

BUSINESS AND WORK

In search of Britain's knowledge economy

Research on investment in intangible activities – such as R&D, brands and training – brings a new perspective to Britain's productivity record

Romesh Vaitilingam, economics journalist

IN HIS FIRST pre-budget report in October 2007, the new Chancellor of the Exchequer said: "Mr Speaker, our ability to compete and succeed in the global age will depend on our competitiveness and continuing investment in the economy. Britain's future success will depend not just on investment in physical capital but also skills, innovation and intellectual property."

"And I am publishing a new analysis, which shows that Britain could now be investing as much in these areas as the United States of America. This means almost £250 billion a year, up to a quarter of today's income, is being invested in the priorities essential for securing tomorrow's prosperity."

The new analysis that Alastair Darling referred to is research sponsored by the ESRC, with support from the Treasury and the Office for National Statistics. The latest results were published alongside the pre-budget report in *Treasury Economic Working Paper No. 1* by Professor Jonathan Haskel of Queen Mary, University of London, and Treasury economists Mauro Giorgio Marrano and Gavin Wallis.

As the pre-budget report put it, this study "investigates the consequences for the



Illustrations Toby Leigh

BUSINESS AND WORK KNOWLEDGE ECONOMY

► measurement of productivity of treating spending on intangible assets as investment. It finds that traditional measurement techniques may underestimate the importance of investment in intangibles in driving productivity growth in recent years, highlighting the importance to the UK economy of science, innovation and knowledge-based industries”.

The ‘knowledge economy’ is all around us. Digital cameras, iPods and satellite navigation systems for cars are commonplace. Downloaded mobile phone ring tones are now part of the basket of goods used to measure the retail prices index. At the same time, new software has revolutionised firms’ supply chains, customer analysis and staff rostering arrangements. And there are dozens of new occupations such as ‘search engine programmers’.

The puzzle is that these changes have barely shown up in the macroeconomic indicators that measure Britain’s economic performance. The ratio of investment to GDP has been more or less stable since the 1950s.

This is hard to square with the perception that firms are investing in knowledge assets in the teeth of a technological revolution. Indeed, judging from existing measures, it appears that Britain’s productivity performance deteriorated after 1995 even with a major investment in information and communication technology and despite acceleration in productivity growth in the United States.

The work by Professor Haskel and his colleagues examines whether the impact of the knowledge economy might be hidden by measurement problems. They reason that the prime measure of



economic output used in all countries is GDP. To understand GDP, think of an economy producing electricity, steel and cars and ask what the best measure of its output is.

At first sight, it would be to add up the value of the electricity, the steel and the cars. But a bit of reflection would show that this is wrong, since at least part of the electricity goes into making the steel and part of the steel goes into making the cars.

GDP gets over this by counting ‘value added’ – that is, subtracting the value of intermediate inputs, like electricity and steel in this case, from the value of output of products. So if the steel-maker raises its output by spending more on electricity, there is no rise in GDP.

Now, there is a long tradition of measuring spending on tangible assets like buildings and machines. These are not seen as intermediate inputs but as investment, so they form part of GDP.

But spending on most knowledge assets – including software, research and development (R&D), design, training and branding – is, in accounting terms, spending on ‘intangible assets’. With a very few exceptions, such spending is treated as intermediate expenditure. In constructing GDP, therefore, spending on R&D or design or training is treated like spending on electricity. It is assumed to be an intermediate good and does not appear in either investment or GDP data.

When the economy was composed mostly of investment in tangible assets like machines, this convention did not seem so bad. But if the economy is increasingly moving towards investment in intangibles, this might miss some very substantial parts of economic activity.

The study by Professor Haskel and his colleagues therefore does two things. First, it collects data on investment in intangible assets, or spending on knowledge. As well as scientific R&D (the conventional measure of R&D), this includes firm-provided training (R&D of people), design,

| INVESTMENT IN INTANGIBLES | | |
|---|--------------------------|---|
| Type of intangible investment | Total spending £bn, 2004 | Percentage of total intangible investment, 2004 |
| Computerised information | | |
| Computer software and databases | 21.6 | 18% |
| Innovative property | | |
| Scientific R&D | 12.4 | 10% |
| Mineral exploration | 0.4 | 0% |
| Copyright and license costs | 2.4 | 2% |
| <i>Other product development, design and research</i> | | |
| New product development costs in the financial industry | 6.0 | 5% |
| New architectural and engineering designs | 18.0 | 15% |
| R&D in social science and humanities | 0.3 | 0% |
| Total | 39.5 | 32% |
| Economic competencies | | |
| <i>Brand equity</i> | | |
| Advertising expenditure | 14.0 | 7% |
| Market research | 4.5 | 2% |
| <i>Firm-specific human capital</i> | | |
| <i>Organisational structure</i> | | |
| Purchased | 7.0 | 5% |
| Own account | 15.3 | 13% |
| Total | 69.6 | 50% |
| GRAND TOTAL | 130.7 | 100% |



organisational capital, 32 per cent was investment in innovative property, and 18 per cent was investment in computerised information. The table breaks down the spending on these categories in 2004.

The researchers have also collected data on spending over time on these categories (expressed as a percentage of value added). The chart below shows how they have increased since 1970.

The second part of the study asks the following question: if substantial amounts of investment are missing, does counting these intangibles help to explain a lot of the macroeconomic puzzles? The researchers find that it does:

- The level of nominal market sector gross value added rises by about 13 per cent for 2004.
- Instead of remaining constant at about 16 per cent, the share of nominal investment in GDP rises from 22 per cent in 1970 to 25 per cent in 2004.

We need to revisit both the conventions of economic measurement and the conventional view of British economic performance

and spending on building brands, reputation and organisational capital at firms. The main categories that are measured are:

- Computerised information, mainly software.
- Innovative property, mainly scientific R&D – the traditional kind – and non-scientific research developing, for example, new designs and financial products.
- Firm competencies, company spending on reputation capital, human capital and organisational capital – budgets for advertising and market research to support brands, as well as to train staff and improve managerial expertise.

Such spending turns out to be very large. To get a sense of the scale of it, business investment in tangible assets in 2004 was about £120 billion, around 15 per cent of gross value added in the market sector of the economy. The research finds that business investment in intangible assets in 2004 was also about £120 billion.

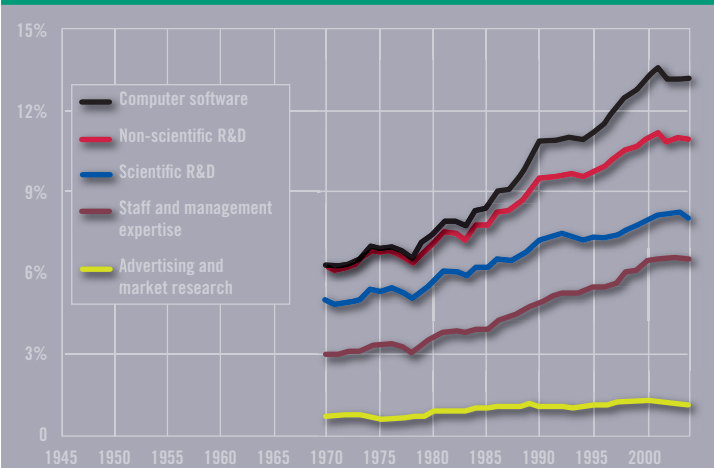
Of the total of intangible investment, around 50 per cent was investment in reputation, human and

- Labour productivity growth looks different. Without intangibles, labour productivity growth slows down over the 1990s, but with intangibles, it speeds up, just as in the United States. There is still a slowdown in post-2000 labour productivity growth, but that is mainly due to a slowdown in capital investment as software and associated investment in information and communications technology slowed down after the bursting of the dot-com bubble.
- Things look quite different for total factor productivity growth – the growth in output per person not accounted for by the growth in capital and labour quality. Conventionally, this is interpreted as the efficiency with which managers are running their capital and labour, or their process innovation. Since most measures of Britain’s total factor productivity growth fell over the 1990s, managers were accused by some of doing a bad job. With intangibles, the picture changes. Conventional measures look at tangible capital inputs. But if managers are increasingly building intangible assets, this should show up in capital inputs. Once this is done, total factor productivity growth rises, rather than falling.

These findings on the significance of including intangible investment suggest that we need to revisit both the conventions of economic measurement and the conventional view of British economic performance. The next step is to extend measurement of intangibles to the other major economies of the European Union so as to start making proper comparisons between countries. ■

Intangible Investment and Britain’s Productivity by Mauro Giorgio Marrano, Jonathan Haskel and Gavin Wallis, *Treasury Economic Working Paper No. 1*, October 2007. Available at: http://www.hm-treasury.gov.uk/media/9/0/pbr_csr07_macroeconomic333.pdf

INTANGIBLE INVESTMENT AS A PERCENTAGE OF BUSINESS OUTPUT



Management thinking

WORLD-CLASS STANDARDS AT UK BUSINESS SCHOOLS

CHARLES BADEN-FULLER, Centenary Professor of Strategy, Cass Business School, City University

VINCENT MANGEMATIN, Research Professor, University of Grenoble and Grenoble Business School

HOW GOOD ARE UK business schools at producing world-class research? Answering this question is important not just for business school deans, but for all the students and other customers of UK higher education. The Government's 2001 research assessment exercise (RAE) deemed that 15 UK universities produced research of international quality, but it made no comparisons with other countries. In contrast, the annual *Financial Times* survey says that only two non-United States schools are in the world's top 50 for research, and only one is located in the UK, the London Business School. Our research suggests that the picture is much better than that: in fact, the UK is doing rather well with several schools in the international league.

We use the definition adopted by traditional scholars, which sees research as the accumulation of ideas that advance knowledge. This means that consultancy is not research. It also means that publications that are not universally accessible to the academic community do not count. So in management, where English is the universal language, articles have to be in English, and they have to be accessible on the web.

In a study to be published in *Long Range Planning*, we examine all English language publications in management since 1992: 65,000 journal articles written by over 54,000 authors from more than 8,000 institutions. We

Many UK business schools are able to produce top quality research that rivals that of the United States

give greater weight to research published in journals that receive more citations, as calculated by Thomson's social sciences citation index. According to these measures, in 1992, the United States was truly dominant and responsible for 83 per cent of the world's research output, with Europe providing ten per cent and the rest coming from Canada (3.5 per cent) and Asia (3.5 per cent). Moreover, the output of just two schools – Harvard and Wharton – totalled more than any other country.

Now the world has changed. The United States is still dominant, but its share has fallen to 60 per cent. Europe has risen to 22 per cent, Canada to five per cent and Asia to ten per cent. Within Europe, the UK is leading with 7.1 per cent of the world's output, twice its 1992 share; the Netherlands is second with 3.4 per cent; but no other European country has more than two per cent.

Looking at trends over time, the United States seems to be declining at a consistent rate of roughly 1.5 per cent a year while the UK is rising faster than any other major country at a rate of 0.25 per cent a year. On this basis, we forecast that by 2015 the UK will have about ten per cent of the world's research output and the United States less than 50 per cent.

How can we be so confident that the UK will increase its global share? Because the United States decline is not a result of United States business school failings; rather, it comes from schools elsewhere catching up and contesting the marketplace for ideas more effectively.

In the 1980s, the United States schools created a formula for management research based on fully funded scholarships for five-year doctoral training that emphasises sound methodology, knowledge of prior work and the need for results to be written up in a format that can be published in English language journals subject to blind review. This required enormous resources and, for a long time, only well-endowed United States schools like Harvard were able to succeed at this game.

It took some time for the rest of the world to accept these methods, and acceptance was made much easier by the openness of United States schools to foreign scholars that wished to visit their campuses and copy their methods. Indeed, the United States schools went beyond politeness and some such as Wharton provided substantial resources to help foreign schools.

UK universities were among the first to go to the United States, hire their PhDs, recruit their faculty and adopt their ideas. London Business School, for example, developed a strategy of mimicry and found the resources to execute it with great success.

Elsewhere in the UK there has been both copying and, more importantly, adaptation forced by much more limited resources. In some cases, the adaptation has led to poor results. But elsewhere, there is evidence of real innovation: many UK business schools are able to produce top quality research that rivals that of the United States.

According to our measures, the best schools include London Business School, Manchester, Nottingham and Oxford, all of which are in the world's top 50. But close behind are Cambridge, Warwick, the London School of Economics, Cranfield, City, Lancaster, Strathclyde, Aston, De Montfort, Birmingham, Reading, Bath, Leeds, Loughborough, Leicester and Sussex, all of which appear in the world's top 200 with Imperial College and Edinburgh just outside.

It seems that the *Financial Times* ranking system is badly adrift in recognising UK research achievements and that the 2008 RAE should recognise at least 20 universities in the international league.

More critically, businesses and prospective students can rest assured: many UK business schools are on the leading edge of management research measured by international standards. Studying or working with these schools will not leave you at a disadvantage to those that go to the United States. ■

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<http://www.cass.city.ac.uk/faculty/c.baden-fuller>

TECHNICAL KNOW-HOW IN THE WORKPLACE

The skills needed to thrive at work

MANAGERS' LAMENTS about their employees' low numeracy are a perennial of British industry. But take heart. For one thing, their competitors around the world make similar noises. For another, help might be at hand.

The Teaching and Learning Research Programme (TLRP) has been looking at the mathematics skills people need to thrive in today's information technology-rich workplaces. A group led by Celia Hoyles and Richard Noss from the Institute of Education has worked with firms in three industries: financial services, motor manufacturing and packaging.

In financial services, the team were involved with sales staff based in call centres. These people were usually not graduates and had little understanding of high-level maths. But they were selling current account mortgages, a complex

One employee said that once she had learned how the mortgage worked, the explanations she was reading out made much more sense

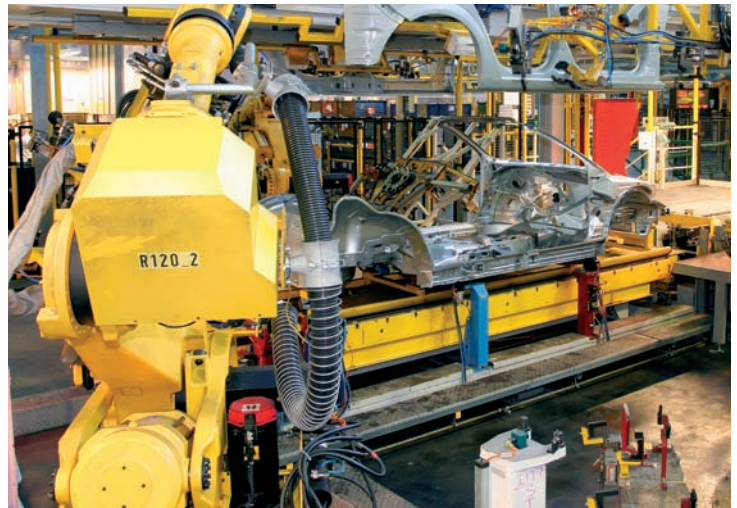
financial product, using computer programs written by experts elsewhere.

Their dealings with customers mainly consisted of asking them about their financial circumstances, putting the answers into the computer and telling them what appeared on the screen in reply. Customers were often dissatisfied with this information, but the employees lacked the mathematical knowledge to go off script and attempt to convince the customer about the mortgage.

The researchers developed technology-enhanced training activities that allowed users to build and explore their own spreadsheets, and see the relationship between key variables such as payments, interest rates, how long it takes to pay off a loan and how much people might save by choosing the current account mortgage.

One employee said that once she had learned how the mortgage worked, the explanations she was reading out "made more sense in your head". Previously, speaking to customers had been like "reading out something in German". Managers and trainers agreed that training of this kind, if systematically implemented, would lead to better sales performance

Something similar happened when the researchers worked with motor manufacturing



firms. As the basis for quality assurance, this industry commonly uses a mathematical technique known as 'statistical process control', which requires operators to interpret numerical data to make decisions about process improvement.

The TLRP team designed software to make the concepts intuitive and strip out unnecessary calculation. Their approach allowed employees to generate data and see the patterns and trends they contain. The tools have been widely appreciated in the two companies where they were developed.

The third industry the study looked at was packaging, specifically plastic wrapping film. Production of film is a tricky process of about 20 stages, in which plastic granules are heated and stretched, and inflated with compressed air in the most critical step, to produce a film that is only millionths of a metre in thickness. The process is controlled by a combination of human operators and computer control systems. The terminals display a puzzling array of coloured lines and numbers, which is typically too complex for operators and shift managers, who cannot use them to improve productivity.

The researchers produced a software simulation of the control system. Employees could change variables and watch the effect on the overall process. They could find out what matters most, and how to use process data that had previously been unusable. The factory's process engineer said it taught employees basic problem-solving as well as enhancing their ability to monitor and control the film-making process.

These three very different jobs – like many in the modern workplace – require people to understand how things relate to each other, how a change in one part of a process affects the rest and how variation, which is a natural part of any process, can be controlled but not eliminated. The training packages that have helped deliver this understanding show that social scientists can have as much to offer as engineers when it comes to improving industrial performance. ■

<http://www.tlrp.org>

AT A GLANCE

Low levels of numeracy in the workforce have long been a worry in this country, and elsewhere. Social scientists may have as much to offer as engineers when it comes to improving industrial performance.

POLICYMAKING IN THE KNOWLEDGE ECONOMY

How does a knowledge economy work?

THE PROPOSITION THAT we live and work in a 'knowledge economy' is taken for granted. But the widespread use of the term tends to gloss over deep uncertainty about how such an economy actually works. The view of many business executives and policymakers is that knowledge should simply be treated as a commodity or economic output. In policy terms, this 'mode 1' approach advocates a better supply chain for knowledge production and distribution, tightening the links between academic research labs and industrial application.

Research by Professor Jacky Swan and colleagues as part of the Evolution of Business Knowledge Programme challenges this kind of thinking. Their study suggests that applying a rigid mode 1 approach to the challenges of the knowledge economy could be deeply damaging to innovation and competitiveness in the UK.

The findings come from a comparison of biomedical projects in the UK and the United States. Here, innovation is much closer to a 'mode 2' approach, neither driven simply by the science and technology nor produced through a supply chain from research lab to marketplace. Instead, multiple scientific and professional disciplines are involved, and a wide range of social communities influence the process, bringing with them different criteria of what is good or bad.

Most crucially, the researchers find that the success of biomedical innovation is much more about the integration of knowledge than its production. The biggest challenge is to get different groups – ranging from research scientists and business managers through to hospital doctors and patients – to work together to shape ideas and bring them to practical application.

Moreover, the UK-US comparison suggests that although the scientific knowledge feeding into this process might have mode 1 characteristics (being explicit and transferable), the challenges of integrating it with clinical practice and patient acceptability are much more context-specific. This helps to explain why the US experience of biomedical innovation is very different from that of the UK and, in some respects, more successful.

The importance of knowledge integration creates new challenges with which managers and policymakers are still grappling. One illustration, which Professor Swan and her team examined, is



The success of biomedical innovation is much more about the integration of knowledge than its production.

the government initiative on 'genetic knowledge parks', which seems to have many mode 2 features. The development of these parks was driven by public concerns about science in the wake of the BSE and GM food controversies. These concerns that were reflected in the inclusion of a wide range of stakeholder and lobby groups in the governance arrangements for the parks.

Despite these arrangements, policymakers had difficulty maintaining a mode 2 approach to the development of the parks. While they had a clear sense that something 'needed to be done', there was uncertainty about exactly what that should be. When the responsible government minister was asked

The biggest challenge is to get different groups to work together to shape ideas and bring them to practical application

what the genetic knowledge parks were supposed to do, his reported reply was "you tell me".

This uncertainty allowed a range of government departments to impose their own agendas on the objectives for the parks. The Department of Trade and Industry was concerned about regional policy and commercialisation of the science, while the Department of Health was concerned with the implications of genetic research for healthcare and clinical practices. As the departments did not collaborate to specify an agreed set of goals, conflicting priorities were established.

These problems were then exacerbated by the commissioning and management of the parks themselves. The commissioning process created a high level of competition between existing centres of genetic research, which had previously been part of a co-operative research community based on informal networks of collaboration.

Competing for resources meant this community was disrupted by attempts to develop new groupings.

AT A GLANCE

Everyone talks about the knowledge economy. But success in the information age requires knowledge from a wide range of actors to be used wisely.



Moreover, under the new initiative, these groupings had to be regionally-based, thus cutting across the national and international ties that had previously been the lifeblood of much community work.

At the same time, the government's desire for transparency and accountability led to the application of monitoring and control arrangements that were focused on short-term performance. These arrangements could not cope with the mode 2 approach adopted by the parks, which was based on a much longer-term process of developing new interdisciplinary kinds of knowledge through collaborative working. The resulting crisis of governance and quality control only led to pressures for even more detailed monitoring and control. Faced by these pressures, the parks turned inwards to pursue their own survival strategies, effectively undermining collaboration between centres. Finally, after an initial funding period of five years, the Government cut off their cash.

The case of the genetic knowledge parks highlights the challenges of policymaking when dealing with mode 2 approaches to innovation. The initiative was highly disruptive to the existing research community with little to show in return in terms of collaboration across the new centres. Although the parks made progress individually towards knowledge integration between scientists, clinical professionals and patient groups, success was first frustrated by the short-term monitoring arrangements and ultimately stymied by the cancellation of further funding.

The implication of this study is that policymaking needs to be better adapted to mode 2 demands for knowledge integration. Otherwise the time pressures of the electoral cycle and the politics of departmental rivalry risk imposing a mode 1 approach, which is ultimately damaging to biomedical innovation. ■

<http://www.ebkresearch.org>

22.4%
WAGE GROWTH
FOR MEN

The gender pay gap goes right the way to the top

IT IS OVER 30 YEARS since equal pay legislation came into force. But although the difference in earnings between men and women has declined since then, it certainly hasn't gone away. On average, women working full-time earn 17 per cent less per hour than men working full-time; and for women working part-time, the gap is 38 per cent.

One of the reasons often cited for the gender pay gap among full-time employees is that women take more breaks from their careers and, as a result, lose the skills and experience that are important for promotion. Optimists argue that the gap will continue to shrink because women's educational achievements and more 'family friendly' attitudes will combine to help younger women to overcome these obstacles. But how much of the gender pay gap between full-time employees really is due to this and how much of it arises from sex discrimination?

Professor Shirley Dex, Kelly Ward and Professor Heather Joshi from the Institute of Education have used data from the 1958 birth cohort to examine the wage growth of British men and women between the ages of 33 and 42 who were employed full-time at both these ages. The selection of full-timers meant that the study could focus on the part of the labour market where one might expect men and women to be treated equally. It also meant that the sample contained 'high-flying' career women – those who were highly educated, less likely to be partnered, less likely to have a child than both the men's sample and the rest of the women in the cohort at age 42, and more likely than other women to have had continuous full-time employment.

The researchers, members of the Gender Equality Network, found that wage growth for women was 16.2 per cent, whereas men's wages grew by 22.4 per cent. One reason that women's wages grew more slowly between the ages of 33 and 42 was that they were located in 'feminised' jobs – such as health, education and clerical work – which experienced slower wage growth.

But even where women were in the top occupations with the highest wages, they still experienced slower wage growth. And in this case, the gender wage differentials cannot be blamed on women's domestic responsibilities and time out of the labour force. For this elite section of the labour force, it seems to be factors within the workplace that are generating the gender bias in pay.

As people moved through the middle of the life course, there was no evidence that the elite women's pay was lagging because of family responsibilities. If highly qualified women without domestic commitments in the highest paying jobs are still not receiving wage growth equivalent to their male peers, then there is something else that needs to be added to our understanding of the gender pay gap: possibly good old-fashioned sex discrimination. ■

<http://www.genet.ac.uk>

16.2%
WAGE GROWTH
FOR WOMEN



When mergers go wrong

WHAT DO COMPANIES do when a merger turns out not to have been such a great idea after all? Research led by Professor Steffen Huck of the Centre for Economic Learning and Social Evolution suggests that when corporate bosses find their merger was bad for profits, they are likely to expand the firm's output aggressively to increase market share. And this seemingly irrational behaviour works: by committing to high-output strategies, they can overcome their potentially loss-making position.

The study, which is published in the *Economic Journal*, explores the so-called merger paradox, whereby the strategic consequences of a merger damage the merged firm. According to the paradox, while industry profits rise after a merger, the merged firm may suffer by losing market share.

Professor Huck and his colleagues find that this theoretical result does not always hold. In particular, when a firm's leaders are used to a steady stream of profits, they tend to ignore the bad news once a merger, which in theory should lower their profits, has been implemented. They do this by committing themselves to very aggressive strategies. While high-output strategies do not maximise short-run profits, they help the firm to maintain a superior market position in the long run.

The researchers argue that this is driven by aspiration: "If you are used to a certain level of dividend, you hate the idea that you have to adjust to less money, so you are willing to engage in more crazy aggressive behaviour. Psychologically, it does not seem to be a viable option to tell shareholders, well, bad luck, we made a mistake, now we have to live with it. Rather firms resort to hardball tactics trying to maintain old profit levels."

This behaviour has interesting consequences for merger activity. While no merger is planned to be unprofitable, the sheer announcement of a merger may signal to competitors that the merging firms are willing to engage in hyper-competitive actions. As Professor Huck notes: "This may explain some of the merger crazes we observe in industries where mergers don't appear to be particularly appealing."

On a more fundamental level, the study shows the importance of psychological effects for firm behaviour: "There is now a growing body of research that looks at markets with psychologically challenged consumers and ultrasmart firms – what we show is that it is time also to look more closely at boundedly rational decision-making in firms." ■

<http://else.econ.ucl.ac.uk/newweb/index.php>

RISK MANAGEMENT

Innovative practice or normal auditing demands?

SYSTEMS FOR MANAGING risk have become an increasingly popular feature of the strategies of organisations in both the private and public sector. The advantages and pitfalls of these risk management systems is a central theme of research by the Centre for Analysis of Risk and Regulation (CARR) at the London School of Economics.

Risk management is often framed as an innovative practice within companies that pride themselves on being focused on the future. But CARR research sees it as the latest incarnation of the demands for auditing and accountability that have long governed business operations.

Risk management approaches are not confined to business. They are now also seen as objective instruments for making policy choices in the public sector. The co-opting of corporate risk management systems by the state is clearly demonstrated in the National Audit Office's referencing of the Cadbury, Hampel and Turnbull reports, a sequence of publications on codes of practice for corporate governance in the private sector.

The 'top-down' adoption of a risk-based approach is made more straightforward by the transition of state bodies from public institutions into privatised enterprises. In this context, public services become market-like and regulations are applied in a fragmented way.

Efforts in Westminster to regulate the changing public sector effectively have influenced the creation of new regulatory and advisory agencies. For example, the newly formed National Patient Safety Agency is expected to reduce the occurrence of patient safety incidents within the NHS. The creation of specialist regulatory agencies assists policymakers in identifying difficulties with existing

Buying electricity: where consumers go wrong

FOUR MILLION CUSTOMERS in Britain switched their electricity supplier in 2006 in the hope of lower prices. But according to research from the Centre for Competition Policy (CCP) at the University of East Anglia, many consumers actually made themselves worse off as a result.

The study measured the accuracy of electricity consumers' switching decisions using two consumer surveys, one done for the Electricity Association in 2000 and the other collected for CCP in June 2005. Of the consumers who said they switched to save money, less than a fifth had switched to firms





regulation and provides advice on new initiatives. Whether this provides consistent regulatory intervention remains to be seen.

While efforts to regulate public services are expanding rapidly, there remain difficulties in the uncritical incorporation of business risk models into the wider social context. Whenever it is applied, risk regulation affects different interests in different ways. It must offer protection against risk without stifling innovation, and it must be a proportional response to potential adverse events. In order to do this objectively and adequately, it must be based on evidence.

CARR research shows that the need for an evidence base for regulatory decisions can be burdensome. The obligation to transmit data to regulatory agencies at fixed intervals and as quickly as possible when adverse events occur does not necessarily reflect the quality of the data that can be amassed.

Systems for data collection such as the Hazard Analysis Critical Control Points model used in food production and the protocol of the Committee for Safety of Drugs have often been developed privately

AT A GLANCE

Organisations in the public and private sector have to manage the risks they may pose to customers, employees and other stakeholders. Risk management is growing as a management concern, but it should be based on proper evidence.

for use in a narrow context. But they are then imported into the regulatory framework, where they are expected to help in anticipating a range of different problems.

Elsewhere, evidence for identifying potential risks can be overlooked. This is particularly well demonstrated with 'mega projects' such as the Millennium Dome. These grandly-conceived schemes, often partly funded by taxpayers, can be hard for decision-makers to recognise, evaluate and manage for risks objectively because of the political or reputational benefits attached to the delivery of the project. By demanding that such projects consider the technical and financial risks, evidence-based decision strategies offer greater certainty of satisfaction.

Given the wider social context in which risk management occurs, it is crucial that any risk regulation or management strategy consider the citizen, consumer or taxpayer. Recent business clamour about the proportionality of regulatory responses to illegal or unsafe activity such as the use of banned dyes in food forgets the fact that laws are enacted for the protection of real people. Where the risks are considered negligible, the responsibility of business lies in debating the law and providing evidence backing up concerns. It is not 'proportional' instead to display wholesale disregard and act illegally.

Risk management has become the default model for organisational and governmental accountability. But regardless of which sector and which stakeholders are involved, risk management still requires leadership. Those concerned with risk and regulation must insist on evidence-based, proportional strategies that account for all interests. Risk managers, regulators and professional bodies must create robust networks and must work collaboratively and honestly to identify and neutralise risk. ■

<http://www.lse.ac.uk/collections/CARR>



offering the highest savings for their pattern of demand. And more than a fifth ended up losing money, paying an average of around £20 a year more, or roughly six per cent of their annual bill.

In aggregate, switching consumers appropriated less than half of the maximum gains possible. Indeed, if consumers had switched to a randomly selected supplier, they would have had almost as good a chance of choosing the cheapest supplier and would have gained little more than the savings realised.

There are perceived and actual costs that may prevent consumers from switching their electricity supplier, such as the money and time involved. But why have so many switching consumers lost money through their choice of supplier? The most likely explanation is that due to the complexity of the market environment, consumers have made poor decisions. This

suggests that consumers' access to and use of pricing information needs improvement.

The failure of consumers to compare accurately between suppliers can make them worse off, not only by reducing their immediate gains but also by giving firms greater market power. This raises questions about the extent to which consumer choice can be an adequate replacement for regulation in disciplining suppliers and encouraging greater competition.

More generally, it casts doubt on consumers' decision-making abilities in more complex markets where, unlike electricity, the optimal choice of supplier may depend not just on price but also on multiple dimensions of product quality. Perhaps too much product choice can be a bad thing for consumers. ■

<http://www.ccp.uea.ac.uk>

Dreaming up a business



MANY DREAM OF STARTING their own business, but even for those with serious plans it mostly remains a fantasy. Research by Professor Andrew Henley of Swansea University shows that among aspiring entrepreneurs planning to start a new business venture in the next 12 months, only one in seven actually makes it. After an additional five years, two thirds still haven't realised their business aspirations.

The study is based on data from 6,000 people participating in the *British Household Panel Survey*. It shows that a stable local economy is essential to encourage new entrepreneurs. Regional differences in entrepreneurship are much more connected to the economic stability in the area than local 'entrepreneurial spirit' and business culture. A stable local economy also helps to speed up the process of starting a new business.

For would-be entrepreneurs being older is a plus, according to the study. Becoming five years older makes it two per cent more likely that the business has started up within a year. But women are two per cent less likely to achieve the same goal. More security in terms of employment or available funds does not lead to a higher success rate. On the contrary, the economically inactive and unemployed achieve their business aspirations more quickly, with 50 per cent of them managing to start a business within the next year. Among those in paid employment, the number is far lower – only 14 per cent.

Either the unemployed are helped by policy initiatives targeted at getting them into self-employment or they are driven by having nothing to lose.

Nor does having more start-up money from available investment income make a difference in getting a business off the ground. Aspiring entrepreneurs with investments generating £1,000 of annual income are only 0.3 per cent more likely to be in business within a year than those without any investment income. ■

<http://www.swan.ac.uk>

TIME OUT: WHAT GETS DONE AT STRATEGY WORKSHOPS?

THE PRACTICE OF taking time out from day-to-day routines to think about the longer-term direction of an organisation is common among firms of all sizes. But research by Professor Gerard Hodgkinson and colleagues, published in the journal *Long Range Planning*, suggests that these strategy workshops are potentially damaging.

Strategy workshops typically take place once a year, last for one day and involve senior managers discussing the future of the organisation. While it is widely recognised that junior managers and outside stakeholders have a key role to play in debates about strategy, they are rarely invited. Instead, strategy is all too often presented as a hierarchically-driven set of ideas that cannot be seriously countered.

The next time you are invited to a strategy workshop with the professed objective of 'discussing strategy', check out if the group includes outside stakeholders and junior managers, and whether the workshop really will debate or is simply providing a forum to give credibility to the vision of top management. Top management may well be right,

but according to this study, there is often a sense that they may stifle debate that allows a more refined – and therefore better – choice of strategy.

Outside stakeholders in organisations that use strategy workshops should also look more carefully at the detail of what these workshops do in practice. Many are done in good faith and perform a valuable function, but a careful scrutiny will show that some are just the wolf in sheep's clothing. ■

<http://lubswww2.leeds.ac.uk/COSLAC/index.php?id=12>



AT A GLANCE

Taking time out of the day-to-day running of an organisation in order to consider longer-term strategy sounds like a good idea, but such 'strategy workshops' are not always useful and in some cases can actually damage an organisation.

Work skills

WHERE ARE WE IN THE SKILLS LEAGUE?

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NOT SO LONG ago, the only league tables that mattered were those relating to sport and pop music. Football supporters eagerly awaited the results on Saturday afternoons and then quickly calculated where their team stood in the rankings. Similarly, the pop chart countdown on Radio One was keenly followed every Sunday with movements up and down announced with a fanfare.

Nowadays, league tables have extended into other parts of our lives. Schools, universities, hospitals and many other institutions have league tables of their own. Institutions are ranked against one another with accolades and resources distributed accordingly.

Our obsession with league tables extends to the sphere of economics, notably how well the economy is producing goods and services compared with other countries. Despite recent improvements, British labour productivity lags behind that of France, Germany and the United States by between ten and 30 per cent depending on how it is measured.

A frequent explanation for this lag is Britain's relatively low standing in the qualifications league. Proportionately, we have too many people who have left school with either no qualifications or only very low qualifications below GCSE level – more than twice as many as in Canada, Sweden and Japan.

Moving up the qualifications league, we find that more than half the people in Germany and New Zealand are qualified to

Statistics about qualifications do not tell us all we need to know about the skills that people use in their jobs

intermediate level, compared with less than two-fifths in Britain. The only bright spot is that Britain does relatively well at producing graduates, with the proportion qualified to degree level doubling over the last decade.

Gordon Brown's government is keen to rectify this situation in a bid to close the productivity gap. This is nothing new – ten years ago, the previous occupant of Number 10 memorably announced that "education is the best economic policy we have". The last decade has seen skills strategies, institutional reforms and a series of investigations and enquiries designed to raise Britain's game and move it up the qualifications league.

While few would deny that qualifications are important for work, they only capture part of an individual's capabilities and these capabilities are not always made full use of at work. In other words, the statistics about qualifications do not tell us all we need to know about the skills that people use in their jobs. For example, many jobs – ranging from supermarket cashiers to software engineers – require the use of computing skills of various

sorts. But these are not always captured by the level of qualification individuals hold.

Now we have some new evidence on skills used at work, obtained by surveying the people who actually do the jobs – the workers themselves. In work with Professor Duncan Gallie and Dr Ying Zhou of Oxford University, we have pieced together the results from five surveys stretching from 1986 to 2006 so as to paint a more complete picture of the skills people use at work and how they have changed over the past two decades.

Job complexity varies according to the abilities and techniques required, the intricacies of the steps involved and the knowledge of equipment, products and processes needed for competent performance. Our surveys collect evidence on this diversity.

We capture the level of skill needed to perform a job through the inputs needed for effective performance. We measure: the qualifications required on entry; the amount of learning time involved in becoming proficient; and the total amount of training needed. This shows that the skills required for work are much higher now than they were 20 years ago.

However, the pace of change has slowed over the last five years. For example, there has been a fall in the proportion of jobs requiring no qualifications for entry: down from 38 per cent in 1986 to 28 per cent in 2006.

There has also been a fall in the proportion of jobs requiring less than one month to learn to do well: down from 27 per cent in 1986 to 19 per cent in 2006. But both these indicators of low-skill jobs have remained unchanged over the last five years.

By asking jobholders to rate 45 different activities in their work according to their importance, we can gauge whether the skills content of jobs has risen. The short answer is 'yes'. For example, computers were essential to nearly half of all jobs in 2006 compared with less than a third of jobs in 1997. The ability to persuade people, write long reports, make speeches and to teach others have also become more important.

These results provide the government with the comforting message that the skills of British jobs have risen substantially over the last two decades. But we do not yet know whether Britain is outpacing, falling behind or simply keeping up with its competitors in the skills race since there are no internationally comparable surveys of skills use from which to draw evidence. Given that the qualifications lag in the population is so great, the fear remains that Britain is nearer the bottom than the top of the skills league. ■

<http://www.cf.ac.uk/socsi>

<http://www.kent.ac.uk/economics>

