to foster knowledge-intensive industries. Supply side to increase knowledge workers.   |

MNC = multinational corporation; BRIC = economics of Brazil, Russia, India and China; TNC = transnational corporation.



of Taylorist mass production to service the growing national markets in the USA and Europe for consumer goods. Where they spread abroad, as many of the large American corporations did, this growth took the form of transplanting the whole production process, sourcing the materials and parts and assembling and marketing the finished product, all within the boundaries of national markets. The result was the growth of large corporate bureaucracies, offering careers for the emergent middle class, from office clerks to administrators, professionals and managers. In addition, in the public sector there was the significant growth of public administration and health care provisions in the UK and in the USA, what Galbraith (1967) referred to as the 'military-industrial complex'. This rapid growth of white-collar jobs increased the proportion of middle level jobs and created what appeared to be ever expanding opportunities for social mobility, enabling children of the working class, through successful school performance, to enter middle-class careers.

In order to exploit the advantages of the Taylorist system of mass production, new skills in the management of large bureaucratic organisations had to be developed, new systems of accounting introduced and, in addition, new professions such as those of marketing had to be established in order to persuade customers of the value of the products on offer. These created new demands on the education system for highly educated recruits. Further down the hierarchy the burgeoning clerical and administrative jobs in both private and public bureaucracies required relatively high levels of literacy and basic problem-solving skills. The spread of mass production also created a growing demand for the intermediate level skills of maintenance workers and engineers. However, at the base of the hierarchy, the assembly line techniques required large groups of semi-skilled and unskilled operatives. For them the only skills required at the point of entry to the firm were low-level literacy skills, sufficient to understand the rules and regulations of the firm, with other elementary manual skills being acquired on the job. Overall, the introduction of this productive system was making major new demands on the systems of education and training but only from the level of intermediate skills and above.

### *Theoretical thinking during this period*

There was relatively little theoretical thinking to inform skills policy following the Second World War. At that time the countries that had industrialised in the first phase, such as the UK and USA, had reached what was seen as industrial maturity, Germany and Japan were rebuilding their economies, while the third phase countries such as the Asian

Tigers had only just initiated the process. Yet there were sufficient cases of industrialisation for academics to provide an understanding of the regularities in the process of economic growth, what Rostow (1960) termed the ‘Stages of Economic Growth’. Other labour economists (Kerr et al., 1960) looked to explain this in terms of a ‘logic of industrialism’, referring to the forces that were driving societies through these stages of growth. One of the most important of these was the imperative of technological change that was seen to require a constant increase in the skills level of the labour force. In responding to the imperatives of technological change and the political demands of modern democracies, investment in education and technical skills was seen as essential.

It was this context within which human capital theory was born. It was a time when opportunities in education and in the labour market were opening up after the Second World War. Becker’s theory captured this dramatically. Prior to the war he had shown how returns to college and high-school education declined from 1900–1940 (Becker, 1964: 8). However, this all changed after 1940, even though the relative number of college and high-school graduates grew. Becker acknowledged that the returns to individuals were linked to the effect of their family background and also to the rapid growth of expenditure on research and development (R&D), military technology and the expansion of the service sector (1964: 9) in the post-war period, but understandably the theory focuses on the returns to education. The policy implications were clear: invest in education as this was a win–win scenario promising both economic growth for the country and future increases in income for individuals. By the end of this phase academia was sending out a clear message to policy makers to invest in education as a contribution to meeting the country’s skill needs.

## *Policy frameworks*

### *The UK*

The policy framework in the UK, following the experience of mass deprivation caused by the war, was shaped by the rise of the Labour Party. They attempted to improve economic performance (what we now refer to as the ‘demand side’, the left-hand side of Figure 0.1) by nationalising key industries such as coal, steel and telecommunications, all industries serving a largely national market. On the supply side (the right-hand side of Figure 0.1) they introduced a national system of industrial training boards on a tripartite basis (state, unions and employers) organised on a sectoral basis in 1965. In the face of employer opposition all but

two of these were removed by 1983, with the Manpower Services Commission (MSC) having overall responsibility for them after it was established in 1973. The MSC provided oversight of national training issues and delivered programmes for those at risk in the labour market, but effectively the responsibility for training was now in the hands of employers.

The new mass production techniques were introduced after they had first been developed in the USA, but unlike the USA where business schools soon emerged to provide the managerial and professional staff required by the large corporations, in the UK there was a delay in introducing business schools because of the older aristocratic values that permeated higher education and resisted giving academic credence to these 'new' vocational subjects.

There was less of a challenge in delivering institutions to provide the intermediate-level literacy and problem-solving skills. The skills required by the modern corporation for administrative and clerical work could be delivered through a good level of literacy and numeracy provided by a solid secondary education. The additional skills in typing required for the new clerical jobs filled by women could be delivered either through the public education system or through specialised private training prior to entry into work. The policy response in the UK was for the government to authorise and pay for the expansion of secondary education, initially in the form of grammar and secondary modern schools.

For those at operative level, entry to the semi-skilled and unskilled jobs required by the Taylorist mass production system required only basic literacy, no academic qualifications and just the positive attributes of a willingness to accept factory discipline and attend regularly.<sup>1</sup> During this phase in the Anglo-Saxon societies there was a relatively good fit between the skill demands of the economy and the output of the educational system as the education system was also delivering large numbers of unqualified, unskilled workers supporting those employers wishing to pursue a low value-added cost, low-skills strategy.

### *Germany*

In Germany the situation was different as the system evolved to meet the challenge of these changes in skill demand. The dual system, a combination of college learning and work-based training, underpinned by strong employer and union institutions, was introduced to provide three years of apprentice training for most school leavers. This was based on a consensus between employers and unions on the need for a national system of training. In addition, the introduction of works councils in larger enterprises, together with strong unions, ensured that the employees' voice

was heard with regard to the implementation of business strategy. These factors together with the availability of long-term finance functioned to close off the low-cost, low-skilled option for employers in terms of their business strategy, encouraging them to exploit their higher skills base and adopt higher value-added strategies (Bosch and Weinkopf, 2008). While ensuring a constant supply of highly trained workers (operating on the right-hand side of Figure 0.1), the system functioned to make it difficult for employers to adopt the low-skills strategy typical of many employers in the UK and USA (thereby operating on the left-hand side of Figure 0.1).

### *Singapore*

By contrast the Tiger economies were seeking to break into world markets. Their comparative advantage was their low-cost labour and to exploit that they either had to attract new industries or create them from their resources. From the start of the industrialisation process they had to operate on the left-hand side of Figure 0.1. For this they required pro-active government institutions. In addition they had also to act on the supply side (on the right-hand side of Figure 0.1). This meant providing basic education and programmes to create and improve literacy for workers together with basic training. This involved creating the institutional foundations for an educational and training system that could deliver low-level worker skills as well as the skills for lower-level management. Not only that, the systems had to be very responsive to the demands of new industries, many of which countries such as Singapore had no previous experience of. From the outset of industrialisation these countries had to operate on both sides of Figure 0.1.

### Phase 2: 1970s, 1980s

#### *International context*

At the international level, USA companies continued to dominate world markets. However, while American multinational corporations continued to expand their systems of Taylorist mass production in national markets, they were increasingly challenged by German manufacturers in the markets for advanced engineering and by the Japanese. UK manufacturers continued their retreat from Empire markets and lost out in many markets to American, German and Japanese companies. During this phase the capital for labour-intensive manufacturing was increasingly

being relocated to what was euphemistically termed the ‘third world’, a process that had a particularly profound impact in the UK, which had significant textile and footwear sectors. Here we start to see a major shift in the global division of labour. The Tiger economies were the recipients of much of this relocated capital, and this, together with the new capital which their initial success was generating, provided the basis for their success in making inroads into world markets, especially for low value-added manufactured goods.

### *Changes in the productive system and skill demands*

Continued economic growth in the West provided the basis for the expansion of mass markets in car manufacturing, white goods and electrical appliances, as well as banking and financial services and health and personal services. This provided the basis for the continued growth of the demand for professional, technical, managerial, administrative and scientific workers and the white-collar workers that supported them. However, the relocation of capital for the more labour-intensive forms of Taylorist mass production to countries with lower labour costs was reducing opportunities for skilled, semi-skilled and unskilled manual workers in these industries, especially in the UK. In addition, new more efficient and productive systems of mature mass production were being introduced, initially by the multinational Japanese manufacturers and later by some American companies.

Changes in political power led to a political drive in both the UK and USA to re-introduce the discipline of the market in a more forceful manner. Under the Thatcher and Reagan administrations the state sought to deregulate the market across a range of industries. In the UK state-owned industries were privatised, and in both countries markets for financial services were deregulated. Although not described as an industrial policy, this did create new business opportunities in industries ranging from air and land transport to financial services. These were policies operating on the left-hand side of Figure 0.1. In the USA, Silicon Valley, in part a consequence of government funding for R&D for the defence industry (Mazzucato, 2013), emerged as the centre of innovation for the new information and communications technology (ICT) industry that would provide a major spurt for the growth of more knowledge-intensive forms of production.

The other major change that was occurring during this phase was the expansion of Taylorist mass production techniques in the service sector. The increase in discretionary spending associated with the growth in living standards in the West stimulated the demand for goods and services in retail, hotels, personal service and finance industries. The result was a

major shift in skill demands. While these were still largely low-skilled jobs they made very different demands on recruits, requiring what sociologists referred to as ‘emotional labour’ – the ability to control the emotions and to provide a constant smile and pleasant experience for the customer, sometimes referred to as ‘customer service skills’. While the decline of manufacturing and the growth of Taylorist service industries did not threaten the traditional middle-class career which provided the incremental increase in income that human capital theory predicted, they did destroy many working-class communities, creating a demand for a very different type of lower-skilled worker.

### *Theoretical underpinning and skills debate*

The continued growth of bureaucracies designed to coordinate Taylorist forms of mass production created an increase in the demand for education. This meant that for those who possessed such credentials there was little difficulty in accessing a ‘career’ in either these large corporations or in government and in accessing the increasing economic returns that provided over a lifetime. This was fertile ground for Becker’s theory, which was enthusiastically received. Moreover, a substantial body of research confirmed his empirical findings, not just in the USA but for other industrial societies and also for the new developing societies (Psacharopoulos and Patrinos, 2002). This justified increased public and private investment in education and training.

Given the weight of evidence the theory ‘took off’ in policy terms. Policy makers started to see the investment in education and skills as ‘the’ driver of economic growth; moreover, in the Anglo-Saxon countries this was one that the government could directly influence without ‘distorting’ the operation of the market. As international competition started to increase with the recovery of Germany and Japan, there was a good fit between the messages from human capital theory and political need to foster economic growth and improve national competitiveness. As a result, supply side economics came to dominate the policy discourse of workforce development, and indeed such dominance continued to grow with the rise of monetarism in the fight against inflation in the 1980s.

As new professional jobs were being created in the emergent ICT industry more and more manual jobs were lost in manufacturing; the response of the politicians was to place even greater stress on education and skills. Authorities such as Robert Reich (1991) in the USA responded by arguing that the West must now focus on raising education and skill levels even higher, as these were their source of competitive advantage, because they could no longer compete with the

emergent economies in the production of mass-produced standardised goods. Human capital theory became detached from its economic and social context yet appeared to have universal validity. Investment in education was crucial to ensuring continued economic growth and in lifting the poor out of poverty.

The other important impact of human capital theory on national training policy was the establishment of a belief that national economic adjustment is hindered by inflexibility at the workers/skills level. It was seen that individuals were either reluctant or unable to prepare themselves for the rapid economic changes to come. As such, the high unemployment that was witnessed in the late 1970s and early 1980s was seen to be caused not by the failure to create jobs but by the inability of individuals to prepare and re-skill themselves. This paved the way for the increasingly popular notion of ‘lifelong learning’ within the context of employability to come in the next decade. From a theoretical perspective, the source of blame is firmly seen as a supply side issue – the lack of skills on the part of the workers.

The skills debate in this connection is quite subtle. On the one hand, there was never any ‘measurement’ that said that the unemployed or the poor had inadequate skills. This would have been difficult to measure because there was nothing to compare with. The adequacy of skills was simply derived from the fact of whether a worker was employed or not. Thus, for those who were in employment, clearly their skills were needed. If they were unemployed, the assumption was that their skills were no longer required. The same logic went further: if job seekers were unemployed for long period of time, the assumption was that they lacked generic skills and basic knowledge of job seeking. Labour market conditions became rather irrelevant to the explanation of unemployment. Thus investment in education and training, action on the right-hand side of Figure 0.1 provided ‘the’ solution to economic difficulties, the problem lay with the supply of labour not with the operation of markets or the behaviour of employers.

### *Policy frameworks*

#### *The UK*

The privatisation of the nationalised industries represented the final elimination of attempts to influence the demand side, apart that is from the deregulation of financial services, which stimulated rapid growth there. The result was the further intensification of competition, which led to many British manufacturing companies collapsing. Those that survived were world class but there was also a very long tail of poorly

performing companies. However, high value-added business and financial services companies were expanding, as were lower value-added services such as retail and hotels.

On the supply side, with the triumph of neoliberalism, the MSC represented something of an anachronism as the last vestige of state intervention. However, the government was faced with a dilemma as the growth of youth unemployment required some form of policy mechanism to deal with it, so the MSC was retained and charged with this task. There was also another problem: while the continued growth in the demand for professional, managerial and technical workers could be met through an expansion of the education system, the growth of mass service delivery in sectors such as retail and restaurants was making demands for certification that the traditional academic education provided by schools and colleges could not meet. The new jobs required certification of practical customer service skills that were required for effective performance in the workplace. The government responded by introducing a new system of competence-based qualifications, the National Vocational Qualifications (NVQs). For some of those with low-level educational achievement the new competence-based qualifications provided a form of certification, but there was limited uptake by employers. Such changes gave further impetus to the 'relevance' of human capital theory. By continuing to operate on the right-hand side of Figure 0.1 the policy was sustaining the use of a strategy of low value-added production by employers in the service sector. The government was now funding certification for such low-skilled work. Skills were now delivered through the 'free market', a policy which continued to support the low-skills option.

### *Germany*

In Germany the response to these changes in skill demand took a very different form. The prior existence of the dual system meant that all that was required was a modification to its structure. New professions were recognised and incorporated into the system. For the new lower-level soft skills, these new competences were incorporated into a broader curriculum framework that provided knowledge of the trade as a whole as well as preparation for citizenship. This provided certification of such skills but within the framework that extended the provision of highly skilled labour to the service sector. There were complaints that the system was slow to respond to these changes, but the process was one of progressive adaptation not radical change. The lack of an extensive supply of unqualified and unskilled labour continued to make the high value-added strategy preferable for German employers.



### *Singapore*

In the Tiger economies such as Singapore the process of adaptation was more comprehensive as it involved more direct changes to both the demand and the supply side. The aim of government policy during this phase was to move up the value chain towards industries that would create high-skilled and higher-paid jobs. On the left-hand side of Figure 0.1 steps were taken to identify those industries higher up the value chain where it was felt the country could compete. Policies were introduced to attract and support such industries. Then, with knowledge of which skills this would require, derived from the experience of Japan and the West, steps were taken to modify and extend the existing education and training system to meet that demand. Educational provision was extended, technical education expanded and programmes introduced to upskill existing workers. At the heart of this process of adaptation were government mechanisms designed to coordinate changes on the demand side with those on the supply side. Thus as the demand for higher level and industry specific skills grew, the education and training systems expanded to meet the challenge. This way there no bottlenecks in the supply of skilled labour to hold back the process of growth.

### Phase 3: 1990s–2000s

#### *International context*

By the end of the 20th century the international context had changed significantly. On the economic front world trade had increased 22 times between 1950 and 2000 (WTO, 2014) a change that was symbolised by the transformation of GATT into the World Trade Organization (WTO) in 1995 with its remit to ensure that global trade flows freely. The second-wave industrialisers such as Japan had established themselves in international markets, followed by the Asian Tigers and then China, India and Brazil. In this rapidly changing international arena, the second- and third-wave industrialisers had almost all sought to break into global markets through the use of industrial policies, operating on the left-hand side of Figure 0.1, in spite of the opposition to such a strategy by the world powers and the international agencies they dominated such as the IMF, World Bank and the WTO. In addition, governments in countries such as China had state-supported industries where the major players were rapidly becoming proficient in the latest production technologies. The competition for high-skilled jobs at the international level

was intensifying. It was no longer just a competition between the older industrial countries seeking to pursue a 'high-skills route'.

The spread of the World Wide Web and other information and computer technologies had transformed the process of production by modularising it (Berger, 2006). This was a profound change with major implications for the global division of labour. Modularisation enabled companies to break down the production process into various components, each of which could be located in different countries across the globe to exploit differences in skill provision and the price of labour. Production for many goods and services was no longer contained within the geographical boundaries of the nation-state. This in turn freed the skill formation system from the confines of national boundaries, enabling the emergent transnational corporations (TNCs) to extend their control over the skill formation process. The older industrial countries and the Tiger economies now found themselves in a competition to attract the high value-added components of these global corporations. In this situation the UK became only a small player in the international stage, while the dominance of the USA was increasingly challenged by the new industrial countries, especially China.

The other major change that took place concerns the global supply of educated labour. The very success of skills policies based on human capital theory was starting to create problems. As governments increased their investments in education, this resulted in a dramatic increase in the supply of educated and skilled workers in the older industrial societies. While Western governments were increasing their investment in education so too were the new industrial countries. In China with a population of over a billion, participation in higher education rose from 3 per cent in 1990 to 22 per cent in 2006 (Brown et al., 2011: 33). For large multinational employers the change over the four decades was almost unimaginable, from being faced with a very small number of graduates in the mid- to late 20th century, they were now faced with a huge pool of highly educated labour (Brown et al., 2008).

### *Changes in the productive system and skill demands*

During the past two decades we have witnessed major changes in the productive system. The success of Japanese companies in capturing larger shares of world markets stimulated the spread of mature forms of mass production, or 'lean production' as it is sometimes termed. Consequently, many companies moved away from the traditional command and control systems of authority of the past to more participative forms of organisations, demanding new skills in leadership, teamworking, communication and problem solving among employees at all levels.

Within the firm these changes involved stripping out the layers of management thereby undermining the foundations of many middle-class careers.

Perhaps the most significant change has been the growth of knowledge-intensive forms of production where continuous innovation is the norm, for example in ICT, telecommunications, finance, biotechnology and aerospace. The spread of such innovations in information and telecommunication is also starting to have a significant impact on other industries such as distribution and parts of the retail sector. This increasing dependence on knowledge-intensive industries provides a continuing impetus to the demand for higher level intellectual skills, while the need for constant innovation increases the demand for creativity.

These companies are more likely to engage in the highly competitive international markets and be a part of TNCs or MNCs where they are more exposed to new management (high performance) practices (Bloom et al., 2011). This combination of a demand for high-level skills and the use of high-performance work practices (HPWPs) means that the development and utilisation of employee skills are crucial for the competitive success of these companies. The utilisation of employee skills therefore becomes a much more important priority both within the company and nationally.

With the spread of mature forms of mass production and knowledge-intensive production, new forms of controlling the behaviour of managers and senior staff had to be developed. These took the form of company competences, shaped by the core values and capabilities of the organisation and against which the behaviour of all members of the organisation could be judged. These were far more profound in their implications for behaviour than the competences required of retail staff in customer service. This is because they affected the values and orientation of staff and shape the process of learning within the organisation. All this meant that the process of skill formation was becoming increasingly detached from national systems of education and training and becoming more and more focused on processes within the organisation – on-the-job learning and training was becoming far more important.

In the service sector Taylorist systems of mass delivery were increasingly used by retail and restaurants as well as banks and financial services. This involved the extensive use of new technology to routinise business processes. This reduced skill levels and enabled employers to make more use of new groups of workers such as students and housewives, as well as facilitating the outsourcing of many jobs through the use of call centres abroad.

While we have been primarily focusing on the new forms of productive system, it is important to point out that many companies remained

wedded to older types of productive systems, using Taylorist systems of mass production in the service sector and parts of manufacturing such as food processing. Even within companies that adopted some of the new systems such as HPWPs they would only use them in parts of the organisation, for example with regard to their R&D, while other parts of the same organisation would still use traditional forms of mass production with their associated command and control systems. A business strategy based on the use of low-cost, low-skilled labour remains attractive for many UK employers. It means that as unskilled and semi-skilled jobs in manufacturing have been relocated, these continue to be replaced by low-skilled, low-paid jobs in the service sector. In the UK there still remained almost one in five of the jobs (19.3 per cent) that require a learning time of less than one month (Felstead et al., 2007). However, this does mean that in these areas of low-skilled employment the demand for skills has remained unchanged. As the use of ICT becomes virtually ubiquitous, basic information technology (IT) skills are demanded by employers. In addition, the growing intensity of competition in sectors such as hotels, restaurants and retail, and the growing sophistication of customers, mean that higher levels of service are demanded. Even in retail companies that effectively operated systems of mass service delivery, staff are expected to deliver high levels of service, making further demands on their emotional and presentational skills.

### *Theoretical underpinnings and skills debate*

The changes in the productive system and the associated demand for skills that have taken place over the previous two decades are now creating serious problems for our understanding of skills issues. Initially, the introduction of a national competence-based training system meant that more jobs than ever required some form of educational or training credential for entry. For example, in the UK by 2012, 77 per cent of jobs required educational qualifications (Felstead et al., 2013). In addition, the stirrings of the new knowledge-intensive industries was starting to introduce talk about the future 'knowledge-based' economy (Powell and Snellman, 2004) where higher levels of education were seen to be essential.

Yet against this background there was a growing sense that perhaps the supply side approach inspired by human capital theory had reached its limits. Changes were taking place on the demand side that human capital theory could not explain. The rapid spread of competences being used by companies suggested that there was more to skill formation than just an investment in education or training courses. To understand these new skills required inputs from occupational

psychologists, educationalists, management scientists and sociologists as well as economists – the understanding of skills was now an interdisciplinary task, with Prime Minister Blair bringing together an interdisciplinary team to advise on the development of the Workforce Development Policy in the UK (Cabinet Office, 2001). In addition, there was also a growing awareness among academics that merely continuing to increase the supply of educated workers would not on its own guarantee increases in productivity and performance. Research, in large part instigated by the National Institute for Economic and Social Research in the UK, was demonstrating that national institutional factors such as training arrangements and provision were important in determining the demand for skills as well as the business strategies of the firms themselves.

Partly in response to this, Finegold and Soskice (1988) developed their skills equilibrium model that did emphasise the importance of policy acting on the left-hand side of Figure 0.1. They used the concept of a ‘low skills equilibrium’ to illustrate how low levels of skill demand from employers in the UK reinforced the low skills output of the educational system, suggesting that the way out was for employers to raise their level of demand. In the following decade the argument was made more strongly that if skill levels were to be raised, it would mean raising the demand from employers as well as individuals. To ensure against the continuance of the low skilled equilibrium, government policy should pursue a skills strategy that would create the conditions for the achievement of a high skills equilibrium (Ashton and Green, 1996; Brown et al., 2002). However, apart from using the equivalent of the German dual system to close off the low-skills route, there were few suggestions as to how to change employer’s business strategies and there was little research that was successful in identifying any levers that governments in the Anglo-Saxon world could use to raise employers’ skill demand (Keep, 2013).

Academically, human capital theory was not without its critics. Following Becker’s pioneering work, further research in the USA started to reveal that human capital investments in formal education could not account for more than a fraction of variation in wages (Osterman and Shulman, 2011: 42). What was happening in this phase was that the increased supply of highly educated people was outstripping the growth in demand. In effect it meant that the increased supply of graduates and the slow growth of the knowledge-intensive forms of production meant that there were no longer sufficient high-paid jobs to deliver the returns to education that had been the case in the past (Green, 2013; Felstead et al., 2013).<sup>2</sup> It was now becoming clear that the increased supply of highly educated people was not in itself leading to an increase in highly skilled, highly paid jobs. Indeed, in the OECD Programme for the

International Assessment of Adult Competencies (PIAAC) (2013: 168, 1771) study of 22 countries, the UK recorded the second highest proportion of jobs for which only a primary education or less was required (over 20 per cent) and the second highest incidence of over-qualification (30 per cent) of workers whose highest qualification was higher than the qualification necessary to get the job. The five decades of investment in education and training had not eradicated the low-level jobs and had provided an oversupply of highly educated people for the other jobs.

The other problem with human capital theory as a source of inspiration for policy was that the investments in the employability skills of those at risk in the labour market, the unemployed and the marginal groups, have only been partially successful in ensuring continued employment. In the USA it helped some young and older people into jobs but usually only at a low level, and rarely did it enable them to move into higher skilled and higher paying jobs, merely recycling them through low-skilled, low-paid jobs (Grubb and Ryan, 1999). In the UK, programmes such as the Youth Training Scheme and the subsequent Apprenticeship Scheme as well as those for low-skilled adult workers suffered from high levels of dead-weight while employers had to be ‘incentivised’ to participate in them. Even those who obtained low-level qualifications through their training did not always receive a premium in the labour market (Dickerson and Vignoles, 2007), and neither did those who were delivered on-the-job training in low-skilled jobs (Wolf et al., 2010).

Meanwhile research was revealing other issues on the demand side to the left-hand side of Figure 0.1 that human capital theory could not address. Work on the success of Japanese management practices and ‘lean’ production techniques (Womack et al., 1990) and high-performance management practices had revealed that these were important in raising business performance. Skills were now increasingly seen as a derived demand, one that stemmed from the business practices of employers. The growing awareness of innovation as a source of business growth raised the importance of exploring sources of innovation and public policies designed to support it. What both these strands of research indicate was the importance of skill utilisation in the workplace (Ramstad, 2009). As Keep (2013) notes, this led to a realisation that innovation, work organisation, job design, systems of employee relations and the demand for skills utilisation in the workplace are all interrelated, stimulating an interest in the development of public policy that can support it.

While there has been some development at a theoretical level on the theory of high-skills ecosystems in furthering our understanding of the institutional conditions that supported high levels of skill utilisation, our knowledge of the underlying drivers of business practices, the drivers of learning in the workplace, remains thin (Anderson and Warhurst, 2012). As a result the academic debate shifted to emphasise workplace

learning (Felstead et al., 2009) or the establishment of a ‘skills culture’ (Campbell, 2012). Yet there was no clear indication of how this increase in learning at work or the creation of a skills culture could be achieved.

Intellectually the debate reached an impasse, on the one hand human capital theory had been shown to be inadequate to meet the challenges of skills policy in the 21st century and research had indicated that the major issue was now on the demand side, but on the other hand there was no guidance as to how employers’ behaviour could be influenced. It appeared that their business strategies were the key, but there were no intellectual tools to enable academics to understand how these strategies were formulated or how the state may be able to influence them.

### *Policy frameworks*

#### *The UK*

While academics were arguing for policy to address the demand side on the left-hand side of Figure 0.1, policy makers still remained wedded to the supply side, ‘free market’ approach. In the UK the continued expansion of education systems reinforced the message that individuals were responsible for their future success in the labour market through increasing their investment in education and training. Greater reliance was placed on the market to deliver the restructuring of the economy, with ‘market failure’ providing the acid test for government intervention.

Under the influence of the neoliberal ideology, in the UK the Thatcher government swept away the last vestiges of any pretence of a national training strategy. The Training Agency was replaced by a series of locally based Training and Enterprise Councils (TECs). Based explicitly on the US Private Industry Councils (PICS) programme, the belief was that this would place employers firmly in control of the emergent training market through their control of the administration of government programmes as well as their hoped for participation in the formation of the new competence-based qualifications. A similar strategy was pursued by the UK Labour government, with the main thrust of policy continuing to be on the supply side to the right-hand side of Figure 0.1, with its inspiration in human capital theory. The core of the approach was to be found in the LEITCH Review (2006: 2) statement that ‘skills is the most important lever within our control to create wealth and to reduce social deprivation’. The form of policy remained the same, the government providing subsidies for training that met their objectives in the form of qualifications. These would be delivered through the Further Education Colleges and Training and Enterprise Councils. The main tool remained a supply-led approach based on a form of human capital theory that

used government subsidies to deliver training through colleges and to 'incentivise' employers.<sup>3</sup> The Coalition Government retained the core of this market-led approach but pulled back from the centralised, top-down approach with targets that were characteristic of the Labour government's approach and instead sought to establish a more thorough-going market-led approach where employers and individuals would drive the system forward (Payne and Keep, 2011).

The significance of the demand side was acknowledged in different ways by all governments. At the national level it was increasingly acknowledged that the UK could no longer compete across the full range of industrial sectors as the relocation of capital and the loss of manufacturing had left the country with only a limited range of industries or sectors within which it could compete at the leading edge of world markets. By default this has created pressure to adopt demand side policies to operate on the left-hand side of Figure 0.1. Whether it is called 'industrial activism' or 'a strategy of re-balancing the economy', governments were being pushed in the direct direction of being selective in the type of industries they wished to attract and grow.

What was particularly distinctive about government policy in this phase were the attempts to focus on the ways in which skills were deployed and utilised within the productive process inside organisations, in order to nurture the industrial basis for a high-skills economy. This was acknowledged in the development of the Investors in People (IiP) standard in the UK. Similar in some ways to the Malcolm Baldrige award in the USA, the IiP standard provided a means of establishing whether employers were using the most effective human resource development (HRD) practices in developing their employees. The introduction of Sector Skills Councils and the establishment of the United Kingdom Commission for Employment and Skills (UKCES) was a partial acknowledgement of the importance of the demand side. This was manifest in their advocacy of HPWPs as a means for employers to increase skill utilisation and enhance performance. In Scotland there was a more explicit attempt to encourage greater skills utilisation among employers (Keep, 2013).

It was becoming clear that attention had now to be paid to the demand side, but policy was still firmly embedded in a supply side approach and so new policy initiatives to tackle the demand side were ad hoc and unrelated. The framework for skills policy had become fragmented and more importantly did not appear to be having a significant impact in shaping the direction in which the economy was moving. Its voluntaristic ethos and unwillingness to 'interfere' with employers was seen as useful in attracting foreign investment from TNCs. However, the general direction in which the economy was moving, led by a small knowledge-intensive high-skilled sector and with a large tail of low-skilled, low-paid



sectors does not appear to have been impacted by these policies to any great extent. By default policy continued to support employers choosing the low-skilled option.

### *Germany*

The German dual system faced a number of challenges during this period. The reunification of Germany imposed strains on West Germany. The forces of deregulation in the EU, while not as extensive as the deregulation that took place in the Anglo-Saxon countries, saw the end of state monopolies in areas such as transport, telecommunication and health. In addition, financial restructuring at the national level saw the introduction of more short-term finance. All these imposed new constraints and opportunities for companies' business strategies. However, the basic features of the policy framework remained the same. German industry continued to compete at the top end of world markets for manufactured goods, supported by a strong supply of highly skilled labour. The supply of university graduates remained limited, with the main supply of highly skilled labour continuing to be delivered through the dual system. Nevertheless, strains were starting to appear in the dual system. The proportion of employers offering places declined, while those who remained within it demanded higher-level entry qualifications from new entrants. It appeared that the system was moving to support the higher-end jobs, a process that would bring it into conflict with the extension of university education.

However, there was no attempt to deregulate training. The Federal Institute for Vocational Education and Training (BIBB), which embodied the collaboration between the employees, unions and state, consolidated training for the declining occupations and instituted new ones to capture the shifts taking place in the occupational structure. Between 1996 and 2006, 68 new occupations were introduced, mostly in the service sector, with 8 new ones in IT and media occupations (Bosch and Weinkopf, 2008: 75). New forms of training were introduced to meet the demands of employers for a greater breadth of skills, and in the service sector the acquisition of competences in customer relations and teamworking were introduced while retaining the depth of knowledge about the company, business systems and citizenship associated with the traditional system. However, problems and tensions still remain, with the transnational employers demanding that they should only take those modules that were immediately relevant for the requirements of their productive system, thereby threatening the coherence of the system.

In general, it appears that the dual system is continuing to provide effective support for the high-end German manufacturing industry competing

in world markets through the provision of a highly skilled and efficient labour force. However, the cost of this was the further deregulation of parts of the economy and the extension of low-wage work, much of which was outside the scope of the dual system. Fewer young people were entering the dual system and more were obtaining low-level qualifications in the further education sector, thereby offering more employers in the service sector the option of the low-cost route (Bosch and Weinkopf, 2008).

### *Singapore*

Similarly in Singapore the system continued to be modified. In the 1990s, the rise of China and other low-cost countries meant that industrial policy in Singapore has been focused on developing higher value-added industries, thereby influencing the right-hand side of Figure 0.1. For example, one new industry was the aerospace industry. The state-led initiative in the 1990s resulted in Singapore Technologies Aerospace (ST Aerospace) becoming the world's largest third-party maintenance, repair and overhaul (MRO) provider. This also spurred on the emergence of significant research and development activities at local universities working with private companies. This enabled Singapore to break into the original equipment manufacturing (OEM) market, establishing a niche in the international supply chain, growing at an average of 14 per cent compound annual growth in the 2000s (Ng et al., 2012). Ninety per cent of the 19,900 workers in this 'new' sector are highly skilled workers, which reputedly was one of the reasons for Rolls-Royce to move its Trent 900 engines to Singapore in 2012.

To support all these developments, on the supply side the Singapore Workforce Development Agency introduced a variety of new competency qualifications for those in the middle and lower levels of the labour market, to ensure that the new soft skills were embedded in the labour force. These were delivered through a sector skills system charged with ensuring that the training responded to the changing demands of employers. To meet the demand for higher-level skills, new courses were introduced in polytechnics and universities.

When Singapore was still catching up with the advanced economies it could rely on knowledge of their industrial trajectories to identify the skills it would need in the next stage of development in Singapore. Now that they are also members of the advanced industrial societies, competing at the high end of knowledge-intensive industries this is no longer possible. Consequently, they have to rely on their own intelligence about the next set of skills the economy will require and therefore the coordination of the demand and supply of skills becomes more

problematic but is still done at the highest level though government committees which periodically review the process of economic change.

Like all systems the Singaporean one faces new challenges, not least that of its reliance on foreign workers for economic growth and the internal political tensions this generates, but the system continues to succeed in keeping the country competing at the top end of world markets, now delivering one of the highest standards of living in the world.

## Conclusions

We have seen dramatic changes in the international context within which politicians formulate their policy frameworks. With the rise of new industrial nations the UK has inevitably declined from a major world player in a range of industries to a lower-ranking industrial power trying to rebalance its economy after the financial sector-led growth collapsed. Germany has retained its place as a powerful industrial producer of high-end engineering and manufactured goods. During this period Singapore has successfully moved from being a producer of low-end manufactured goods to a producer of high engineering and financial services at the leading edge of world markets.

What is clearly evident from the three countries we have used as examples is that there is no one universal policy framework. Different policy frameworks work in different international and national contexts. Germany has been successful in continually adapting the system to meet the challenges of new productive systems and new global conditions, although it is now under considerable strain. Singapore has been successful in breaking into world markets and moving from low-skilled, low-value production to high-skilled, high value-added production, and in coordinating the tremendous shifts in demand with a constant supply of appropriately trained labour.

By contrast the UK has seen a decline in its share of world markets across a range of industries, lost a large part of its manufacturing industries, although still retaining leadership in a narrow range of industries such as aerospace and pharmaceuticals, restored the competitiveness of its car manufacturing industry under foreign ownership, but also supported the growth of an overblown financial services sector and is now trying to rebalance the economy. Ideologically, politicians have refrained from actively supporting an explicit industrial strategy arguing that the market knows best, although they did play a significant part in supporting the growth of the financial services.

Given the magnitude of the changes that we have documented in the productive system's demand for skills, what is surprising is that the UK's skills policy has changed so little. The policy framework has been to rely on the market to deliver the skills with the assumption that if this

is sorted out, everything else will be looked after and ‘prosperity’ will come. The heavy investment in human capital has rapidly increased the supply of highly educated labour. While this has undoubtedly helped provide the base for knowledge-intensive production and higher-level work, it has now run into problems with the supply of highly skilled labour outstripping the ability of the national economy to generate high-skilled jobs. Indeed, the growth of the low-skilled service jobs merely serves to aggravate the problems.

As a way out of this dilemma the government have committed themselves to helping ensure that the economy competes at the high-skilled end of the continuum. Yet given the belief in the efficiency of the market in delivering solutions, there is little that government agencies could do to improve skill use by employers, apart from exhorting them to ‘value’ training and make more effective use of their employees. Even the most recent demand side policy proposals to provide support for HPWPs to encourage skill use and innovation are unlikely to work because they fail to address the basic drivers of skill use, namely business strategy. It is changes in business strategy that have created massive changes in the process of skill formation during the last two decades. This has a number of important consequences for skills policy.

The first is that skills will be the basis for the current and future competitive advantage in these industries. If these are the basis for a high-skills economy, then ways must be found to nourish and enhance the development of these industries as it is their business strategies that are driving the growth. The second is that a skills policy which is supply driven has not and will not deliver the support required for these industries to grow and prosper across a range of markets. It means challenging the conventional economists’ view of the firm that is very much like a black box, that employer decision making is likely to be the most appropriate (optimal) response to market signals, leaving the policy maker as a mere spectator on the side-lines, cheering on those firms that are seen to adopt the ‘correct’ high-skills strategy.

What is required is a better understanding of the decision making processes in firms with regard to skill issues embedded in a view of the firm as an active agent in the process of competition. This means challenging the philosophy that government must not interfere with questions of job quality and job design as these are the exclusive province of the employers. Once the relationship between business strategy and skills utilisation is understood, it is clear that this is an area where there is a great deal that governments can do to support and enhance the performance of business while developing the skills of employees. We take this as our central task in the following chapters. Once this is achieved we can think of reconstructing a skills policy that will take the enhancement of skills as a central component of future prosperity.

## Notes

- 1 There is an extensive literature in the UK and USA that examined this ‘fit’ between the outputs of the education system and the demands of the economy (see, for example, Ashton and Field, 1976; Willis, 1977; Bowles and Gintis, 1976).
- 2 Green (2013) provides an extensive discussion of the whole issue of skills matching (Ch. 8) and over-education (Ch. 11).
- 3 For a detailed critique of UK policy based around these issues, see Keep (2009), Keep and Mayhew (2010), Keep (2011) .