

Are we witnessing the rise of a high skilled, low waged workforce?

This is the first study by UK academics to examine the future of skills in the new global competition, including China and India. It is based on extensive interviews with leading companies from North America, Europe and Asia, along with senior policy-makers across seven countries. It challenges current policy assumptions about the role of education and skills in the global knowledge economy.

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| • High skills offer Britain a competitive economic advantage | → | High skills are a declining source of advantage due to the global expansion of Higher Education |
| • The world is divided between 'head' and 'body' nations | → | High skilled 'head' work can now be performed in low-cost locations. |
| • Learning = Earning | → | Growing disparities in the earning and career opportunities for British graduates. |
| • Demand for knowledge workers rises exponentially in the knowledge economy | → | Shift from <i>Mechanical Taylorism</i> to <i>Digital Taylorism</i> , so that knowledge work becomes portable working knowledge. |
| • Education is route to prosperity and social justice for all | → | Policy expectations of what education expansion and reform can deliver are unrealistic |

The research

Like its competitors in other developed economies, the British government has advocated the creation of a high skilled, high waged economy by upgrading the education and skills of its workforce. The creation of world class skills is assumed to secure economic prosperity, reduce income inequalities and build social cohesion.

This project aimed to investigate the global skills strategies of leading transnational companies and the national skill formation strategies of emerging economies including China and India.

Research Aims and Objectives

- To conduct a comparative study of the skill strategies of transnational companies in the context of increasing global economic integration;
- To examine the extent to which leading transnational companies (TNCs) from different home countries and business sectors are developing global skill formation strategies;
- To examine the impact of these strategies on national systems of skill formation;
- To identify the importance of skill as a factor in the decision to locate capital investment;
- To contribute to theories of globalisation, skill formation and the state, and to our understanding of the role of TNCs in strategies of national competitiveness.

The research was based on a seven-country study of the UK, China, Germany, India, Korea, Singapore and the United States. We conducted 190 in-depth face-to-face interviews with company officials and policy-makers. There were 125 company interviews of which 105 were conducted outside the UK, and 65 policy interviews including 22 in the UK. The interviews were conducted between 2004 and 2007. Alongside interviews with senior policy advisors in each of these countries, we focused on leading TNCs in four sectors, automotive, electronics, financial services and telecoms. A third of the companies involved in this project had their home base in the United States, but it was designed to include transnational companies from China, Germany, India, Korea and the United Kingdom. With additional funding from the Centre for Knowledge, Skills and Organisational Performance (SKOPE), we also conducted a detailed statistical assessment of global trends in education, employment and the job market.

The Globalisation of High Skills

The argument that a knowledge-driven economy demands a larger proportion of the workforce with a university education and with access to lifelong learning opportunities has had a major impact on participation rates in tertiary education. Whatever the merits of the economic case for expanding higher education, there has been major growth in all OECD countries. Canada was the first country to achieve the target of over 50 percent of people aged 25 and 34 to enter the job market with a tertiary-level qualification. It was followed by Korea, which has engineered a massive growth in tertiary provision since 1991.

This expansion has not been limited to the developed economies. Over a decade there has been a 'great doubling' of university enrolments around the world, reaching close to 63 million by 2005. This is leading to a massive increase in the global supply of highly educated workers, able to compete on price as well as knowledge. China now has more students in tertiary education than the United States and this gap is likely to grow in the future (See Figure 1). India has also witnessed a significant expansion since 1990 and has announced plans for a five-fold increase in government expenditure on education between 2007 and 2012.

Global Skill Webs

Our empirical investigation of the skill formation strategies of 30 leading companies across seven countries found that skill and human resource issues had become more important to corporate competitive advantage. This was to be expected given the current focus on innovation and intellectual capital across all business sectors. But skills issues have taken on wider corporate significance in a context of economic globalisation.

Companies no longer need to divide their skills strategies between high-cost 'head' nations employing high skilled, high-waged workers, and 'body' nations that are restricted to low skilled, low waged employment. These companies are seeking to integrate key aspects of their human resource functions across the globe, especially talent management. They are making more strategic decisions that challenge most of their preconceived ideas about

what can be done where, especially in terms of high skilled, high value work. The home base remains a key location for developing and coordinating corporate strategies, but the trend is towards greater experimentation with high end work in low cost locations. This may be thought of as a shift from a Toblerone model of organisation - with each national market having its own company hierarchy, including the training function - to a melted Chocolate Orange, where borders and boundaries become increasingly irrelevant within an overall global organisation.

It is difficult to gain an accurate picture of the scale of offshoring. But our interviews suggest that the offshoring of high-skilled jobs will increase in significance as companies gain the confidence and capability to locate high-value activities in low-cost economies. Before 2000, there was virtually no offshoring of high-skilled work in financial services. Today's relocations involve front as well as back office functions, including financial analysis, research, regulatory reporting, accounting, human resources and graphic design.

Knowledge Work and the Rise of Digital Taylorism

While much of the business and policy literature has focused on knowledge, innovation and creative enterprise, it has ignored the shift towards global standardisation or alignment within companies, and efforts to capture and digitalise knowledge that had previously remained locked in the heads of high-skilled workers. We found evidence that companies are attempting to standardise knowledge work through processes that we call Digital Taylorism.

By this we mean that if the twentieth century brought mechanical Taylorism, characterised by the Fordist production line, where the knowledge of craft workers was captured, codified and re-engineered in the shape of the moving assembly line, the early twenty-first century is the age of digital Taylorism. This involves translating knowledge work into working knowledge through the extraction, codification and digitalisation of knowledge into software prescriptions and packages that can be transmitted and manipulated by others regardless of location.

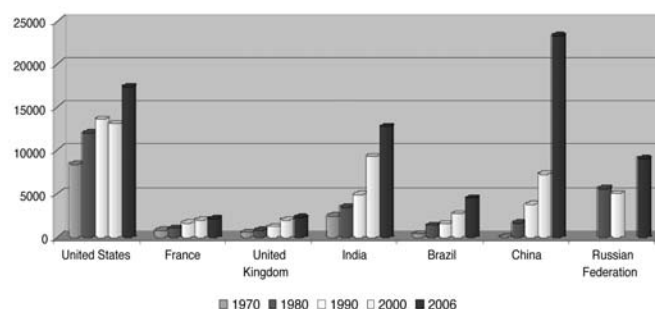


Figure 1: The expansion of tertiary education in selected emerging and developed economies (enrolments), in thousands

Brazil 2005 instead of 2006

Source: Compiled by the authors. See Brown, P., Ashton, D., Lauder, H. and Tholen, G. (2008) Towards a High Skilled, Low Waged Workforce: A Review of Global Trends in Education, Employment and the Labour Market, SKOPE Monograph No.10 (forthcoming, 2008).

Standardisation is well-understood in manufacturing. For example in the automotive industry, the same standard components such as wheels, brake linings, and windscreens can be made in different factories around the world and shipped for final assembly at one location, in the knowledge that all the components meet international quality standards and will fit together. This gives companies flexibility and enables them to reduce costs. The same logic is now being applied to service-sector occupations which were previously difficult to standardise because there were no digital equivalents to mechanical drills, jigs, presses and ships, all of which are required to create global supply chains in manufacturing.

These trends remain in their craft stage, resembling manufacturing in the early twentieth century. Yet while it took decades for manufacturing to 'lift and shift' through standardisation, the process is likely to be much quicker when applied to service sector employment, because the only hardware you need can fit on the average office desk.

Creating a War for Talent

While all the companies involved in this study anticipated an increase in their demand for university graduates, there is little doubt that 'more means different' as companies differentiate their knowledge workers in terms of function, competences and performance. Despite the massive growth in higher education in Asia, Europe and North America, our respondents believed they were in a 'war for talent', a competition to attract and retain 'top' talent that was central to their competition strategy. Consequently, those defined as 'top talent' enjoy the benefits of corporate largesse, while the majority find themselves in a positional struggle to reap a return on their investments in higher education in terms of salaries, pensions, career prospects and quality of working life. This reflects a trend towards 'winner-takes-all' markets. People with similar qualifications in the same occupations, organisations and countries are experiencing increasing polarisation in their career prospects, intensifying positional competition within the middle classes.

Qualifications, Skills and Competence

Many of the companies we interviewed during this project were increasing the proportion of university graduates within their workforce. But it was difficult to assess whether this reflected an increase in the proportion of jobs involving technically difficult roles, or involved 'over-qualification' whereby firms now recruit graduates for jobs that were previously undertaken by non-graduates, on the grounds that 'anyone half decent has now got a degree'.

What our studies also revealed was that

Major implications

- Our findings challenge the policy mantra of a high-skills, high-wage economy. While the skills of the workforce remain important, they are not a source of decisive competitive advantage. Many countries, including China and India, are adopting the same tactics as the UK. It is how the capabilities of the workforce are combined in innovative and productive ways that holds the key. High-skilled workers in high-cost countries will have to contend with the price advantage of university graduates in developing economies.
- We found little evidence to support the claim that the value of human capital (skills, knowledge, etc) will continue to rise as leading transnational companies restructure their global operations to deliver innovative ideas at the lowest cost. This approach fails to understand how emerging economies are leap-frogging decades of technological development in the West to compete for high-skilled, high-value work, including research and development. In the early decades of the twenty-first century the rise of the high-skill, low-wage workforce may become a feature of the developed as well as the developing economies.
- The interpretation of human capital theory found in official policy discourse is fundamentally flawed. It rests on an evolutionary model in which investments in education and skills are believed to increase as knowledge and skills become the key to increasing productivity and profits. This assumption was at best a 'transitional' case in the second half of the twentieth century, a period characterised by educational expansion and a rising middle class. As access to tertiary education has become widespread within and across countries, it has outstripped demand for high-skilled workers, creating downward pressure on their incomes in the developed economies along with some upward pressure on those in emerging economies. The credentials of highly-skilled workers in the West are not subject to the laws of diminishing returns because they are being out-smarted by graduates in China and India, but because companies are discovering new ways of doing the

same things in more cost-effective ways.

- Digital Taylorism does not eliminate the importance of employee motivation or the need for good soft skills such as self-management or customer-facing. The standardisation required to achieve mass customisation still needs customers to feel that they are receiving a personalised service. This demand may contribute to a continuing demand for university graduates. But their occupational roles will be far removed from the archetypal graduate jobs of the past. This raises the intriguing question of the extent to which 'knowledge' work can be standardised, and the impact of standardisation on the demand for creative knowledge workers and returns on investments in higher education. The current view of education for creativity and personal fulfilment bears little relationship to the future employment of many university graduates. If 'permission to think' is limited to a relatively small proportion of the UK workforce, this raises fundamental issues about the role and content of mass higher education.
- We must confront the prospect of a high-skilled, low-waged economy for the UK. This poses a challenge to national governments in affluent economies which continue to assert that differences in income and life chances reflect a meritocratic pyramid of individual achievement. The rise of a high-skilled, low-waged workforce means increasing inequalities and unmet expectations. It also challenges our understanding of justice and efficiency via the connection between education, jobs and rewards. This wider debate raises fundamental questions about how we educate people today and how we educate them for tomorrow. The one-dimensional view of education as a preparation for employment is not a reflection of labour market realities, but an attempt to maintain the idea that justice, efficiency and the good life can be achieved through the job market driven by economic growth. There has never been a time when alternative visions of education, economy and society have been more important.

employers found it difficult to relate to the skills discourse when discussing their own organisations. During interviews, companies typically used a discourse of 'competence' rather than skill. This reflects their over-riding concern with employee 'performance,' which seemed to bear little relationship to formal qualifications or levels of skill. Levels of qualification were important as a measure of 'hard skills' in identifying appropriate candidates, but for virtually all jobs the primary focus was on

behavioural competences or soft skills, including initiative, perseverance, time-management and team working. In all seven countries, employers did not view technical or hard skills as a major problem. They could train those who needed to get up to speed with the latest technical developments. Their major concern was finding suitable people with the appropriate behavioural competences to 'get the job done' or 'take the business forward'.

Further information

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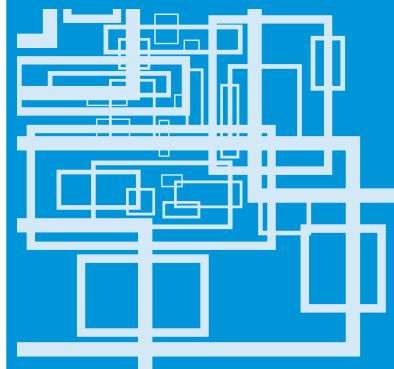
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The warrant

The principal investigators have been studying globalisation and the future of skills for over ten years. We have extensive experience in conducting interviews with business managers and policy-makers in Asia, North America and Europe. We have already published books on globalisation and skills and originally saw our current project as an extension of our earlier research. Our objective was to map differences in the skill strategies of a small number of case-study companies, as we assumed that corporate skills strategies would reflect differences in national home base, corporate governance and product markets. While this remained an important focus, corporate managers and executives frequently expressed surprise at the pace of technological, organisational and social change that challenged many of their assumptions about the global division of labour and what could be done where.

We witnessed a classic case of Schumpeter's gale of 'creative destruction' which was forcing senior managers to 'make it up as they went along' in a bid to develop a coherent strategy in a context of rapid change. To capture these changes we broaden the study to identify the global, technological and social trends that are shaping the future of skills. Rather than re-interview companies as originally planned we decided to extend the numbers of companies within their core sectors to build a comprehensive understanding of the changes we were witnessing. Most of the interviews were recorded and transcribed for analysis using NVivo, a software package used to aid the analysis of qualitative data. We also undertook a detailed analysis of quantitative trends in education, employment and the labour market.

Teaching and Learning Research Programme



TLRP involves some 90 research teams with contributions from England, Northern Ireland, Scotland and Wales. Work began in 2000 and the Technology Enhanced Learning phase will continue to 2012.

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