

Discussion Paper

The globalisation of UK manufacturing and services, 2004–24: toward the Agile Economy

Professor James Woudhuysen

Foreword

The new realities of globalisation make necessary a fresh approach to the dynamics of international business.

UK exporters and global players, along with foreign investors in Britain, have begun to receive a new, joined-up approach from government. They operate, after all, in a more joined-up world economy.

UK Trade & Investment is the government body that supports:

- firms in the UK trading internationally, and
- overseas enterprises seeking to do business, or doing more business, in the UK.

To stimulate thinking about how Britain should meet the challenge of globalisation, UK Trade & Investment commissioned this discussion paper from James Woudhuysen, professor of forecasting and innovation at De Montfort University, Leicester. The paper is based on interviews with:

- British small and medium exporters,
- larger global players, including

Aston Martin
Black & Decker
B&Q
Bristow Helicopters
Brother Industries, Japan
Dyson
IBM
LastMinute.com
Microsoft
Nissan
Pfizer
Samsung
Siemens
Toyota, and

- independent writers, thinkers and institutions with a view on the future of the world economy.

This paper is intended to provoke discussion. The views in it are not those of UK Trade & Investment, but of the author alone. He thanks Yvette To, Sarah Woodbridge and Phil Mullan, as well as Chris Farmelo of the Future Foundation, for their assistance. He also thanks all those who gave their time in interviews.

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Contents

Executive Summary

Part 1: The present

1. UK competitiveness and FDI

- Globalisation gives four boosts to UK competitiveness
- The porous economy
- The agile economy

2. UK firms go fast and deep abroad

- Transport, IT and the competitive SME
- Legal hassles, UK financial law and UK universities go global

3. A world in search of UK skills?

- Education, vocational training and inward investment
- Inward investment and R&D

4. A new phase of globalisation

Part 2: The future

5. The effect of the new outbound activities on the UK

- Do outbound activities really threaten 'the misery of manufacturing' – and, by 2024, that of services too?

6. Why the UK will remain attractive to overseas investors

- Rethinking Britain's approach to industrial clusters

Part 3: Agility, 2024

7. Think global, act global

- The development and application of new knowledge, not just the wider diffusion of the existing sort
- Businesses so agile, they can take risks – worldwide
- An agile national infrastructure to encourage inward investment and labour mobility
- The removal of regulatory barriers to agility.

Executive Summary

This report is based on interviews with influential companies, both British and foreign, as well as the author's own research. It discusses how the UK can make the most of globalisation over the next 20 years.

1 The UK gains four benefits from globalisation

The benefits are:

- Exports make companies larger and more professional.
- Overseas operations make UK firms more competitive.
- Inward investors bring in innovations in process, product and organisation, adding to UK capacity – in output, R&D and exports.
- Inward investors buy and invest in the world-class ingenuity offered by the UK.

A unified conceptual approach to the outbound and inbound components of British business is both necessary and possible. Indeed, improving all the UK's international commercial relations was the logic behind the formation, in 2003, of UK Trade & Investment.

2 The Agile Economy can be defined

The UK exports a lot of services and capital, and leads Europe in outsourcing service jobs abroad. It is also good at bringing in not just imported goods, but also inward investments, as well as many of the jobs Europe outsources. Nevertheless, over the next 20 years:

- British industry and services must be able more quickly and effectively to *anticipate, sense* and *respond to* new commercial, technological and political developments around the world.
- British industry and services must make their *outbound global reach speedier, longer, firmer* and *more sinuous* than it is today.

- The UK's *inbound regulatory framework* must become *supple* enough to allow the country to go on absorbing the best of the world's international investments.
- UK industry, services and government must be world class in the mental side of agility – in their *alertness, talent to learn, and talent to innovate*.

If achieved by 2024, these characteristics would mean that the UK had become the Agile Economy.

Already, among UK SMEs, the key move to commercial operations abroad happens faster and runs deeper than it did before. Aided by low-cost airlines and broadband telecommunications, UK SMEs themselves have shown how possible it is to be agile.

3 A new phase of globalisation makes agility vital

The opening up of China, India, Russia and Eastern Europe to global business represents a big opportunity for the UK. However, what seems already to have had a bigger impact on the conduct of business in 2004 is not so much the globalisation of opportunities, but that of threats. Moreover, it is not only real threats that today are globalised, but also, significantly, perceived ones. The list of possible disasters now includes shutdowns in basic services, global warming, breakdown in the financial system, spats over protectionism and acts of international terrorism.

Yet by being truly agile at a moment when going abroad has never been easier, British businesses now have

the chance to reduce exposure to the UK's domestic economy, should its rock-steady stability waver. By reaching all parts of the world and juggling its resources with foresight, the Agile Economy can show resilience in the face of shocks – whether these turn out to be real, or just imagined.

4 Outbound investment and 'offshoring' are rarely pure negatives for the UK

Agile FDI by UK companies abroad can make them more profitable, more able to sustain operations in the UK, and more able to supply the Treasury with tax revenues. The same holds true for agile outsourcing abroad.

Even over 20 years, the UK is not about to see an inexorable departure of manufacturing and services. New factories and call centres are still being opened in the UK in 2004.

For the UK's regions, the real question for 2024 is whether the country can generate enough new high value-added jobs to compensate for the loss of the old, low value-added ones. And in the quest for that kind of agility, government has a legitimate interest.

5 The UK can remain attractive to overseas investors

The UK's efficient cost structures do much to attract overseas investors, yet it could be more agile in publicising its own centres of innovation. Government should use Geographical Information Systems to make a continuously updated, web-browsable Domesday Book on

the changing shape of innovation and R&D in the UK. It should know which cities and regions are good not just for broad sectors, but also for the globally-integrated yet highly discrete functions incoming multinationals are looking for.

The need to think and act global

For the international posture that is required over the next 20 years, four preconditions must be fulfilled. The UK needs:

1. The development and application of new knowledge, not just the wider diffusion of the existing sort
2. Businesses so agile, they can take risks – worldwide
3. An agile national infrastructure to encourage inward investment and labour mobility
4. The removal of regulatory barriers to agility.

1 UK competitiveness and FDI

The effects of globalisation on UK firms may never have been greater. World trade has been liberalised; Asia has more influence on UK business than ever before; both opportunities and threats appear more global in scope.

In this paper, I look at the impact of the world economy on the UK and discuss how the country needs to position itself over the next 20 years so as to benefit from the new phase of globalisation that has opened up.

Discussion about Britain's international competitiveness is on the rise. Interest has grown in:

1. *The shift of new kinds of jobs from 'UK plc' to developing economies.* Through *foreign direct investment* (FDI), British firms have for decades directly set up, owned and run operations abroad. More recently, however, firms such as Prudential and Barclays have contracted out, or *outsourced* operations to independent suppliers abroad.¹

2. *The performance of UK city-regions outside the M25* in creating new jobs, continuing to

attract overseas investment, and securing international competitiveness. Bound up with this issue is the *long-term fate of manufacturing in the UK.*²

3. *The relationships between firms and all levels of UK education.* Harvard's Michael Porter and Christian Ketels have highlighted the role, in UK competitiveness, of local education – as well as local research bodies, venture capitalists and legal institutions.³ Firm-university links have also been the subject of a Treasury review.⁴

The challenges now facing UK are broadly these: *just how competitive will British firms be on the world economy over the next 20 years, why, and with what goods and services? As a place to do business in 2024, just how congenial will foreign firms think UK is?*

Partly because of the improvements brought to US productivity by IT, recent years have seen something of a renaissance in Schumpeterian thinking in economics.⁵

Competitiveness is today viewed not just as a matter of low prices, but also as a race to develop new processes and products. In biotechnology, for instance, some speak of a revival of the forces of what Schumpeter called 'creative destruction'. Porter and Ketels themselves recommended that, as an environment for business, the UK move from offering low costs to basing itself on unique value and innovation.⁶

1 The report that launched worldwide discussion on 'offshoring' – international outsourcing, by another name – is Deloitte Research, *The cusp of a revolution: how offshoring will transform the financial services industry*, April 2003 and on www.deloitte.com/dtt/research/0,2310,sid%253D%2526cid%253D18150,00.html. For an update, see *The titans take hold: how offshoring has changed the competitive dynamic for global financial services institutions*, May 2004 and on www.deloitte.com/dtt/research/0,2310,sid%253D1000%2526cid%253D51146,00.html.

2 For the view of HM Treasury, the Office of the Deputy Prime Minister (ODPM) and the DTI on regional disparities in UK productivity, see *Devolving decision making: 2 – Meeting the regional economic challenge: increasing regional and local flexibility*, March 2004, and on www.hm-treasury.gov.uk/budget/budget_04/associated_documents/bud_bud04_addevolved2.cfm. For the sub-regional perspective, see HM Treasury and the ODPM, *Productivity in the UK: 4 – the local dimension*, July 2003, chapter 2 and posted on www.hm-treasury.gov.uk/recent_pubs.cfm

3 Michael Porter and Christian H M Ketels, *UK competitiveness: moving to the next stage*, DTI Economics Paper No 3, May 2003, especially the discussion on roles, institutions and processes, pp30-31. See www.ecdti.co.uk/CGIBIN/priamlink.cgi?MP=CATSER^GINT65&CNO=1&CAT='ECONOMICS'

4 Richard Lambert, *Lambert review of business-university collaboration*, HM Treasury, December 2003, and posted on www.hm-treasury.gov.uk/consultations_and_legislation/lambert/consult_lambert_index.cfm. For reactions from the higher education, see Universities UK, *Response*, March 2004 and on www.universitiesuk.ac.uk/consultations/responses/Default.asp?11=4&

5 See, for example, the papers presented to the Schumpeter 2004 conference at the University of Bocconi, Milan, 9-12 June 2004, available on www.schumpeter2004.uni-bocconi.it/index.htm. See also Chris Freeman, *A Schumpeterian renaissance?*, Science Policy Research Unit Electronic Working Paper 102, July 2003, on www.sussex.ac.uk/spru/publications/imprint/sewps/index.html.

6 Porter and Ketels, op cit, p5.

In a world of cost-cutters, Lord Sainsbury's December 2003 report to the DTI was right to reinforce the significance of innovation to UK public policy.⁷ Following the precedent set by that report, the need now is to situate every aspect of UK competitiveness in the context of the globalisation of the British economy. Inspired by *Visions for research*, the perspective offered by Research Councils UK, this paper looks at likely developments over the next 20 years.⁸

Globalisation gives four boosts to UK competitiveness

Globalisation brings four benefits to UK competitiveness. First, *exports aid corporate dynamism*. Pursuing exports tends to make UK firms larger than they were before, and to run at higher levels of productivity.⁹

Second, *overseas operations tend to make UK firms more competitive*. As the Sainsbury report puts it:

'For innovative companies, trading internationally can be very important. Markets and leading-edge customers for a particular product or service may be overseas. Commercial dealings with them provide invaluable market intelligence and sources of technical knowledge.'¹⁰

The experience of Bristow Helicopters confirms the point:

Bristow Helicopters: going global means being more competitive

'The UK market is a high-cost, highly regulated one. When we are in overseas markets, we have to be more competitive. There we're competing with both local and international companies. So innovation is less in terms of the product itself, more in the business and commercial sense.'

'We're looking to form a joint venture with our partner in China. You need to be sensitive to the wishes and concerns of the local companies. We've been providing training, services and expertise to this Chinese company for 22 years. They've now trained pilots and engineers and, most of all, have gained a lot of pride. Once transfer of our technology has been completed, we have a choice of either walking away from this market or being more involved in terms of investment. To me, taking the latter course is a natural evolution from what we've done.'

'By 2024 there'll be less chance for Britain to export products, but more to export services. Our role will be to introduce capital and management expertise into overseas markets by working closely with local partners.'

Keith Chanter, Chief Executive, Bristow Helicopters Ltd

The third benefit of globalisation lies in the fact that *inward investors tend to bring in innovations in process, product or organisation*.¹¹

This applies whether they are making a greenfield investment, acquiring a UK firm, or rather merging or partnering with that firm.

7 Lord Sainsbury, *Competing in the global economy: the innovation challenge*, DTI, December 2003 and posted on www.dti.gov.uk/innovationreport/index.htm

8 Research Councils UK, *Visions for research*, 10 December 2003, and posted on www.rcuk.ac.uk/vision

9 For an overview of the literature on exports and productivity, as well as a review of the case of the UK chemical industry, see David Greenaway and Zhihong Yu, *Firm level interactions between exporting and productivity: industry specific evidence*, Research Paper 2004/01 in the series on Globalisation, Productivity and Technology, Nottingham University Leverhulme Centre for Research on Globalisation and Economic Policy, February 2004. See www.nottingham.ac.uk/economics/leverhulme/research_papers/04_01.htm

10 Sainsbury, op cit, para 7.4, p116.

11 The Treasury's definition of innovation, made in the context of granting tax credits for R&D, is surprisingly catholic. It stresses not just products, but also processes and services. See HM Treasury, *Defining innovation: a consultation on the definition of R&D for tax purposes*, July 2003, 2.9-2.14, p5, and on www.hm-treasury.gov.uk/media/1/1B65C/Defining%20Innovation_360.pdf

In UK manufacturing, inward investors account for one in six jobs and more than a quarter of net output. EU- and US-owned firms in the UK lead British ones in lean production techniques, output monitoring and total quality.¹² From this position, they can generate what economists term 'externalities' - the *transfer*, or *spillover*, of knowledge outside the firm – to suppliers and even rivals in the UK. Yet inward investment also aids UK competitiveness in a manner more direct than this.

Inward investors add to UK capacity, and boost competition there too. They both fund and execute a rising share of total UK business R&D.¹³ They develop new knowledge here, and often export the products and services that grow out of that knowledge.¹⁴ Moreover, these merits apply across both the 80 per cent of UK business expenditure on R&D that is based in manufacturing, and the 20 per cent of UK business R&D that is based in services.

The fourth and last benefit of globalisation to the UK follows from the fact that inward investors do more than simply seek markets. Firms that invest in the UK are not just here to sell to Britons, or even to the rest of Europe. Nor do such

firms simply seek operating efficiencies. Rather, many inward investors seek specific *resources*.¹⁵ In this sense, *inward investors want to buy and invest in the world-class ingenuity that is to be found in the UK.*

Altogether, the third and fourth benefits of globalisation mean that inward investors.

- bring new ideas and techniques into the UK, and
- invest in the competitiveness that's already here.

¹² EEF, *Bridging the continental divide: the EEF comparative study of EU and UK manufacturing productivity*, June 2003, and *Catching up with Uncle Sam: the EEF final report on US and UK manufacturing productivity*, 2001. Both are on www.eef.org.uk

¹³ By 1998, 22 per cent of UK business R&D was funded from abroad, against 11 per cent in France (1997), 2.7 per cent in Germany and 0.4 per cent in Japan. The percentage of UK business R&D conducted by overseas subsidiaries rose from 29 in 1994 to almost 35 in 1999. See Nicholas Bloom and Rachel Griffith, 'The internationalisation of UK R&D', *Fiscal Studies*, September 2001, vol 22, no 3, pp345, 346.

¹⁴ For a sympathetic discussion of the spillovers from FDI, see Nigel Pain, Editor, *Inward investment, technological change and growth: the impact of multinational corporations on the UK economy*, Palgrave, 2001. Two economists specialising in the field have since argued, however, that 'whether one takes developing, developed or transitional economies, little evidence in support of positive spillovers has been reported'. See Holger Görg and David Greenaway, *Much ado about nothing? Do domestic firms really benefit from foreign investment?*, Centre for Economic Policy Research Discussion Paper 3485, August 2002, para 4.3, p14, and on www.cepr.org/PUBS/NEW-DPS/dplist.asp?dpno=3485

¹⁵ It was John Dunning who pioneered the three categories of markets, efficiencies and resources as tools for the analysis of FDI. Along with the search for strategic assets, they apply to all the world's FDI decisions. See Dunning, *Multinational enterprises and the global economy*, Addison-Wesley, 1993. The three categories are discussed in HM Treasury, *EMU and business sectors*, June 2003, section 3.29, p34 and on www.hm-treasury.gov.uk/documents/the_euro/assessment/studies/euro_assess03_studnorthamptonshire.cfm

Why Microsoft came to Cambridge

'Microsoft set up its first research lab outside the USA in 1996, followed by one in Beijing a year later. The company came to Europe to access the research strengths not available in the USA. Europe is particularly strong in the theory underlying programming and our lab in Cambridge leads the world in formal models of distributed computing. Alongside this we have major research activity in machine learning and its applications, computer networks, and operating systems.

'Our research has contributed significantly to Microsoft products: demonstrating new concepts, transferring technology, and incubating new business opportunities. A further important role of the Microsoft Cambridge lab is to build partnerships with academic research across the Europe-Middle - East-Africa region. Having reached critical mass three years ago, we've grown by ten people in each of the past two years, and have 70 researchers here now. We plan to continue growing.

'When deciding where to locate its lab in Europe, Microsoft looked for a technology cluster centred on a university with an international

reputation in computer science research, good communications, and good quality of life. A key factor that led to the choice of Cambridge was the availability of Professor Roger Needham, former head of the world-renowned Cambridge University Computer Laboratory. Needham had an international reputation that was strong enough to attract top-class people to get the new lab started. The University was also quick on its feet to welcome Microsoft Research.

'Today our lab is right next door to the new Computer Laboratory building, which is funded by the Gates Foundation. It is also just down the road from the Cavendish Laboratory. Our senior researchers are welcomed as Fellows by many Cambridge colleges. Another important factor was the support of the city council, which is very aware of the benefits high tech has brought to Cambridge and the surrounding region.'

**Andrew Herbert, Managing Director,
Microsoft Research Ltd, Cambridge**

Summing up the benefits of globalisation, the UK gains whenever:

- firms based in the UK face up to world markets, and
- dynamic foreign firms widen and deepen their operations in the UK.

As this paper tries to show, a unified conceptual approach to both the outbound and the inbound components of UK business is both necessary and possible. Indeed, improving all this country's commercial relations on the international stage was the logic behind the formation, in 2003, of UK Trade & Investment.

Clearly the dual globalisation of UK business has brought the country a lot of gains. Yet much must be done if the UK's exports, overseas operations and inward investment are to be sustained. After all, the *productivity gap* between the UK private sector and its main international competitors still needs closing.¹⁶

16 No doubt an international productivity gap exists for the UK not just among its private firms, but also in its public sector. Notwithstanding the fact that UK public procurement of goods and services in 2005/6 will exceed £120 billion, a fair bit of which will go to inward investors in the UK, the focus in this paper is on globalisation and private firms. On the UK's productivity gap in this corporate arena, see DTI, *Prosperity for all – the strategy: analysis*, September 2003, pp 8-14, and on www.dti.gov.uk/about/strategy2003.html. There is evidence that the gap with its rivals is closing. Between 2001 and 2003, UK firms' use of labour over all the weekdays of the 365-day year grew more extensive: The UK, it would seem, has as big a scope for improvements in this measure of productivity as its rivals do. See Proudfoot Consulting, *Missing millions: how companies mismanage their most valuable resource*, October 2003, and on www.proudfootconsulting.com. Also, whereas other members of the G7 group of industrialised nations had an average productivity 17.2 per cent ahead of Britain's in 1999, they were only 12.8 per cent ahead by 2002. See Office for National Statistics (ONS), 'International comparisons of productivity: better data improve position', 16 February 2004 and on www.statistics.gov.uk/CCI/nugget.asp?ID=160&Pos=2&ColRank=1&Rank=128. However, in June 2004 Martin Weale, Director of the National Institute of Social and Economic Research, noted that productivity statistics maintained by the Organisation for Economic Cooperation and Development (OECD) are not so reassuring for Britain. See Anna Fifield, 'Productivity growth "may be inflated"', *Financial Times*, 16 June 2004, p6.

In trying to close the productivity gap, there are four mistakes that would be easy to make:

1. *Throw government or corporate money at innovation.* Both industry and services need R&D that is effective and efficient.
2. *Exhort people to be more competitive.* History suggests that just telling people to be more competitive does not achieve anything without investment in systems and infrastructure.
3. *Exhort the state to engage in job protection,* out of fear that the UK could be left as a nation of 'fat-cats and hairdressers with nothing in between'.¹⁷
4. *Hope that the net surpluses earned by the UK on its FDI today can fund the desirable UK-based jobs of tomorrow.* Such a global wave of Adam Smith's invisible hand is an attractive thought; but the net surplus the UK wins on its FDI is only worth a tiny fraction of national income.¹⁸

Adopting any of these gambits would be an error. However, the UK can still work for effectiveness and efficiency. It can do more to dismantle regulatory barriers to competitiveness. An audacious willingness to experiment can still take the place of familiar formulae.

The UK needs to raise productivity if it is to make the most of the benefits of globalisation. At issue is not just its international competitiveness, but also the *kind of jobs people in the UK find themselves doing in the future.*

Over the past decade, job creation in the UK has been characterised by relatively strong growth in low-paying posts.¹⁹ Yet this pattern of development is by no means inevitable. With fresh thinking about globalisation, it should be possible for the UK to create new, highly paid and interesting jobs that add real value in new sectors of industry and services.

The porous economy

Right now, the UK economy appears to be a pretty solid rock. Compared with many other economies in recent years, its performance has been very stable. A solid rock can, however, both exude fluids and absorb them, too. In this dual sense, Britain has one of the world's most *porous* economies.

In terms of outgoing items, the UK:

- *aggressively exports services.* In its share of world trade in services, the UK is second only to the USA (Table 1).
- *exports capital in a powerful manner.* Among major economies, the UK has the largest stock of overseas investments as a percentage of GDP (Table 2).
- *leads Europe in outsourcing work to India and elsewhere.* Among a recent representative sample of 100 of Europe's top 500 companies, UK firms accounted for 61 per cent of the service jobs put offshore.²⁰

17 Amicus national secretary for finance David Fleming, quoted in Roger Lyons, *Charting a solution to the offshoring of jobs*, 2 September 2003 and on www.msf.org.uk/cgi-bin/news/db.cgi?db=default&uid=default&ID=477&view_records=1&www=1

18 Unlike its earnings from its portfolio investments or overseas loans and deposits, those that the UK gained from its FDI have consistently run in net surplus since 1986. And at £30 billion, the net surplus the UK won on its FDI in 2002 was a record. However, that sum was worth just 3 per cent of national income. See ONS, *United Kingdom Balance of Payments: the Pink Book 2003*, p53, and on www.statistics.gov.uk/downloads/theme_economy/Pink_Book_2003.pdf.

19 OECD *Employment Outlook: 2003 – towards more and better jobs*, October 2003, and on www.oecd.org/document/43/0,2340,en_2649_201185_14554539_1_1_1_1_00.html. See also Maarten Goos and Alan Manning, *Lousy and lovely jobs: the rising polarisation of work in Britain*, London School of Economics Centre for Economic Performance, September 2003, on <http://158.143.98.51/~goos/workingpapers.html>

20 UNCTAD and Roland Berger Strategy Consultants, *Service offshoring takes off in Europe – in search of improved competitiveness*, 14 June 2004 and on www.unctad.org/Templates/Webflyer.asp?docID=4865&intItemID=2527&lang=1

TABLE 1**World commercial services exports: selected countries, 1980-2002, current US\$m ²¹**

Country	1980	1985	1990	1995	2000	2001	2002	2003
France	42,156	34,720	66,274	83,108	80,330	80,001	85,912	97,956
Germany	25,764	23,577	51,545	75,597	82,839	86,858	99,621	111,651
Spain	11,450	12,637	27,649	39,760	53,199	57,843	62,109	76,434
Italy	18,823	19,391	48,579	61,173	55,998	57,098	59,374	72,786
<i>UK</i>	<i>34,295</i>	<i>29,454</i>	<i>53,830</i>	<i>76,536</i>	<i>115,030</i>	<i>109,624</i>	<i>123,130</i>	<i>129,530</i>
USA	38,110	63,493	132,880	197,839	277,324	269,114	272,630	282,454

TABLE 2**Inward and outward FDI as a percentage of GDP: selected countries, 1980-2002 ²²**

Country	1980	1985	1990	1995	2000	2001	2002
<u>France</u>							
inward	3.8	6.9	7.1	12.3	19.9	22.0	28.2
outward	3.6	7.1	9.1	13.2	34.1	37.3	45.8
<u>Germany</u>							
inward	3.9	5.1	7.1	7.8	25.2	22.3	22.7
outward	4.6	8.4	8.8	10.5	25.9	29.8	29.0
<i>UK</i>							
<i>inward</i>	<i>11.8</i>	<i>14.1</i>	<i>20.6</i>	<i>17.6</i>	<i>30.5</i>	<i>38.6</i>	<i>40.8</i>
<i>outward</i>	<i>15.0</i>	<i>22.0</i>	<i>23.2</i>	<i>26.9</i>	<i>63.1</i>	<i>63.4</i>	<i>66.1</i>
<u>USA</u>							
inward	3.0	4.4	6.9	7.3	12.4	13.1	12.9
outward	7.8	5.7	7.5	9.5	13.2	13.7	14.4

²¹ World Trade Organisation, *Statistics database*, 5 April 2004, and on <http://stat.wto.org/StatisticalProgram/WSDDBStatProgramSeries.aspx?Language=E>

²² UNCTAD, *op cit*, Table B6, pp 278-9.

In terms of incoming items, the UK:

- *absorbs foreign imports* with alacrity – especially consumer goods from Europe.
- *is very attractive toward inward investments*. Even now, after a temporary decline in international mergers and acquisitions, The UK remains the world's No 2 location, after the USA, for stocks of FDI, with roughly half as much again as have Germany and France.²³ In 2003 it took 23 per cent of more than 1900 inward investment projects in Europe, ahead of all other European states.²⁴
- is one of the top destinations to which European multinationals outsource service jobs.²⁵

Reflecting the long-run, mature nature of its economic development, The UK has extensive overseas interests and takes in a lot of trade and investment from the rest of the world.

Just to celebrate our political economy as uniquely cosmopolitan, however, would be glib. After three years of decline, world FDI is today poised for a rebound right across the planet. It has also become clear that China, already the world's third largest spender on R&D after America and Japan, will eventually

become one of its major *sources* of FDI.²⁶ Instead of flattering ourselves, it would be wiser to:

1. Recognise that *the UK economy will be internationalised a lot more over the next 20 years than it is today*. In other words, there are still major opportunities for the UK around globalisation.
2. *Be calm but decisive about the 'downside' of globalisation*. There's room for neither panic nor tardiness about the threats facing the UK.
3. Try to make The UK one of the world's most *agile* economies.

Let's deal with this last point in more detail.

²³ United Nations Conference on Trade And Development (UNCTAD), *World Investment Report 2003*, Table B3, p257, and on www.unctad.org/Templates/webflyer.asp?docid=3785&intItemID=2412&lang=1&mode=downloads

²⁴ Ernst & Young, *European Investment Monitor 2004 report*, 27 May 2004, p2 and on www.ey.com/global/content.nsf/International/REHC_-_European_Investment_Monitor. In 1998, the UK's share of inward investment projects within the EU was 28 per cent; in 2002, 19 per cent. The UK has consistently been first in terms of number of inward investment projects in Europe.

²⁵ UNCTAD and Roland Berger Strategy Consultants, *Service offshoring takes off in Europe*, op cit.

²⁶ See UNCTAD, *Global Investment Prospects Assessment*, Research Notes 1 and 2, 14 April and 4 May 2004 and on www.unctad.org/Templates/StartPage.asp?intItemID=2990&lang=1. Over the 18 months to the end of 2003, there were also 26 outsourcing deals, worth more than €50 million each, that were *originated* by countries in the Asia-Pacific region outside Australia. See Duncan Aitchison, 'Global warming thaws continental hearts', *Journal of sourcing leadership*, Vol 1 Issue 1, Spring 2004, p12 and on www.tpi.net/pdf/jsl_q1_2004_final.pdf.

The agile economy

In 1991, in response to a request from the US Congress, the Iacocca Institute, Pennsylvania, published *21st century manufacturing enterprise strategy: an industry-led view*. The report sold 25,000 copies and pioneered the concept of agility in business. A little later, its authors defined agility – for both manufacturing and services – as follows:

‘It is *not* about improving efficiency, cutting costs, or battening down the business hatches to ride out fearsome competitive “storms”... ‘Agility is aggressive in *creating* opportunities for profit and growth. Agile competitors *precipitate* change, creating new markets and new customers out of their understanding of the direction in which markets and customer requirements are evolving. Although agility allows a company to react much more quickly than in the past, the strength of an agile company lies in proactively anticipating customer requirements and leading the emergence of new markets through constant innovation.’²⁷

At IBM’s Advanced Business Institute in the USA, Stephan Haeckel, the Director of Strategic Studies, takes a similar line. He hints that agile organisations, faced with a welter of information about outside markets, are adept at

‘translating apparent noise into meaning’ and so *inferring customer requests* in a professional manner.²⁸

Of course, the UK economy cannot be reduced to a simple company or organisation. Yet it does face the same kind of fast-changing and apparently uncertain external environment that firms now do. So if the UK economy is to be truly agile in the more global world of 2024, that will mean the following:

1. UK industry and services will be able quickly and effectively to *anticipate, sense* and *respond to* new commercial, technological and geopolitical developments as they take place around the world.
2. the *outbound global reach* of British industry and services will be *speedier, longer, firmer* and more *sinuous* than it is today.
3. The UK’s *inbound regulatory framework* will be *supple* enough to allow the country to go on absorbing the best of the world’s international investments.
4. Outbound and inbound, UK industry, services and government will be world class in the *mental side* of agility – in their *alertness, talent to learn, and talent to innovate*.

The last point is the most important. ‘Agility’ comes from *agere*, the Latin for ‘to do’. Since the early 15th century, it has meant nimbleness,

activity, dexterity, readiness. Dr Samuel Johnson held that ‘agile’ meant having the quality of being speedily put in motion. Yet the word refers not just to joints and limbs, but also to being mentally quick, acute and discerning.

²⁷ See Steven L Goldman, Roger N Nagel and Kenneth Preiss, *Agile competitors and virtual organizations: strategies for enriching the customer*, Van Nostrand Reinhold, 1995, pp xxi, 43, emphasis in the original.

²⁸ Stephan H Haeckel, *Adaptive enterprise: creating and leading sense-and-respond organizations*, Harvard Business School Press, 1999, pp77, 90.

The UK will not become the Agile Economy overnight. There are several impediments that put friction in the way of any organisation trying to be agile. As KPMG's Pat McCarthy and Jeff Stein have usefully summarised them, the list includes:

- Culture and psychology – backward or inward-looking attitudes; fear of failure.
- The feeling that options are limited.
- Assets that are poorly understood and valued.
- Weak transformations involving IT.
- Risks that are poorly understood.²⁹

Once again, the UK economy confronts impediments like these, but in ways that differ from those of a simple organisation. Nevertheless, overcoming such impediments ought to be within its gift over a 20-year period.

The argument of this discussion paper is this: to create new outbound and inbound opportunities from globalisation, the UK needs:

1. The development and application of new knowledge, not just the wider diffusion of the existing sort.
2. Businesses so agile, they can take risks – worldwide.
3. An agile national infrastructure to encourage inward investment and labour mobility.
4. The removal of regulatory barriers to agility.

A German in Harvard speaks out... about the UK

'China and India have simply put more pressure on the advanced economies to move up. But that's a good thing. All countries try to become more prosperous, so it's not a surprise that so many want to move up to higher stages of value creation. But it's not a zero-sum game: we can all increase the pie. Already Singapore and Taiwan are coming up nearer America and Europe in terms of global competitiveness.'

'A lot of the distortions which used to cripple the British economy have gone. The UK has been very successful and has attracted lots of foreign companies in the past decade. But now is a moment for more British investment in productive capacity: not just internally, inside corporations, but in terms of Britain's physical infrastructure, universities, skills, R&D.'

'The old battle was between the infrastructure of Continental Europe and the open competitive regime for business run by America and, more recently, Britain. Now it's clear that Germany and France need more competition in their home markets, and that Britain needs to invest in skills and infrastructure. Who will be first to put in the missing piece?'

Christian Ketels, co-author, with Michael Porter, of the Global competitiveness report³⁰

Top economics writers take a firm line on agility

'Successive governments have put more emphasis on attracting FDI than on what's generated by Britain. But whether it's FDI or exports, this country needs a bigger world market share.'

William Keegan, economics editor, *The Observer*

'We no longer face an insurmountable skills gap with Germany. And the loss of jobs due to globalisation today is quite different from the 1970s, when both the National Front and the far left called for import controls: today you've got a very healthy labour market.'

'We are well placed, within Western Europe, to receive FDI. But how well placed is Western Europe? Sure, Eastern Europe has problems with infrastructure and skills – but its cost advantages will be a big pull for a long time.'

'Britain has spent a lot of time getting in more inward investment. Now the question is how to tap into the growth that's happening in India and China. That is very much about agility.'

David Smith, economics editor, *The Sunday Times*

29 Many Pat McCarthy and Jeff Stein, *Agile business for fragile times: strategies for enhancing competitive resiliency and stakeholder trust*, McGraw Hill, 2003.

30 Available on www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme%5CGlobal+Competitiveness+Report

2 UK firms go fast and deep abroad

UK exports have long been heavily orientated toward the EU, and have long been marked by weakness in goods and strength in services. Yet the changing nature of UK exports also demands attention.

More exports than ever originate from foreign-owned firms in the UK, in part driven by intra-firm trade. While most countries run a deficit in royalties and licence fees, the UK's positive net balance in these things, though modest, is second only to the massive one run by the USA. It may be a sign of growing agility that the balance moved from £0.5 billion in 1997 to £1.6 billion in 2002.³¹

On top of such shifts, the changing climate for UK exports, and in particular the relative liberalisation of world trade, has made agility easier for UK firms overseas. This is most evident in UK's dealings with the EU. Just between 1998 and 2001, the share of the UK's exports of services going to the EU rose from 38 to 41 per cent.³²

Perhaps most important, *the key move to UK commercial operations abroad happens faster than it did before, and, whatever forms it takes, seems qualitatively deeper than before. Firms themselves have shown how possible it is to be agile.*

In the process of globalisation, advances in transport and IT may be vital enablers more than they are prime movers. Still, advances in transport and IT have undoubtedly helped millions of the world's firms sense and respond to developments across the planet with more professionalism than was possible in the past. For the UK's key small and medium enterprise (SME) sector, in particular, exports are no longer just the first step to setting up marketing, distribution and full-scale operations abroad, but rather one among many methods of doing business internationally. With his colleagues, John Dunning, the doyen of researchers on FDI, has noted:

'The link between the foreign activities of firms and exports from their countries has somewhat weakened, as firms often start production overseas without serving a particular market by previous exports.'³³

In the UK, among self-employed people and among chiefs of firms with more than 50 workers, more than one in eight now considered relocating operations overseas. That's a higher proportion than those thinking about moving within the UK.³⁴

31 See ONS, *United Kingdom Balance of Payments, The Pink Book 2003*, op cit, table 3.8, p 47. These figures do not include the debits run by The UK's film and television sector, which worsened from £158 million to £264 million, 1997-2002. Between 1998 and 2001, growth in the UK's share of royalties and licence fees within the EU outpaced the performance of France and Germany by 8 per cent. HM Treasury, *EMU and business sectors*, op cit, sections 4.20, 4.21 and table 4.4, pp46-7.

32 HM Treasury, *ibid*, section 4.18 and table 4.3, p46.

33 Lilach Nachum, Geoffrey Jones and John H Dunning, 'The international competitiveness of the UK: is it eroding or rather changing form?', in John H Dunning and Jean-Louis Mucchielli, editors, *Multinational firms: the global-local dilemma*, Routledge, 2002, p37. The authors also observe: 'Moreover, much of the more recent FDI is of the strategic and efficiency-seeking type, in which FDI and trade are strongly intertwined but in a manner different from the traditional link between them. In such investment, firms sub-divide the production process in order to make use of international differences in local comparative advantages, and integrate them with other activities performed elsewhere through intra-firm trade. This strategy has increased dramatically the trade links within multinational enterprises.'

34 The British Chambers of Commerce, *BCC productivity survey*, March 2003, p10.

Transport, IT and the competitive SME

Low-cost airlines have helped make British firms more agile. After 2007, a full Channel Tunnel Link and a gradual standardisation of high-speed rail systems in the EU will do the same. And broadband telecommunications have helped:

- In Wakefield, 22-year-old Daniel Rajkumar's Wéb-tränslatiõns, which builds multilingual websites, uses broadband to send instant messages among its global network of freelance translators.

- In Norwich, Freeboon, which makes customer feedback software, uses broadband to print out documents directly in Amsterdam.
- In Edinburgh, WorkGroup Support Systems, which offers CRM services, has won business across Europe, in competition with a US rival, because of the agility it says it has gained through broadband.

Here are some other examples of how small but very international UK firms have gone fast and deep abroad, and how the experience has improved competitiveness. One of the things that comes out is how *joint ventures can aid agility*.

Firm, location	Turnover, staff	Product, main markets	What the firm says
Clantex , Leeds	£2m, 14 staff	Patented Supercrease System makes a permanent crease in garments; USA, China, Japan, Africa, Indonesia, EU	<i>'We're looking at forming joint ventures with our US and Chinese distributors. We've also been forced to take on board different methods of manufacturing, because different markets have specific requirements.'</i> Paul Hooker, MD
Dytecna , Worcestershire	£6m, 105 staff	Health and usage monitoring systems in vehicles; USA, Netherlands, Australia	<i>'We've learned that we need to have a niche product or capability in the chosen market. Co-operation on joint venture opportunities can also be successful.'</i> Keith Mowbray, Head of Business Development
Ecosolve , Kent	5 staff	Project developer, organic fertilisers for crops; India	<i>'We completed our R&D work on organic fertilisers in Indonesia, so have moved on to set up representative offices in Delhi and Kochin, in south-west India. We need to design innovative, custom-built fertilisers to suit local environments. What we develop for Indonesia may not suit India. Our profitability depends on partnership with local universities, farmers' co-operatives and trade associations. We're also looking at markets such as China and Vietnam.'</i> Roger King, MD
FM Environmental	50 staff	Sewage treatment plant; Malta, Malaysia, China	<i>'Our Maltese joint venture partners are very innovative. They keep on asking how we could improve the quality and performance of our equipment. They are also concerned about fees and how we can be made more competitive.'</i> Eamonn Fitzpatrick, MD

Firm, location	Turnover, staff	Product, main markets	What the firm says
Visacrem International, trading as Fracino	£1.8m, 17 staff	Only UK maker of traditional cappuccino and espresso coffee machines; Denmark, Germany, Australia, Thailand, Singapore, New Zealand and Japan	<i>'Our newly invented Roastilino machine has opened up new markets; when we are going to those markets, that in turn has given our customers more confidence in our products. At the same time, we wouldn't have gone so far without the help of UK Trade & Investment. Things like translation, specialist advice, market research, contacts in embassies and trade missions have made our life much easier. The practical and financial help we've received has been essential.'</i> Angela Maxwell, Commercial Director
Lifeline Gloves	6 staff	Patented puncture-indicating BIOGEL REVEAL™ surgical gloves; Europe, Australia, USA	<i>'British companies have to recognise that they need to diversify manufacturing by setting up offices in overseas markets and by collaborating with local partners. That's why we've licensed our technology to the US market leader in non-powder surgical gloves. It makes them in Kulim in Malaysia and exports them worldwide.'</i> David Whitaker, MD
Tithebarn	100 staff	Mineralised blocks of salt for farm animals; 50 countries and, most recently, China	<i>'A formula we specifically designed for Brazil may end up bringing better benefits to UK customers too.'</i> Dennis Sowler, export sales executive
Visual Science	£3m	Computer games; USA	<i>'Working with our client Electronic Arts in the USA has definitely improved us commercially and technically. By working with EA's US development team, we've been exposed to very advanced games technology. If we were to develop that on our own, we'd struggle a lot. Now we may set up a development office on the US West Coast.'</i> Andy Campbell, Commercial Director

Legal hassles, UK financial law and UK universities go global

UK business still has plenty of scope for throwing its weight about in agile fashion. However, the process of intensifying commercial relations with and deriving innovations from 'abroad' isn't always a smooth one. One threat and two opportunities are worth registering.

The *threat* is that, large or small, UK firms' increased reliance on overseas contracts, joint ventures, operations and payments *will divert*

management time, resources and attention away from business agility, and instead toward legal hassles. Not for nothing have law firms led much of the globalisation of UK business services! Yet what for lawyers is a chance to do more business, could seem to others as a further cost of doing great new business abroad.

We live in a litigious world. Warning of the UK non-financial corporate sector's large external assets and liabilities, the Bank of England notes that UK firms investing abroad face

country risk, currency risk, gearing risk (around debt repayments), external exposures through derivative instruments, and the impact of financial shocks.³⁵ Do we need more international law to protect firms against these risks? Perhaps. Within its own terms, certainly, British *financial law* represents an important outbound *opportunity*.

35 Robert Westwood and John Young, 'The external balance sheet of the United Kingdom: recent developments', *Bank of England Quarterly Bulletin*, Vol 2 No 4, Winter 2002, pp449-50 and on www.bankofengland.co.uk/Links/setframe.html

The agility to globalise UK financial law

'Britain has a larger share of the world market for financial services than its GDP alone would suggest; indeed the share may even be increasing. The trouble is, we've tended to generate new markets in financial services, then lose them – Euromarkets are one example, international securities dealing is another.

It's the same with financial law. Today the City is a cheaper place to do international arbitration, for example, than Wall Street. To get good arbitration in continental Europe is a hopeless task. The question then becomes whether British lawyers can work in a sustained way to ensure that the UK's legal framework really does become the preferred way, worldwide, of conducting business.'

Hamish McRae, Economics Editor, *The Independent*

Yet before the UK rushes to insist on the full rule of commercial law in, say, China, we might just spare a moment to consider the unintended entanglements that this would bring.

There is another, unrelated outbound *opportunity*, however: fee-paying *overseas students*.

Although it might appear obscure for UK officialdom to lump revenues from fee-paying overseas students in UK higher education as 'exports', the category is an important one. In 2001/02, the UK educated 122,330 undergraduates and 120,425 postgraduates from abroad.³⁶ By 2002/03 the figures rose to 135,100 and 140,164 – more than a quarter of a million students, or one in eight of those in UK higher education.³⁷

Fees received from outside the EU alone were the better part of £1 billion. Not included in these figures is the contribution made by overseas academics, both EU and non-EU, who remain salaried by their home countries.

It is not hard to see why foreign students come to the UK. After all, at 17.3 and 15.2 per cent respectively, men and women engaging in UK

tertiary education enjoy, within the OECD group of countries, the highest 'comprehensive internal private rate of return' – that is, proportionately the greatest economic benefits from tertiary education in later life, given its costs.³⁸ But the opportunity here is not simply to rush to recruit more foreign students. That would be a volume strategy, not an agile one; and £1 billion is only a £1 billion. Rather, *from the standpoint of global agility, today's foreign students represent a vital means of assisting British business in its efforts to go fast and deep abroad. Brainy, mobile, well-connected, foreign students are a vital resource in a more internationalised world economy.*

Since 1999, foreign students have received a more attentive approach from government. That pattern is likely to become even more pronounced over the next 20 years.

36 Higher Education Statistics Agency (HESA), *Student Tables*, table 0a – All Students by Institution, Mode of Study, Level of Study, Gender and Domicile 2001/02, HESA Online Information Service, October 2003, on www.hesa.ac.uk/holisdocs/pubinfo/student/institution0102.htm. The British Council reckons that overseas students as a whole contribute nearly £4 billion in fees and living expenses. See Nicholas Timmins, 'Overseas student numbers jump 23%', *Financial Times*, 22 January 2004.

37 HESA, *Student Tables*, table 0a – All Students by Institution, Mode of Study, Level of Study, Gender and Domicile 2002/03, HESA Online Information Service, 2004, on www.hesa.ac.uk/holisdocs/pubinfo/student/institution0203.htm

38 OECD, *Education at a glance: OECD Indicators 2003*, September 2003, table A14.3 and on www.oecd.org/document/52/0,2340,en_2649_34515_13634484_1_1_1_1,00.html. Costs and benefits are compared with those of upper secondary education.

3 A world in search of UK skills?

In June 2004, elections for the European parliament were held and European heads of state agreed a constitution for the EU. More than ever, then, debates on the UK's competitiveness and globalisation now tend to be framed in terms of debates on this country's relationship with Europe.

Here, old chestnuts persist. One of them is whether UK membership of the Euro, if it ever happens, would have a positive or negative effect on inward investment. Whenever new statistics emerge about UK inward investment, both pro- and anti-Euro camps seize upon them.

In its 2003 *Operations Review*, the Government's InvestUK, a forerunner of UK Trade & Investment, reported that, over 2002, figures stayed buoyant for new inward investment projects, expansions of existing ones and the overall number of jobs created by inward investment. It also reported that a third fewer foreign firms took majority interests in British ones than they did in 2002. In statistics such as these, both enthusiasts for the Euro and partisans of the Pound find support for their arguments. The same thing tends to happen each June, when the OECD report *Trends and recent developments in FDI* comes out, and each September, when UNCTAD's *World Investment Report* is published.³⁹

In fact the 2002-03 decline in the number of overseas mergers with or

acquisitions of UK firms was only part of a broader decline, throughout developed economies, of every kind of inward investment after a peak in 2000-01. And as noted already, the trend for world FDI may well now turn upward. More importantly, what both sides in past debates about the Euro have tended to ignore is the changing nature of FDI into the UK.

The sources of FDI, while still strongly North American and European in origin, sometimes now tend to involve new kinds of investment from Japan, as well as from emerging economies in Asia: in 2002/3, the number of projects from China rose from the previous year's 14 to no fewer than 22.⁴⁰ The sectoral composition of FDI has also tended to add services to manufacturing, with projects in the software sector being the most numerous. Finally, the skills sought by inward investors have tended to move up-market, with incomers seeking out geographical centres of excellence to assist them in establishing high value-added functions in the UK.

FDI may today make a stronger impact on UK competitiveness than it ever did in the past. Foreign firms have always had the UK in their 'horizontal' international strategy, in which similar final production activities are undertaken in different nations. Many have also had Britain in their 'vertical' strategy, in which different stages of production are located in different countries. The obvious question then becomes: *can the UK become agile enough to develop, as a key resource, a set of high value-added skills that is hard for foreign investors to come by in their home country – or anywhere else?*

There is already some encouraging evidence that the UK has begun to do just that (Table 3):

³⁹ See OECD, *Trends and recent developments in FDI*, June 2003, and posted on www.OECD.org/dataoecd/52/11/2958722.pdf, and UNCTAD, *World Investment Report 2003*, op cit.

⁴⁰ Invest UK, *Operations Review 2003*, 2003, p3.

TABLE 3

Destination of 829 greenfield corporate, regional and functional HQ operations set up or relocated worldwide, January 2002 – March 2003 ⁴¹

UK	181
USA	126
Australia	54
Singapore	46
Hong Kong	44
Germany	37
Netherlands	34
China	29

The UK's top position in the world market for HQs reflects well on its general potential for attracting skill-seeking inward investment. ⁴²

Here's what other foreign investors say about what they have brought to the UK and have found here. Skills – especially in design – are certainly important to their reasons for committing to the UK. However, other factors are vital too, and critical skills themselves are sometimes in short supply:

⁴¹ *IBM-Plant Location International*, Belgium, and OCO Consulting, Investment Promotion Services, UK, quoted in 'HQs on the move', *Foreign Direct Investment* magazine, 5 August 2003 and on www.fdimagazine.com/news/fullstory.php/aid/384/

⁴² This applies even if, in other ways, the picture is more mixed. Take the 2,000 subsidiaries Germany runs in the UK. Though 85 per cent of them belong to firms with turnovers below £50 million, they're important: 60 per cent of them are greenfield operations, they generate four times as much sales for Germany as that country's exports to the UK, and, by 2005, will employ about a quarter of a million people. Yet although the headcount of German firms is growing, it is operations in general services, much more than R&D, that account for the 30,000 increase in jobs likely to be achieved between 1997 and 2005. German R&D jobs will increase a lot, but from a low base: from 3,200 in 1997 to 5,400 in 2005. More broadly, the *Mittelstand* is mostly here to sell to the UK market, rather than exploit efficiencies or special skills. Among 382 German parent companies, more than 90 per cent say that the important factors influencing their investment in the UK have been and still are market-orientated – and that their main market is the UK. See German-British Chamber of Industry & Commerce, *Germany invests: trends and views on direct investment by German companies in the UK*, January 2003, pp 3, 5-8, 11. In the Chamber's questionnaire to firms, more than one answer could be given. Still, it is clear that the UK has yet to be used as a big global platform for German goods and services.

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
NEG Micon Danish Isle of Wight	Data not available	Wind turbines, UK	<p><i>'We made an acquisition in 1998. The UK market was the key factor that made us set up there. We chose the Isle of Wight for our factory making blades, because it's close to Southampton and the harbour, and what we make is big so we need to be able to transport by sea. The people skills in the Isle of Wight are very good.'</i></p> <p>Morten Keller, Head of Investor Relations</p>
Zurich Financial Services Switzerland Customer Service Centre Cardiff. Other customer service centres in Portsmouth, Fareham, Newcastle and Swindon	400 staff	Motor and home insurance, UK	<p><i>'We already had a highly professional team of people in Cardiff, so when we identified a need to expand our UK service centre network, the decision to increase our operation there was an easy one to make. We wanted to move out of our older offices in Cardiff city and into purpose-built premises that would offer us the chance to create a service centre working environment for the future. Cardiff was able to offer us the opportunity to do just that.'</i></p> <p><i>Cardiff is also classed as a Regional Selective Assistance area, which played a part in our decision to expand here. More importantly, we knew that, given the strong presence of financial services in Cardiff, we would be able to tap into a skilled local workforce. As Zurich already had a good reputation as an employer in Cardiff, we were confident that we would have no problems attracting and retaining the right kind of people to serve our customers.'</i></p> <p>Lin Wood, Consumer Services Director, Personal Insurances</p>
DASCEN Europe Australian Peterlee, County Durham	£2m, 10 staff	Management of ozone-depleting substances, EU	<p><i>'We formed a joint venture with two UK companies in response to an EU directive requiring safe disposal of ozone-depleting substances, especially halons. We came to the North-East for several reasons: the process we use requires either an ocean outfall sewer, or a good sewage treatment system. The latter is available in the North-East. To get the waste to us we need good port access, which we have in both Teesport and Tyneside – particularly at Teesport, which is highly containerised. There are also enterprise zones in the North-East, which provided us with financial incentives for moving here. Finally, there is a low-wage structure compared to the south of England and some other European countries.'</i></p> <p><i>'As Australians we are more familiar with English law than European law. There are no language difficulties, and general operations and the business environment are more familiar than in mainland Europe. Thirty-five per cent of market need in Europe appeared to originate from the UK. Strategically, it seemed easiest to grab the market share from the country we'd based operations in and in which our joint ventures were established.'</i></p> <p><i>'There is a good industrial and technical skills base here. We use high-temperature plasma conversion to deal with halon gases. There are some critical parts in our plants that wear out and have to be replaced on a regular basis. In the UK we're now finding that companies make these parts to a higher quality, cheaper and faster than in Australia. The basic engineering knowledge is here and isn't difficult to find.'</i></p> <p>Garry Cranny, Director, UK and Australia</p>
Schefenacker Vision Systems German Portchester Strong in engineering and in supply chain management	£50m+ 750+ staff	Exterior mirrors for vehicles	<p><i>'We acquired Britax, a UK company that had been running for 70 years, but one with 12 or 13 plants worldwide. Previously Schefenacker only really had access to its home market in Germany. Buying Britax gave it access to global markets.'</i></p> <p><i>'The German parent company is slowly adopting the Japanese approach to manufacturing. It has learnt this from the UK, which has been following the Japanese approach for some time.'</i></p> <p>Keith Peak, Manufacturing Director</p>

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
<p>Toyota</p> <p>Japanese</p> <p>Burnaston, Derbyshire. Smaller plants in France, Turkey, Poland and a joint venture in the Czech Republic. Engine plant in North Wales</p>	<p>4,000 staff</p>	<p>Cars, EU. Burnaston also sells 2,000 cars a month to Japan</p>	<p><i>'Toyota wanted to be in Europe. There are long historical links between Japan and the UK, and it is part of Toyota's "localisation" philosophy to build factories where it sells cars. A large plot of land - and in particular flat land - was available in Burnaston. We are also close to our suppliers in the Midlands here. And, particularly in the early stages, it was helpful for Japanese management to be using English.'</i></p> <p><i>'We don't look for particular skill sets as such. More than 90 per cent of our workers have no previous car manufacturing experience. We look for team spirit, flexibility, awareness of and care for safety, and willingness to learn and improve. We had a very detailed recruitment process to check that these things were available. Although there was no automotive experience in the area, there were things that indicated that we would find these qualities. A lot of our employees are ex-miners: they're good team people and are very aware of safety.'</i></p> <p><i>'People understand the need to work overtime to cope with peaks in demand. Our Members – the name we give our workforce – sign a contract saying they'll change shifts and work weekends when needed, or work overtime at two hours' notice. They will work according to the business need; that's part of our single-union agreement with Amicus. We encourage members to go on the Amicus induction and we monitor the relationship. In return, Toyota offers long-term job stability.'</i></p> <p><i>'Nobody has ever been made redundant here. A few years ago we kept on staff that we didn't need. You pile up all that knowledge, skills and experience: you don't want to just waste it. They might have to do different shifts or jobs or learn new skills, but management and workers work together to protect jobs in the long term. Our Japanese colleagues certainly appreciate the determination, hard work and understanding of the business that our Members have here.'</i></p> <p><i>'We do occasionally struggle to find local maintenance people. Traditionally these are either electrical engineers or mechanical engineers, but Toyota expects its Members to be multi-skilled. Sometimes it's difficult to find people for this, but we've just hired 50 and are training them up.'</i></p> <p>Jinny McDonald-Matthews, Head of Corporate Planning</p>
<p>SC Johnson</p> <p>American</p> <p>Frimley, Surrey</p> <p>Site is 26,000m²</p>	<p>About 250 staff</p>	<p>Household cleaning and air freshening, Europe</p>	<p><i>'We fund local technical colleges to run NVQ tests. In fact we have now become an NVQ test centre ourselves. We also offer "modern apprenticeships" – taking either people from the local technical colleges who have some electrical skills, or existing employees who've expressed an interest in developing their skills. The local colleges are responsible for the theoretical training and SC Johnson provides the hands-on training.'</i></p> <p><i>'Flexibility of people is probably the strongest thing about Frimley. Our business is quite seasonal and we find it very easy to get a temporary workforce to cover this.'</i></p> <p><i>'The opinion surveys we do across the company find that the staff employed at Frimley are very committed and loyal. We find it very easy to get overtime at short notice. In other countries this can't happen without committee meetings.'</i></p> <p>Steve Ridgeon, Operations Director</p>

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
<p>Black & Decker</p> <p>Global Design Centre, American Spennymoor, Durham</p>	<p>100 designers</p>	<p>Household equipment, worldwide</p>	<p><i>'Our factory here is winding down but there's continuing investment in the Global Design Centre, which is the largest of all such centres that the company runs outside the USA. We serve worldwide markets and have been extremely successful in product innovations. There is a good skills base in design and innovation.</i></p> <p><i>'Generally, creativity comes more naturally to the UK culture. The UK is more entrepreneurial and less process-driven than the USA. Of course, a process-driven approach is a significant contributor to ensuring products are consistent, well designed and safe. We do learn from each other. Britain remains a good place for Black & Decker to invest because we are cost-effective, certainly compared to the USA and Europe, and about the same as Canada. We can handle a lot of work per head. Rates of pay are less than in North America or Western Europe.</i></p> <p><i>'We're more flexible than Europe but not as flexible as the USA. In North America, if you want to change an organisation and that involves making staff cuts it's easy. In the UK it is slightly harder and more costly but it is still relatively easy. If you want to go through the same process in Western Europe it is very much more problematic and expensive to do. We see flexibility as being able to easily scale operations down. A positive side of this is that it also makes companies more willing to scale up as well – if they know it is not going to be too problematic to retract if necessary.</i></p> <p><i>'There is a strong skills base in the UK, particularly in terms of R&D. But we sometimes find it tricky having a base in Durham. It's a problem attracting people away from the south-east of England. It would be nice if there were more willingness to move around the country. In the UK companies are not so good at productionising and commercialising. At Black & Decker our core strength is that we can handle manufacturing and production within given cost restraints. The manufacturing came first and the creativity grew from that.'</i></p> <p>Lawrie Cunningham, Director of Global Industrial Design</p>
<p>Nissan Design Europe</p> <p>Japanese</p> <p>London. Three design studios in Japan and two in the USA, serving North America. Global complement of designers: 2,000. Technical Centre at Cranfield has 600</p>	<p>100 designers, modelmakers and software specialists in powertrains and engines</p>	<p>Cars, EU</p>	<p><i>'London is the only city in Europe where Nissan is up against all of the world's car brands – unlike Germany, France or Italy, where national brands predominate. Most of our recruits do product design at Coventry University, followed by a year in industry and then an MSc at the Royal College of Art – it's almost like Sandhurst, though we also recruit from the textiles department at Loughborough University.</i></p> <p><i>'Our designers and model makers commute in from the Midlands. Software people are very hard to come by, and a third of ours are sole traders to whom we give a licence to work with Alias software. On 45-50 - hour weeks, they're paid £35 an hour – 30 per cent more than anyone at any other Nissan design facility.</i></p> <p><i>'Graduate trainees walk through the door to earn £25,000. It's a bit like training a fighter pilot, as you can go up to £90,000.</i></p> <p><i>'In our business, time to market is even more critical than quality, and certainly more important than cost. We share best practice with Renault. We're going to expand: advanced exploratory projects are happening now, but the real task is to add productionising and design for manufacture. Nissan believes that 20 years is a very good window to look out to and work back from. As an economist by training myself, all credit to the UK Trade & Investment for thinking that far ahead with the help of your study.'</i></p> <p>David Godber, Director</p>
<p>Samsung Design Europe</p> <p>Korean</p> <p>London</p>	<p>12 staff</p>	<p>Consumer electronics, EU</p>	<p><i>'London is the hub for all the key design information from Europe, but also from the USA. Most of the famous designers in the USA – for instance, Apple's Jonathan Ive – are from the UK.</i></p> <p><i>'London packs all of world culture, as well as British history, into one small place. It's a shopping mall to the world, so we have to be here. Samsung Korea had a satellite design office in Germany for several years, but everything was written in German, which is not a standard language. When manufacturing moved from Germany to the UK, design went with it.'</i></p> <p>Harry Choi, Director</p>

Education, vocational training and inward investment

For the firms interviewed above it is clear that education and skills are only part of the UK's draw. They must be accompanied, among other things, by adequate levels of innovation, the effective use of technology and by capital investment. Nevertheless, the Government's July 2003 *Skills Strategy* White Paper marked a revival of British debate on education and its links to competitive performance.⁴³ More recently, the Prime Minister has declared that education 'was, is, and will continue to be our top priority for as long as we are in office'.⁴⁴

The White Paper is right to recognise that what is needed is not so much new initiatives as a long-term effort, stretching beyond 2010. Here, we want to consider that effort from the point of view of inward investors.

It is worthwhile, first, to distinguish between *education* and *vocational training*. Education is broadly about opening people's minds, from literacy and numeracy through to the highest levels of thought. It is about having the agility to think in the abstract and to gain real insight. Vocational training, by contrast, gives people specific talents – talents generally developed *through working experience*. The results of education should stay with a person forever: as Einstein once quipped, education is what remains after one has forgotten everything learned in school. By contrast, vocational skills not practised are soon lost.

The difference between education and training is rather relevant to inward investors. Of course, the typical inward investor often seeks university research departments – but that is not quite the same as 'education'. They also seek university graduates. But *whether their recruits are graduates or non-graduates, the inward investor frequently hires people not so much for their degrees as for their real or potential vocational skills*.

In 2001, research was published on the investment intentions of senior decision-makers among 100 inward investors in UK high-tech manufacturing, IT, software and e-commerce.⁴⁵ Such investors rated the UK's skills base more highly than any other of its main strengths, including labour availability, English, and the UK's position as a stepping-stone to other parts of the world. Asia-Pacific firms particularly rated the UK for its skills. The investors also rated the quality of British research highly, and a small majority of North American and Asia-Pacific firms had links with UK institutions in higher education or R&D.⁴⁶ However,

- simplifying the funding application procedures around education and training together was, after UK infrastructure and government policy, the factor that high-tech inward investors most identified as one government should improve. Large firms were particularly emphatic about this.
- small high-tech inward investors singled out a need for the UK to improve its skills base.

- many high-tech inward investors said they'd found it harder to attract skilled labour than they'd expected. In their locations, too, many expected a shortage of both graduate and technical skills.⁴⁷

43 DfES/DTI/DWP/HM Treasury, *21st century skills: realising our potential – individuals, employers, nation*, July 2003 and on www.DfES.gov.uk/skillsstrategy/docs/fulldoc.pdf

44 Speech by the Prime Minister to the National Association of Head Teachers in Cardiff, 3 May 2004, and on www.number-10.gov.uk/output/Page5730.asp

45 See Arthur Andersen, *High-tech industry: survey of foreign investors – final report*, Invest UK, January 2001.

46 Ibid, graphs Ci, and Cii, pp18, 19; Dxxxvi, p46; Dxxxvii, p44.

47 Ibid, graphs Ciii, Cxvi, Di, Dv, Dix, pp24, 25, 26, 28, 30.

In short: *high-tech inward investors want very much what most employers in the UK want.* They favour improvements not so much in higher education, as in what are known as 'intermediate' skills: skilled trades, administration, and occupations that are technical or at the level of associate professional.

The UK should be able to organise, in agile style, for such skills. As the *Skills Strategy White Paper* notes, while just 28 per cent of the UK's workforce has intermediate skills, France and Germany have achieved figures of 51 and 65 per cent.⁴⁸ So what should be done at secondary, further and higher levels of education to improve the skills prospect for inward investors?

Among British 25 to 34 year-olds, only 68 per cent have attained at least upper *secondary education*, compared with a figure for an OECD average of 74 per cent.⁴⁹ Yet it would be a vulgar interpretation of agility to argue that, to assist inward investors among others, schools switch pupils from their very proper job of education toward low-level vocational training.

UK schools should go on imparting the power of abstraction. Without learning how to gain insights when they are young, British workers will find ineffective the vocational training that UK subsidiaries of overseas firms offer them. Of course, at school, such a talent is best not taught as a thing in itself. It emerges, rather, as a by-product of the teaching of regular school

subjects – not least, mathematics, science and, in a global world and a more Germanophone EU, *languages*.

⁵⁰

Mainstream *further education* (FE) in the UK requires an equally subtle approach on behalf of inward investors. FE is often heavily weighted towards generic 'life' skills – skills in fields such as group work, inter-personal behaviour and communication. But these, the habits of agile individuals, are best honed on the job. What inward investors may require of UK vocational courses at FE level is that they are less generic, and more specific and technical.⁵¹

Relative to GDP, UK public and overall expenditures on *higher education* (HE) are weak compared with those disbursed in other OECD countries. Yet as early as 2001, 29 per cent of British 25 to 34 year-olds reached HE, compared with an OECD average of 28 per cent.⁵² UK public expenditure on HE, currently at £7.5 billion, is also set to increase to £10 billion by 2005-6. For inward investors, the issue with HE may not be so much graduate numbers or government funding as the need for a relentless commitment to intellectual excellence.⁵³

In 2024, agile British universities will need to offer inward investors a high quality of thinking power more than a high quantity of vocationally-orientated modules.

48 DfES/DTI/DWP/HM Treasury, *21st century skills*, op cit, p12.

49 OECD, *Education at a glance*, op cit, table A1.2.

50 On the relevance of languages to Britain in a global economy, see CILT, the National Centre for Languages, *Draft response to the White Paper (CM 5810) from CILT, the National Centre for Languages*, October 2003, and on www.cilt.org.uk/key.htm

51 At the London School of Economics, Professor Richard Layard says that, to improve general UK productivity in the long term, what is needed is a professionally-run apprentice system. Though Germany's system has hardly changed in 40 years, it can still suddenly produce 50,000 experts in a particular field – IT. 'Unless you get the structure right for the 16 to 21 year-olds', Layard has said, 'you are forever trying to clear up the mess'. Quoted in Christopher Swann, 'Shortage of skills blocks progress on productivity', *Financial Times*, 16 June 2003.

52 OECD, *Education at a glance*, op cit, tables A2.4 and B2.1b.

53 Of a sample 215 members of the Association of Graduate Recruiters, whose 600 participating companies recruit from British universities and include inward investors, 14 per cent 'strongly agreed' that the UK is producing too many graduates, and a further 39 per cent 'agreed'. None disagreed. See AGR, 'What do recruiters think', 20 January 2004 and www.agr.org.uk/news/news_view.asp?news%5Fid=308

Inward investment and R&D

If education and vocational training are handled in an agile and discerning manner, they can be turned into opportunities. It is the same beyond education, in the world of R&D.

How much R&D is going on in the UK? The answer is: a lot – but by global standards, more could be done:

TABLE 4

Gross Domestic Expenditure on R&D, US\$bn, responsibility for funding and execution, per cent, 2002 or nearest year; and numbers of total researchers, 2001⁵⁴

Country	US\$bn Spend	% funded by		% done by			Researchers
		Industry	Government	Industry	HE	Government	
France	36.14	54.2	36.9	62.2	19.5	16.9	177,372
Germany	55.05	65.3	31.8	69.1	17.1	13.8	264,384
UK	29.35	46.2	30.2	67.4	21.4	9.7	157,662
USA	277.1	64.4	30.2	70.2	15.9	8.8	1,261,227
Korea	22.01	72.5	25.0	76.2	10.4	12.4	136,337
Canada	17.34	40.0	33.2	54.2	33.5	12.0	90,810

Of course, these figures say nothing about the efficiency and effectiveness of UK R&D.⁵⁵ Indeed, *the opportunity for the UK to attract much more inward investment around R&D is still considerable.* After a long period of neglect, science and technology have won increased government funding for R&D. Including that done in health-care and defence, UK Government R&D is set to rise, in real terms, from more than £7.17 billion in 2001-2 to £8.25 billion in 2004-5.⁵⁶

The UK can build on that foundation. If it does that, and if it also proves discerning about education and vocational training, inward investors will find renewed technological and intellectual agility when they invest and re-invest in the UK.

In turn, the dynamism that inward investors add to British R&D, education and training is also likely to be considerable.

⁵⁴ OECD, *Main Science and Technology Indicators (MSTI): sample tables and charts*, 2003/2, 15 January 2004, and on www.oecd.org/LongAbstract/0,2546,en_2649_201185_24236157_1_1_1_1,00.html. Dollar figures are taken at current purchasing power parity.

⁵⁵ Statistics for R&D spending per head or as a percentage of GDP show that, by OECD standards, the UK turns in only an average performance. It does seem likely that, in the 1990s, slow output growth in manufacturing, a weakening of government support for that sector, and the relative strength of sterling together outweighed the efforts of inward investors to strengthen R&D in the UK. Bettina Becker and Nigel Pain, *What determines industrial R&D expenditure in the UK?*, National Institute of Economic and Social Research Discussion Paper 211, April 2003, and on www.niesr.ac.uk/pubs/dp2003.htm#dp211.pdf

⁵⁶ Office of Science and Technology, 'Net Government expenditure on R&D by departments in real terms, 1987-88 to 2004-05', *Forward look* 2003, 2004, table 5, and on www.ost.gov.uk/research/forwardlook03/tables/index.htm

4 A new phase of globalisation

Until very recently, world FDI expanded faster than world trade. In 2002 the value added by the planet's overseas subsidiaries amounted to 11 per cent of world GDP, against 6 per cent in 1982.⁵⁷ International migration is also increasing, both skilled and unskilled. What, though, is likely to be qualitatively new about globalisation over the next 20 years?⁵⁸

Obviously there are the *opportunities* that surround its geographical extension. Some writers believe that, by making the triumph of capitalism worldwide, the end of the Cold War ushered in a fundamentally new era.⁵⁹ In this framework, what would be critically important about globalisation for UK business would be the further integration, into the world economy, of:

- *China*, now the world's largest recipient of FDI, the fourth largest exporter and, shortly, its third largest importer.
- *India*, with millions of educated English-speakers.
- *Russia*, a big recipient of British FDI in energy and, partly as a result, a rapid climber in the international charts for mergers and acquisitions.

By 2024 all three countries could be major targets for UK exports. By then, too, parts of the Middle East and Africa could also join much of Latin America as modest but important destinations for UK business abroad.⁶⁰ On top of this, the EU's ten new accession states will have two decades of EU membership behind them.⁶¹

The more direct opening up of great, populous expanses of Eurasia is certainly an opportunity for British business. But if we remember that China currently accounts for about 4 per cent of world output, India for less than 2 per cent and Russia about 1 per cent, a sense of perspective is vital. It is the same with Eastern Europe. Poland and the other new entrants to the EU bring it a fresh 75 million inhabitants. Yet they bring an expansion of the EU's GDP of less than 5 per cent.

Of course all these economies will grow over the next 20 years. In the case of China, India and Russia, moreover, it would be foolish to dismiss their potential for developing innovations of their own – particularly in IT. But it will take some years for China's GDP to draw level with America's.

Millions of British people have now heard of Bangalore, and thousands know of the Pearl River Delta. Physical extension is indeed a key part of the globalisation process, and is one of the reasons the British economy needs a longer, more powerful, more agile reach than in the past. However, what seems already to have had a bigger impact on the conduct of business in 2004 is not so much the globalisation of *opportunities*, but that of *threats* – not only *real threats* but also, significantly, *perceived ones*.

⁵⁷ UNCTAD, *World Investment Report 2003 – FDI policies for development: national and international perspectives – Overview*, table I.1, p 3, and on www.unctad.org/en/docs/wir2003overview_en.pdf

⁵⁸ In the first half of 2004 there has been a surge of commentary on the general phenomenon of globalisation. Stressing its benefits are Jagdish Bhagwati, *In defense of globalization*, Oxford University Press, and Martin Wolf, *Why globalization works: the case of the global market economy*, Yale University Press. Among those laying emphasis on the costs of globalisation was the International Labour Organisation, *A fair globalization: creating opportunities for all*, on www.ilo.org.

⁵⁹ See, for example, Ellen Meiksins Wood, *Empire of capital*, Verso, 2003.

⁶⁰ At the World Trade Organisation ministerial conference held at Cancún, Mexico, in 2003, South Africa, Brazil, China and India led the G22 group of developing economies.

⁶¹ The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, as well as Cyprus and Malta, joined the EU on 1 May 2004. At the Brussels summit of June 2004, the EU's leaders said they wanted talks about accession concluded with Bulgaria and Romania early in 2005, and begun with Croatia at that same date. They will decide whether to negotiate accession with Turkey in December 2004. From 2007, the EU will have a new and enlarged European Neighbourhood Instrument with which to focus finance on Russia, Ukraine, North Africa, the Middle East and the South Caucasus. See Commission of the European Communities, *Beyond enlargement: Commission shifts European Neighbourhood Policy into higher gear*, 12 May 2004 and on http://europa.eu.int/comm/world/enp/whatsnew_en.htm. See also Commission of the European Communities, *European Neighbourhood Policy strategy paper*, COM(2004) 373 final, 12 May 2004 and on http://europa.eu.int/comm/world/enp/document_en.htm

Altogether, the *risks now held to be global* include:

- shutdowns in energy, water and food supply, transport and IT – often linked to cross-border medical or computer viruses,
- warming of the planet,
- breakdown in the financial system,
- spats over how best to regulate globalisation, including different forms of protectionism, and
- international terrorism, together with states that lack security, economic capacity and/or legitimacy.⁶²

The economic impact of the fears that surrounded the SARS virus in 2003 was global. The furore that an article in the US journal *Science* brought to the Scottish salmon industry in 2004 was instant. The advent of carbon emissions taxes on UK businesses and consumers shows, too, how concerns over global warming now have a direct effect on corporate and personal behaviour.

Today's risks are sometimes real and more often simply feared. Yet society's operating framework of real and perceived risks looks like it will persist for much of the next two decades. As a result, many of the global developments that an agile UK economy will have to anticipate over that period will probably first present themselves, at least, as dark threats more than sunlit opportunities. Once again, there is no need to panic about this; indeed quite a lot of the threats will themselves prompt ingenuity on a global scale. But there is a second, more central consequence to the globalisation of real and apparent risks.

On top of the search for markets, efficiencies and resources, there is another reason why any firm might export, operate or acquire abroad. Of course, as we observed about the legal complications of doing business in China, going abroad can be riskier than doing business at home.⁶³ However, *going abroad has long been a means by which individual firms have diversified their perceived risks. In the new, risk-laden phase of globalisation that has opened up, the same strategy may make sense for UK business as a whole.*

We have seen that, for firms, going abroad has never been easier. At the same time, to be agile on the world stage offers UK industry and services the chance to reduce exposure to the domestic economy, should its rock-steady stability waver. To be agile on the world stage also offers the UK the chance to reduce domestic and overseas threats from foreign rivals – by pre-empting them abroad.

Fears of a turbulent era in the world economy look set to grow. However justified those fears, their likely persistence means that the *Agile Economy will want to sustain not just its inward investments, but also its global ones. Prosperity will, then, not just depend on the jobs in the UK gained, lost or changed around particular projects in trade and investment, whether inbound or outbound. It will also depend on the maintenance of a broad overseas asset base – not so much to earn immediate net surpluses as to stay agile in the face of real and perceived international risks. By reaching all parts of the world and being able to juggle its resources with the reach and the foresight we have talked*

about, the Agile Economy can be resilient in the face of shocks – whether these turn out to be real, or just imagined.

In fact, the discussion above fails to do full justice to the globalisation of real and perceived risks. After all, many people in developing countries see inward FDI as a benefit, but one that comes at the risk of losing some of the control they exert over their economies. Meanwhile, back in the UK, behind the hackneyed phrase 'footloose capital', two further aspects of globalisation speak of anxieties about risk.

First, people fear that the export of capital beyond the UK runs the risk of Britain hollowing out indigenous innovation, local communities, and indigenous industries – especially manufacturing.

Second, government fears the risk of the UK losing its strong position as a destination for the world's FDI.

We deal with each of these fears in the next two sections of this paper. In the meantime, here are some historical perspectives on globalisation, together with remarks from respected commentators on how the world economy, and the UK within it, may have reached an important inflection point.

62 The UK ranks as tenth most vulnerable country in the world according to World Markets Research Centre, *Global terrorism index 2003/4*, 2003, available on www.worldmarketsanalysis.com/application/t-index_2003.html. On 'weak states', see Centre for Global Development, *On the brink: weak states and US national security*, 8 June 2004 and on www.cgdev.org/Research/?Page=Commission%20on%20Weak%20States%20and%20US%20National%20Security

63 Multinational firms may be able to reap cross-border locational advantages around differences in (1) cultures, demands and income levels (2) basic and created factor endowments and (3) government policies. But they also meet cross-border locational disadvantages: (1) the costs and risks of multiple sources of foreign exchange (2) the costs and risks of multiple levels of authority (3) the costs of greater diversity. See Lorraine Eden, Douglas E Thomas and Kingsley Olibe, 'Why multinationality matters: exploring the "L" in the OLI paradigm', in H Peter Gray, editor, *Extending the eclectic paradigm in international business: essays in honour of John Dunning*, Edward Elgar, 2003, pp34-35. No doubt the risks of *cultural diversity* will shortly be added to this list. See also Denzil Rankine, *Why acquisitions fail: practical advice for making acquisitions succeed*, Financial Times Management Briefings, 2001.

Historical perspectives on globalisation

Before 1914 the pre-eminence of the Sterling Area made globalisation arguably more advanced than it is today. What is not in doubt is how many people then saw, in globalisation, a guarantee that conflict would be avoided. The *Daily Mail* journalist Norman Angell sold a million copies in 25 different languages of his hopeful exposé of bellicose political economy, *The Great Illusion* (1908).⁶⁴

Half a century later, concerns were rather different. West European countries traded a lot with but barely invested in each other. It was American firms that invested in Europe. At the time, their sequential shifts from home production to export and foreign investment were theorised by Raymond Vernon.⁶⁵

By the early 1970s both John Dunning and Vernon warned that FDI could unleash conflict with host country states. In these years, too, Vernon felt that firms would keep R&D in their home country. For a typical multinational, moves to set up any particular subsidiary were usually marginal, such was

the scale of its operations elsewhere. Significantly, however, Vernon held that the multinational would have full justification for such moves if it *cut the risk* of a decline in what he called 'an oligopoly rent'.⁶⁶

Japanese 'transplant' car factories came to the USA in the 1980s. During the same decade, UK investments in Washington property also multiplied. As a result of these developments, millions of Americans now grew nervous about their country's control of its fate.⁶⁷ By this time, however, the world's city regions had also identified inward investment as essential to economic regeneration. In particular, attempts to identify the positive spillover effects of FDI on local suppliers began a lengthy career.⁶⁸

In 2003 the USA put US\$87 billion in FDI into Europe – 30 per cent more than it did in 2002. Meanwhile, European firms accounted for 65 per cent of FDI into the USA. As *The Economist* observes of the USA and Europe today, 'Whatever their private feelings about each other, both sides know that they have to do business together'.⁶⁹

64 Just six years before the First World War broke out, Angell held that the 'internationalisation' of the world economy made it futile to believe that 'colossal armies and fabulously costly navies' could ever pay. Seizing the wealth of weaker or smaller states was 'an economic impossibility' and 'a pure optical illusion'. If the Kaiser was to invade Britain and so bring down the British Empire, it would be a disaster for Germany. A rapid postal service, and 'instantaneous dissemination of financial and commercial information' by means of telegraphy had brought 'an extraordinary and delicate interdependence' to the international financial system. That interdependence applied also to Germany and Britain's credit-built finance and industry. If Berlin subjugated London, German capital would disappear in large part; German credit would also collapse. Norman Angell, *The great illusion*, GP Putnam (New York) edition, The Knickerbocker Press, 1911, pp vii, 32, 39, 52.

65 Raymond Vernon, 'International investment and international trade in the product cycle', *Quarterly Journal of Economics*, May 1966, pp 190-207.

66 Raymond Vernon, 'The location of economic activity', in John Dunning, editor, *Economic analysis and the multinational enterprise* (1974), Routledge, 2003, pp111-112.

67 Martin Tolchin and Susan J Tolchin, *Buying into America: how foreign money is changing the face of our nation*, Crown Publishing Group, 1988.

68 Ewe-Ghee Lim, *Determinants of, and the relation between, FDI and growth: a summary of the recent literature*, International Monetary Fund Working Paper 01/175, 2001, and posted on www.imf.org/external/pubs/ft/wp/2001/wp01175.pdf

69 'A creaking partnership', *The Economist*, 3 June 2004, and on www.economist.com/agenda/displayStory.cfm?story_id=2730306. The figures are from Dan Hamilton and Joseph Quinlan, *Partners in prosperity: the changing geography of the transatlantic economy*, Center for Transatlantic Relations, Paul H Nitze School of Advanced Studies, Johns Hopkins University, June 2004, available as an executive summary on http://transatlantic.sais-jhu.edu/Publications/books_monographs.htm

Globalisation, 2004–24: three views from Silicon Valley

'As technology increases communications, knowledge will be much more transportable. Every individual will be a global competitor with every other. When Americans pay extra for software that's made at high cost in America, they're essentially subsidising their neighbours. A lot of that subsidy will go. The world will feel deflationary, there'll be a redistribution of earnings, and the middle class in India will grow while the middle class in the West may contract. Already Wal-Mart accounts for 10 per cent of this country's imports from China. Americans want cheap goods and services, and are quite willing to damage the wages of their neighbours in the search for these.

'Traditionally the line on what to do about all this is to say that we have to educate our workers, and that competition will be around a highly skilled workforce. The trouble is that the technology of education itself is, through IT and distance learning, available pretty evenly around the world. So it's rather difficult to sustain an educational advantage.

'That doesn't imply that we shouldn't try. But even if higher education is only open to, say, 5 per cent of Indians, that's still 50 million people with good skills. That's going to exert a substantial downward pressure on Western wages for as far forward as I can see. Research may stay central, but Development will be less centralised than it has been. It's often cheaper and better to do your development near the market. In the USA, however, we have to face the fact that we're no longer always the lead market for foreign investors to locate their development people in. In component manufacture, in the technical or fashion sophistication of consumers, other countries are ahead.'

Gary Hamel, author, *Leading the revolution*; Chairman, Strategos Consulting, and Visiting Professor at the London Business School

'Offshoring is a reality — there's no going back. If you reduce everything about the net down to one idea, it's that, in cyberspace, there is no distance between two points. In Mumbai, a software company called Spectramind accepts only four in every 100 interviewees; it pays these very clever people US\$225 a month in rupees, which is about double the normal Indian rate but nothing by Silicon Valley standards.

'Four per cent of Indians speak English. The jobs have gone to Mumbai and they may not even stay there. But right now Silicon Valley start-ups with fewer than ten people outsource all their software development to India.

'It's the same with Dell — a computer company that barely makes computers. Samsung makes all of Dell's laptops nowadays.

'It's the same with the US furniture industry, too. Designers can't make a living simply designing furniture. So a volume business like Herman Miller, centred on the nation's industry in northern Michigan, has outsourced not just manufacture, but also design.

'The key question is what kind of new businesses can Britain build on top of the low-cost knowledge work that's now available round the world. But Britain should do well here. It's always been outward-looking. The ability to go globetrotting — that's what will be the key factor in competitiveness.'

Paul Saffo, Institute for the Future, Menlo Park

'There's nothing that Britain did wrong. It's just that the Chinese pull is so large, it biases everything else. China's also the first country of interest for sales. There are 150 million well-off people there and 10 million who buy luxuries.

'But nothing will change Britain and Ireland's allure to US companies as a base for operations. Start-ups look for entrepreneurial strength and technology: here Britain is much more inviting, let alone more familiar, than Oslo or Düsseldorf. I'm part of a venture fund with IT interests, and the venture funds we deal with definitely give it a big leg-up over the Continent, where state-driven venture capital has not been a success.

'The similarity of legal systems and of values is also a draw for US firms. There is, too, in Britain an effective, modern regulatory environment. The power of religion is smaller than in the USA. As a result, you have a rational and basically supportive line on stem cell research, and we in the USA do not.'

Peter Schwartz, author, *The long view*, and Chairman, Global Business Network

Services and the future of Britain

'Since 1995, Britain's comparative advantage has improved. The things we're good at – financial services, business services, creative industries, analysis-intensive occupations – have increased in value on the world economy, and we have specialised more in them. As a result, our terms of trade have improved and sterling has been strong.'

'Why though do we have a comparative advantage in these things? First, English is very useful in analysis-intensive industries. It's notable that the terms of trade for a country like Ireland have improved, too. Second, our education is pretty good at the elite level – say, the top 10-20 per cent. Third, we have a culture of independent thinking here. Individualistic, eccentric, non-regimented, contrarian: values that are harmful in mass production, but, in fields like investment management and investment banking, more successful in their results than the committee-based, consensual values of Japanese and German firms.'

'In manufacturing and assembly, where we suffer a comparative disadvantage, poor management has paradoxically benefited the service sector. In a deflationary manufacturing environment worldwide, Britain's relative weakness in manufacturing and its relative strength in services mean that it is not so exposed to price commoditisation as other countries. And this time around, commoditisation has covered a wider swathe than 20 years ago.'

'I'd be nervous, though, about a top-down national government strategy that decided, "these are the qualities we want to encourage" – even if I agreed with those qualities. I don't want to hear how we've got to make everyone in Britain behave that way.'

Anatole Kaletsky, Associate Editor, *The Times*

5 The effect of the new outbound activities on the UK

World FDI has long been dominated by cross-border exchanges that are West-West in character. However, the past 20 years have seen a conspicuous shift of manufacturing from the West to the Third World.

The past decade, too, has seen service sector jobs relocated in the same direction. Wal-Mart Stores, the world's largest firm, is in a place-centred business – but it has a solid 37 per cent of its outlets outside the USA.⁷⁰

What risks do these developments hold for jobs in this country's *regions* – no strangers to the uninterrupted slimming down of Britain's manufacturing workforce and the transfer of operations to the Far East? Public Service Agreements, after all, insist that UK regions work to lower regional economic disparities; but a jobs exodus could worsen those disparities. Also, with the departure of the larger kind of factories and offices, the difficulties which regions find when engaging in new *firm formation* might worsen too.⁷¹

The regional loss of jobs in manufacturing at the hands of globalisation would be a particular worry. The UK cannot and should

not simply remodel itself as services capital to the world. Links between manufacturing and services have grown – today the export of manufactured goods is inconceivable without investment in back-up services abroad. But if UK firms only executed manufacturing outside the UK, the service jobs that those firms retained in this country would be unlikely to sustain Britain's regions for long. The DTI is not nostalgic when it recognises that manufacturing has merit. The UK certainly needs what the DTI calls a *manufacturing strategy*.⁷²

A key point, however, is that *outbound investment and even 'offshoring' are rarely pure negatives for the British economy* – even supposing, despite globalisation, that Britain alone was the be-all-and-end-all target of economic policy. As Dunning and his co-authors have put it of outbound FDI:

'During most of the 20th century, and particularly since the 1960s, outward FDI and exports moved parallel to each other. This implies complementary rather than substitution relations between FDI and domestic investment... trade and FDI policies need to be coherent. As the success of UK multinational enterprises outside the UK tends to facilitate additional exports from the UK... policy instruments designed to enhance the competitiveness of UK exports in world markets are likely to improve also the international competitiveness of UK firms producing outside its border.'

*Other things being equal, agile FDI by British companies abroad can make them more profitable, more able to sustain operations in the UK, and more able to supply the Treasury with tax revenues. The same holds true for agile outsourcing abroad.*⁷⁴ Here's what UK firms have gained from doing these two things:

⁷⁰ See www.walmartstores.com/wmstore/wmstores/HomePage.jsp

⁷¹ For a discussion of how, in London and the South-East, both total entrepreneurial activity and positive attitudes to entrepreneurship are substantially stronger than elsewhere, see Rebecca Harding, *Global Entrepreneurship Monitor United Kingdom 2003*, London Business School, 2004, pp 17, 18, 28-31. See also HM Treasury and ODPM, *Productivity in the UK*, op cit. On the gender dimension of entrepreneurship in the UK, see the British Chambers of Commerce, *Achieving the vision: female entrepreneurship*, June 2004 and on www.chamberonline.co.uk

⁷² DTI, *The Government's manufacturing strategy*, May 2002, and on www.dti.gov.uk/manufacturing/strategy.pdf

⁷³ Lilach Nachum, Geoffrey Jones and John H Dunning, 'The international competitiveness of the UK', op cit, p52.

⁷⁴ For McKinsey's sanguine view of the effects on the US economy of outsourcing work abroad, see www.mckinsey.com/knowledge/mgi/rp/offshoring.

From Malmesbury to Malaysia: Dyson's side of his story

'Since we moved manufacturing from Malmesbury to Malaysia, our profits have increased and the quality of our products has improved – much of the Far East may not be able to do car parts, but they make great parts for people like HP, Apple, Sony and us. As a result, we've recently paid £37.8 million in UK taxes, compared with less than £31 million the year before.

'We are in the consumer electronics business, where our motors are controlled not by brushes, a commutator or a magnet, but by chips. Our case is very particular: you can't compare it with Rolls-Royce, or with Ford. People have misunderstood what we did and why we did it.

'After ten years, I'd spent £44 million trying to keep manufacturing here, because I believe in that. But the graphs were all pointing in the wrong direction. In consumer electronics the market is deflationary. Our wages had doubled. Our Korean competitors made in China. Britain had become pretty much the most expensive place in the world to manufacture our product. We'd put a lot of extra features and technology on them, so they were becoming dearer anyway.

'We went to Malaysia because the local council refused to give us planning permission to double the size of the local factory. Some rather conservative locals – hunters, Roger

Scruton and James Grey, the local Tory MP – complained about light pollution. As soon as we moved our manufacturing abroad, of course, the MP was the first to criticise.

'We retain all the know-how, technology and intellectual property here. That is part of the future of Britain: to have your HQ, administration and R&D here, but to manufacture anywhere and sell everywhere. The profit in the know-how is the big thing.

'We've lost 560 manufacturing jobs but we have gained 100 engineers and scientists. Over the years, we intend to make up the difference.'

James Dyson, Chairman

Tesco heads East

Tesco gets only 20 per cent of its turnover from its 11 overseas markets; but its chief, Terry Leahy, reckons that the figure could, in time, reach 50 per cent or more. ⁷⁵ The largest Tesco depot worldwide is in Korea, the company has 55 stores in Thailand, and it is set to become the only retailer operating across the whole of central Europe. Total international sales grew by 29 per cent between 2002/3 and 2003/4, to £6.7bn. They contributed £306m in profits in 2003/4 – up 44 per cent on 2002/3. ⁷⁶ In Tesco's January 2004 share placing, more than £400m, or just under half the money it intended to raise, was due to be spent abroad.

⁷⁵ Matthew Goodman, 'Tesco stays hungry for overseas growth', *The Sunday Times Business News*, 15 June 2003, p6.

⁷⁶ Tesco chief executive Terry Leahy, *AGM presentation*, 18 June 2004, on www.tesco.com/corporateinfo

Do outbound activities really threaten 'the misery of manufacturing' ⁷⁷ – and, by 2024, that of services too?

The past 30 years have seen a significant structural decline in the importance of manufacturing to the UK economy. ⁷⁸ UK deindustrialisation, however, has led not just to a loss of jobs, but also to a loss of *perspective*.

It is important to note, first, that little justifies the recent scale of media discussion on the outsourcing of factory jobs to China and call centre or back-office jobs to India. In 2003 the flow of international FDI going into China, much of which was in manufacturing, was estimated at US\$57 billion. That figure dwarfs the US\$3.4 billion going into India in the same year. But it also dwarfs the scale of outsourcing business given either country. ⁷⁹

Despite these facts, today's trends

toward relocating activities abroad are still read through the tear-stained lens of the manufacturing recessions of the mid 1970s and early 1980s. ⁸⁰ Because manufacturing has always made up the bulk of UK exports, its decline has also been seen as a risk to the UK's balance of payments. Yet the opposite angle on manufacturing – that deindustrialisation had made it matter little, now that we live in a weightless, knowledge-based economy – is equally one-sided. Though manufacturing supplies only about a fifth of national output, it accounts for 30-40 per cent of the productivity gap between the UK and its main rivals. ⁸¹

Both points of view attribute too much significance to the physical side of economic activity. In economics, to view the production of tangible things as inherently either good or bad misses the point

that what is really important is the adding of value. ⁸² *The real issue for the UK over the next 20 years is to generate new values through domestic economic activity, even though this will be linked more than ever to the world economy. To that extent, FDI and outsourcing cannot be held as culprits for the decline of UK manufacturing – or, indeed, for upheaval in UK services.*

77 'The misery of manufacturing', *The Economist*, 27 September 2003, pp75-6.

78 From a quarter in the early 1970s, manufacturing's share of total output fell steadily to a fifth by the early 1990s. It then stabilised, before making another fall after the mid-1990s to about 17 per cent today. ONS, *UK National Accounts: the Blue Book*, various. This relative contraction in output has been paralleled by an even more precipitate decline in the number of people working in manufacturing – from nearly 8 million 30 years ago to 3.8 million today, or from nearly one-third of the workforce down to less than a seventh. ONS, *Labour Force Surveys*, various. The main impetus to both trends has been the internationalisation of production – first to Japan in the 1960s and 1970s, then to the newly industrialising economies of Korea, Taiwan, Hong Kong, Singapore, Malaysia and Thailand in the 1980s and early 1990s and, over the past decade, more widely to other parts of Asia. See Peter Dicken, *Global shift: transforming the world economy*, Paul Chapman Publishing, 2003.

79 Estimates from UNCTAD, 'Global FDI decline bottoms out in 2003', press release, 12 January 2004 and on www.unctad.org/Templates/Page.asp?intItemID=1634&lang=1. FDI into Hong Kong was US\$14.3 billion, even if that figure probably includes 'round trip' inflows from mainland China. Two further perspectives help set the trend toward outsourcing work abroad in a larger context. First, as Martin Fleisher, Chief Executive of the IT researchers Gartner Group, told the World Economic Forum in Davos, Switzerland, in January 2004, 'Much of what's being outsourced using technology today will be completely eliminated by technology tomorrow'. Quoted in David Kirkpatrick, 'Rage against offshoring is off target', *Fortune*, 23 February 2004, p29. Second, rather than offering simple 'wage arbitrage', offshore service centres may depend for their success on 'the right staff with the right customer service skills supported with the best training and the best management'. See the letter by Iain Herbertson, Managing Director of Manpower Inc, Asia Pacific, 'Effective offshoring requires proper planning and a focus on people issues above all else', *Financial Times*, 7 June 2004, p16.

80 Since an influential 1991 report by the House of Lords Select Committee on Science and Technology, there also remains a sentimental tendency to view manufacturing as irreplaceable. See Richard Brooks and Peter Robinson, *Manufacturing in the UK*, Institute for Public Policy Research, August 2003.

81 DTI, *The Government's manufacturing strategy*, op cit, para 7, p6.

82 The old argument was that services couldn't adequately replace manufacturing because they depend on it. But this is too narrow. All parts of a modern economy are increasingly interdependent. It is precisely through outsourcing that the same functions once thought integral to *manufacturing* are now contracted out to separate *services* units. Ibid, p11. Both categories are far too heterogeneous to guide economic policies and actions. What Britain needs are enough strong value-adding economic activities to deliver both desirable material products and desirable immaterial services.

There is no need to take fright about the pace or apparently limitless character of the outbound globalisation of the UK economy. Even over 20 years, Britain is not about to see an inexorable departure of manufacturing and services. New call centres are still being opened in the UK in 2004. So, too, are new factories.

Harvard University's Clayton Christensen has shown that core competences, outsourcing and the location of particular activities together form a very subtle and very specific set of questions with each product, firm and industry.⁸³ The only generalisation that is possible is that it makes sense to:

- move some activities abroad, but retain some here, and
- use broadband telecommunications on a global scale, knowing that it can solve many problems of distance, but not all.

Ross Perot's famous 'giant sucking sound', invoked in 1993 to describe the USA's potential loss of jobs to Mexico, was a famously vivid account of the risks that attend globalisation. Yet neither in manufacturing nor in services does the UK face a one-way departure of key functions in search of low

wages in the Third World. In manufacturing, we should remember, outlays on wages and salaries are no longer such a big fraction of general outlays. Moreover, it is manufacturing, more than services, which is the most open to technical progress and productivity growth.⁸⁴ The chance to automate factories remains – and it remains in the UK.

Engines and diesel engines in particular will still be made in the UK. Construction equipment manufacturer JCB is to spend £50 million and create 200 jobs in switching diesel engine production from foreign suppliers to its native Staffordshire. Similarly, Games Workshop, a £150 million multinational, not only designs its toy figures in Nottinghamshire, but makes them there, too, with precision machine tools and mouldings.

To the extent that job losses in manufacturing in the UK reflect today's *growing international division of labour*, the UK has every *opportunity* to play a fully agile role in that process – by linking up with China and Taiwan, for example.⁸⁵ In that sense, *outbound threats to legacy manufacturing operations in the UK can be overstated*. But to the

extent that manufacturing problems indicate a broader *faltering of UK competitiveness*, those problems must be addressed, and addressed at both national and regional levels.

⁸⁶

What about the migration of call centres, or indeed of posts in R&D? Today's trends toward outsourcing services are still very nascent. About 6,000 call centre staff in India serve the UK market – compared with a headcount in UK call centres of 420,000.⁸⁷ Accenture has hired 200 people a week in India to cope with a boom in demand for outsourcing services – but this isn't so much compared with the 83,000 people it employs worldwide.⁸⁸

83 Clayton M Christensen and Michael E Raynor, *The innovator's solution: creating and sustaining successful growth*, Harvard Business School Press, 2003.

84 DTI, *The Government's manufacturing strategy*, op cit, para 19, p10.

85 See, for example, House of Commons Select Committee on Trade and Industry, *Trade and investment opportunities with China and Taiwan, Fourteenth Report of Session 2002-03*, HC 128, 30 September 2003, and on www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmtrdind/128-i/128.pdf

86 At the Institute for Manufacturing, Cambridge University, Professor Mike Gregory suggests that while outsourcing, say, the sewing of jeans away from a UK factory may properly ensure that 1,000 jeans workers there move on to occupations which deliver more added value, the loss of UK *production* in some fields – for example, aero-engines – may be accompanied by the loss of those kinds of *design* that are closely linked to it. Gregory believes that there is a real potential danger that such a loss cannot be reversed. Both firms and governments in Britain, he says, 'need to be better at deciding what should stay and what should go'. In addition, he and his colleagues argue that 'the problem of how to structure global production networks is not well understood. Many companies appear to rely on relatively simple cost models, and there is a danger that these cost calculations will dominate all other considerations'. See Mike Gregory, Philip Hanson, Arend Jan van Bochoven and Finbarr Livesey, *Making the most of production*, Institute for Manufacturing, 2003, p14.

87 Figures from Datamonitor, quoted by Rachel Fielding, 'Outsourcers face shake-out', *IT Week*, 8 September 2003.

88 Jon Ashworth, 'Accenture expands its call centres in India', *The Times*, 18 September 2003, p35.

Still, much may change by 2024. Back in 1971, at the Science Policy Research Unit at Sussex University, Keith Pavitt, one of the world's top analysts of technology and innovation, argued that R&D posts were essentially immune to the process of globalisation:

'R&D, unlike production, does not lend itself easily to international spread. Production techniques are set and known, and can be spread internationally to take advantage of factor costs. R&D is dealing with the unknown and its efficiency depends less on factor costs....'⁸⁹

Yet as Pavitt was among the first to realise, what he had called the 'strong pressures towards geographical concentration of R&D' within multinationals have not, in the event, proved so strong after all. A number of multinationals have distributed R&D quite widely around the world, and not a few have set up labs in the Third World.

So if complex R&D jobs have grown up in far-flung subsidiaries, why should other kinds of jobs not do the same, or be outsourced internationally? In principle, at least, there are few reasons why not. For example: it would be naïve to imagine that, over 20 years, India could not bring the capabilities of its call centre operators up toward British levels of empathy and brand projection.

Jobs *are* rather mobile in today's global world. Yet it would be wrong to focus debate on:

- venal UK banks taking every opportunity to use the black arts of IT to abolish call centres and paper-pushing operations in the UK,
- footloose UK manufacturers hollowing out the old world of tangible production, and
- those UK manufacturers and service providers who have convinced themselves that only Britons really know how to build engines or handle a customer enquiry on the phone.

These unbalanced but familiar accounts of globalisation easily distract from the UK's agile pursuit of innovation across *all* economic sectors, and *all* parts of the world economy.

On top of the other positive evidence attending UK outbound activities, there is a wider change in UK regional economies to consider. Over the next two decades, globalisation is unlikely to lead to the blighting of whole cities that characterised the exodus of industry from the UK 30 years ago. An area like the Clydeside, for example, is too diversified today for that logic to operate in the old manner. *The real question is whether the UK, in both manufacturing and services, can generate enough new high value-added jobs to compensate for the loss of the old, low value-added ones. And in the quest for that kind of agility, there can be no doubt that government has a legitimate interest.*

89 Keith Pavitt, 'Technology in Europe's future', *Research Policy*, vol 1, 1971-2, p236.

UK engineering will always be around

'It's important to get the relocation of UK manufacturing in perspective. Less than 5 per cent of our membership has production in China. You've got to separate out the brain and the brawn. A lot of the low-cost production you can send abroad, while you keep the innovation here. But even here you need some production, because the to-ing and fro-ing with the Far East is quite a business, and imposes its own costs.'

'If you take engines, they are all about innovations that are driven by new, international standards – on emissions and everything else. Now the point is you can only meet those standards by trial and error at a particular site.'

'Experiment, and the unpredictability that goes with it, are vital to innovation. That means that when our members innovate, it's local UK universities, and face-to-face contact that they first turn to, not telecommunications links with the Far East.'

Steve Radley, Chief Economist, EEF, the manufacturers' organisation

Manufacturing: Domino Printing Sciences is agile abroad

'We have 1,700 staff round the world and a turnover of more than £160 million. We specialise in ink jet and laser technologies, providing coding and printing solutions. For example, we do the coding and marking of the "best-before" dates on products. We also manufacture industrial printers.'

'We export products to and service customers in 120 countries worldwide and have subsidiary operations in 12. We make printers in Cambridge, inks in Liverpool and the States, laser products in California and Germany. We run an assembly and test site in India to meet demand there, and in Shanghai we add manufacturing to those functions because Shanghai exports to Asia Pacific.'

'There are specialist skills in the laser area that rest with very few people. That explains why we set up manufacturing sites in California and Germany. We are working with the top people there to develop new technology and new products.'

'Here in Cambridge, we can find good technology people with an engineering background. However, as there are a lot of R&D and high-tech companies here, intense competition also means that it is difficult for us to get the people we want. That's why we are looking to find skills elsewhere, probably software engineering skills in India and China where there is more supply and the costs are lower.'

Garry Havens, Group Commercial Director

Services: lastminute.com didn't want all its Java programmers to hail from outside Britain

'At Last Minute we couldn't be proud of the fact that, though we were big players since our acquisitions in Europe, we outsourced much of our software development to India, Ireland and Russia. Where did we look in the UK for those kind of skills?'

'The problem in Britain is a certain right-wing snobbishness which suggests that we should all study classics or write a novel. But in a service economy, we desperately need technical skills and technologists. In the case of Last Minute, we needed Java programmers.'

'Too many of Britain's schoolchildren are studying David Beckham's trainers instead of real skills.'

Martha Lane Fox, Co-founder

Services: B&Q takes space in Beijing

'We are the number one DIY retailer in Europe and the third largest in the world, with more than 35,000 employees. Including Screwfix, our direct e-commerce and catalogue channel to homes and businesses, our turnover in the year 2002-3 was £3.75 billion.'

'We opened our largest store in the world on 18 October 2003, in Beijing. At a quarter of a million square feet, it's the size of six football pitches and double the size of an average B&Q warehouse in the UK. We've formed various joint ventures in China, and also have businesses in Taiwan and Turkey.'

'Growth opportunities for the home improvement market in the UK and Western Europe are slowing down. So we target markets across the whole of Europe and the whole of South-East Asia.'

'We've learnt various new ways of doing business. For example, we have learnt about multi-level trading – adapting our ground-floor retail format to basements, second-floor and two-floor developments. We've introduced multi-level trading to our store in Sutton. In terms of IT, the use we've made of radio frequency telecommunications in Taiwan is something that we have brought back to the UK. We are also sourcing more stylish and innovative products from overseas markets to improve product development at home.'

Steve Gilman, Managing Director, B&Q Asia

6 Why the UK will remain attractive to overseas investors

What about the other risk with peripatetic capital – that the inbound sort may turn to destinations other than the UK? Is the future all ‘Jobs threat as overseas investors shun Britain’, as a tabloid headline has had it? ⁹⁰

At one level, Britain’s strong statistical showing in international comparisons of inward investment is easily explained. According to senior executives at 500 of Europe’s top companies, London, despite its transport problems, comes top out of 30 European cities for its access to markets, qualified staff, external transport links, quality of telecommunications and languages spoken. ⁹¹ Whatever its weaknesses in IT, Britain is one of the countries most conducive to internet-based commercial opportunities. ⁹² The UK’s network of venture capitalists is a significant draw. Its competition regime is easy to negotiate – even in financial services, which is heavily regulated. The UK has one of the most transparent regimes for

corporate governance, and has, in the English language, a quality-of-life indicator that is highly rated by overseas firms. ⁹³ Entrepreneurs from ethnic minority backgrounds are proportionately more numerous than those designated as white British. ⁹⁴ Above all, when a foreign firm sets up in the UK, it is nearly always regarded as British.

For firms of all sizes in the UK, reducing tax burdens is the most popular measure the Government could take to improve business performance, followed by reducing regulatory burdens. ⁹⁵ Yet for inward investors, Britain has among the lowest corporate and personal tax rates in Europe. ⁹⁶ Across manufacturing in the EU and the

USA, it has among the lowest hourly labour costs for production workers; as a percentage of those costs, the UK also runs up state-mandated supplementary labour costs that are among the lowest. ⁹⁷ And on both sides of the North Atlantic, it has among the lowest costs of gas, electricity, international phone calls and software. ⁹⁸

90 Jonathan Pryn, ‘Jobs threat as overseas investors shun Britain’, *Evening Standard*, 17 September 2003, p35. The report that prompted this article was AT Kearney, *Foreign Direct Investment Confidence Index*, September 2003, and on www.atkearney.com/shared_res/pdf/FDICI_Sept_2003_S.pdf. Although this report looked only at investment flows and investor attitudes in terms of confidence, it is a fact that, as a proportion of all the US FDI stock in all of Europe right up to and including Russia, that in the UK fell, on a historical cost basis, from 34.5 per cent in 1999 to 32 per cent in 2002. As an indicator, FDI stocks are much more reliable than FDI flows. With the enlargement of the EU, US FDI may shift away from Britain toward what Donald Rumsfeld has seminally described as ‘the New Europe’. For the first time, too, 2002 saw more Japanese FDI go to France than to Britain. US figures calculated from US Department of Commerce Bureau of Economic Analysis, *US direct investment abroad on a historical-cost basis, 1999-2002, \$m* and on www.bea.doc.gov/bea/di/usdlongcty.xls. Japanese figures from HM Treasury, *EMU and business sectors*, op cit, Chart 4.10, p63.

91 Cushman & Wakefield Healey & Baker, *European cities monitor*, 16 October 2003, and on www.cushmanwakefieldeurope.com/servlets/site/readArticle?newsID=912&source=search

92 Economist Intelligence Unit, *The 2003 e-readiness rankings*, p4, and on http://graphics.eiu.com/files/ad_pdfs/eReady_2003.pdf

93 See also HM Treasury, *EMU and business sectors*, op cit, sections 3.27 and 4.77, pp33 and 63.

94 See Rebecca Harding, op cit, pp36-38.

95 The British Chambers of Commerce, *BCC productivity survey*, op cit, p11.

96 Rates of corporate income tax payable by ordinary domestic companies doing business in the UK are 30 per cent. The figures for France, Italy and Germany are 35.4, 38.3 and 28 per cent respectively. Top-rate personal taxes are 40 per cent, against 50, 45 and 49 per cent. The US top rate is 38.6 per cent. Source: Inland Revenue international division, *European Union – main corporation tax rates*, December 2003, and *Overseas tax data: personal tax rates in the member states of the European Union, Australia, Canada, Japan and the United States 2003*, January 2004.

97 Bureau of Labor Statistics, *Hourly compensation costs in US dollars for production workers in manufacturing, 30 countries or areas and selected economic groups, selected years, 1975-2002*, on www.bls.gov/news.release/ichcc.t02.htm and *International comparisons of hourly compensation costs for production workers in manufacturing, 1975-2002, supplementary tables*, May 2004, table 15. Social insurance expenditures and other labor taxes as percent of hourly compensation costs for production workers in manufacturing, 30 countries or areas, 1975-2002, and on [ftp://ftp.bls.gov/pub/special.requests/ForeignLabor/ichccsuppt15.txt](http://ftp.bls.gov/pub/special.requests/ForeignLabor/ichccsuppt15.txt)

98 NUS Consulting, *2002-2003 International telecommunications report & cost survey, 2002-2003 International electricity report & cost survey and 2000-2001 International gas report & cost survey*. See www.nusconsulting.com

Among OECD countries, the UK has the lowest barriers to inward FDI.⁹⁹ Buying a company is easy: electronic registration can be done within 24 hours for £20. Last, cities in the UK are, after tax, among the cheapest places in the West to start up and operate in – manufacturing included.¹⁰⁰

All in all, cost structures do explain a lot about the UK's magnetism. On the other hand, however, the commitment made by inward investors to the UK economy has been significant: for example, the way in which the USA has built up its FDI stock in Britain has been impressive – even in manufacturing.¹⁰¹ Yet with inward investment as much as with the outbound sort, a sense of balance is essential. Inward investment is important for the UK, but it is no panacea. Nowhere is the need for balance clearer than over the regional clusters around which inward investors tend to concentrate.

99 Stephen S Golub, *Measures of restrictions on inward foreign direct investment for OECD countries*, OECD Economics Department Working Papers No. 357, 2 June 2003, and on [http://appli1.oecd.org/olis/2003doc.nsf/linkto/eco-wkp\(2003\)11/\\$FILE/JT00145291.pdf](http://appli1.oecd.org/olis/2003doc.nsf/linkto/eco-wkp(2003)11/$FILE/JT00145291.pdf)

100 Next to cities in Canada and Australia, those in the UK were the least expensive, compared with a total of 121 across these three countries and France, Germany, Iceland, Italy, Luxembourg, the Netherlands, the USA and Japan. KPMG, *Competitive Alternatives: the CEO's guide to international business costs*, February 2004, and on www.competitivealternatives.com/downloads/downloads.asp

101 HM Treasury, *EMU and business sectors*, op cit, Table 4.9.

Rethinking the UK's approach to industrial clusters

Following Michael Porter's *The competitive advantage of nations* (1990), the European Commission has defined clusters as groups of independent companies and associated institutions that both collaborate and compete. A cluster may be science-based or traditional, managed by an institution or not; but even though it may have global extensions, it is geographically concentrated in one or several regions and is also specialised in a particular field linked by common technologies and skills.¹⁰²

As the Commission admits, clusters can be a nebulous concept, even though definitions 'usually share the idea of proximity, networking and specialisation'. However, the Commission is not alone in believing that innovation is primarily a local matter. As Indiana University's David Audretsch summed up thinking at the millennium:

'The spillover of knowledge from the firm or university creating that knowledge to a third-party firm is essential to innovative activity. Such knowledge

spillovers tend to be spatially restricted. Thus, an irony of globalisation is that, even as the relevant geographic market for most goods and services becomes increasingly global, the increased importance of innovative activity in the leading developed countries has triggered a resurgence in the importance of local regions as a key source of comparative advantage.'¹⁰³

In the same vein, Carnegie Mellon's Richard Florida writes of 'The Power of Place' and of 'The Geography of Creativity'.¹⁰⁴ Yet the merits of the local in a world of more permeable economic borders amount to an irony of globalisation too far.

Local foci of R&D are important for attracting FDI.¹⁰⁵ But the universal policy cry of 'How can we grow the next Silicon Valley?'¹⁰⁶ is nothing to celebrate: it is more of a threat than an opportunity. Every city and region in the developed West – and many in the developing world, too – now claims to be an *industry corridor*, a *research triangle*, or a *regional hub*. This is not to dismiss clusters. However, the thing about a genuine cluster is not that the proximity of

workplaces within it encourages a rapid and inexpensive spillover of knowledge. Given today's tough attitudes to intellectual property, that is a dubious proposition; it is also one that places too much of an accent on the transfer of *existing* innovations. No, what dignifies a genuine cluster is the strength of R&D within it and the overall pace and weight of *fresh* innovations coming out of it.¹⁰⁷

102 See European Commission Enterprise Directorate General, Promotion of entrepreneurship and SMEs: Improving business support measures, Unit B.1, *Final report of the expert group on enterprise clusters and networks*, 2003, p9, on http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/cluster/map_project.htm, and *Report on European seminar on cluster policy*, Copenhagen, 10 June 2003, on http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/cluster/seminar.htm

103 David B Audretsch, 'Knowledge, globalisation, and regions', in John Dunning, editor, *Regions, globalisation, and the knowledge-based economy*, OUP, 2000, p77.

104 Richard Florida, *The rise of the creative class – and how it's transforming work, leisure, community and everyday life*, Basic Books, 2002.

105 One reason is that inward investors, just like other participants in a cluster, may have a special incentive to 'save costs through joint sourcing': Sainsbury, op cit, para 6.27, p107. On clusters more broadly, see John Adams, Peter Robinson and Anthony Vigor, *A new regional policy for the UK*, Institute for Public Policy Research, 2003.

106 Audretsch, op cit, p78.

107 In June 2003 the Core Cities Summit, held at Newcastle with the participation of Birmingham, Bristol, Leeds, Liverpool, Manchester, Nottingham, Sheffield and the Deputy Prime Minister, underlined the correlation between the regional pattern of R&D (both public and private sector) and regional economic performance. ODPM, *Cities, regions and competitiveness: second report of the working group of government departments, the Core Cities and the Regional Development Agencies*, June 2003 and on www.urban.odpm.gov.uk/publications/cities/pdf/cities.pdf. See also Michael Parkinson, Mary Hutchins, James Simmie, Greg Clark and Hans Verdonk, *Competitive European cities: where do the Core Cities stand?*, ODPM, January 2004, and on www.odpm.gov.uk/stellent/groups/odpm_urbanpolicy/documents/page/odpm_urbpol_026867.hcsp

Despite all the international rhetoric about clusters of recent years, most countries in the EU have not developed a strategic approach to them.¹⁰⁸ *The UK, too, could be more agile in publicising its own, world-class geographical centres of innovation.* What are the recent innovations in financial services for which Edinburgh and Glasgow, big centres of inward investment in this field, are responsible?¹⁰⁹ How many inward investors know of the 50 *optoelectronics* firms in the Welsh Optoelectronics Forum, North Wales? How many know that, in *nanotechnology*, the North-West's National Microsystems Packaging Centre received £20-30 million of government funding in 2003?¹¹⁰

benefit from that. But both would benefit even more from greater precision than the concept of clusters allows. *Which cities and regions are good not just for broad sectors, but for the globally integrated yet highly discrete functions an incoming multinational is looking for?*

If Britain wants to retain inward investors, it must know how to answer that question in agile style.

Once the word is more fully out on these kinds of developments, big new opportunities to attract FDI will open up.¹¹¹

Government should use *Geographical Information Systems to make a continuously updated, web-browsable Domesday Book on the changing shape of innovation and R&D in the UK.* British firms, let alone inward investors, could

108 European Commission Enterprise Directorate General, *Final report of the expert group on enterprise clusters and networks*, op cit, p10.

109 'Financial services activities concentrated in Edinburgh and Glasgow represent the second largest financial centre in the UK, and the cluster is among the ten largest European centres for banking, life assurance and pension funds and investment management. It is home to a wide range of support services, including law, accountancy and financial information provision. Major overseas financial service players have established a presence in Edinburgh (eg State Street Bank and Deutsche Bank), while leading Scottish firms have remained based in Edinburgh's financial district (eg Scottish Life and Scottish Widows)... Four banks have their headquarters or major regional offices in Scotland, including The Royal Bank of Scotland, the second largest bank in Europe by market capitalisation. HBOS and Lloyds TSB Scotland have headquarters in Edinburgh, and Clydesdale Bank is based in Glasgow, where its parent company, National Australia Group, has its European clearing bank headquarters. Together, Scottish banks have total assets of over £360 billion and handle about 40 per cent of UK corporate structured finance. While Scotland is known for its retail and corporate banking sector, a number of investment banks have also set up back-office operations in the region... Scotland is one of the world's major fund management centres, with £294 billion under management in September 2002. Nearly 5 per cent of European pension and long-term life assurance funds are managed from Scotland. It is the sixth largest centre in Europe for institutional equity management and the fifteenth largest internationally. In the insurance sector, Scottish-based life assurance offices alone currently have over £250 billion of funds under management, employing 15,000 people'. See HM Treasury, *The location of financial activity and the euro*, EMU study, 2003, Box 2.4, p20 and on www.hm-treasury.gov.uk/documents/the_euro/assessment/studies/euro_assess03_studnorfolk.cfm

110 DTI, *Multi-million pound investment to help the UK cash in on nanotechnology*, press release, 2 July 2003, on www.gnn.gov.uk/gnn/national.nsf/TI/9CC2833D33E81C0B80256D57003CD810?opendocument. For more on UK Government support for nanotechnology, see Sainsbury, op cit, Box 3.6, p63. In December 2003, nanotechnology in the USA received a federal commitment of US\$3.7bn. See the useful article by Nicholas Varchaver, 'Is nanotech ready for its close-up?', *Fortune*, 17 May 2004, pp79-83.

111 The major analysis of clusters in the UK, which identifies a total of 154, is Trends Business Research, *Business clusters in the UK – a first assessment*, DTI, February 2001, and on www.dti.gov.uk/clusters/map. As the study concedes, its map does not deal with the size and complexity of clusters either within or between regions: it simply lists which regions specialise in particular sectors, basing itself largely on data up to September 1999. Ibid, p24.

Let's get specific, not talk about the UK's total of Nobel Prizes

'When you're trying to attract inward investment, you can't talk about sectors in the old way any more. Activities are more specialised than by sector. You've got to ask: which stage in the value chain is the inward investor interested in? Is the activity supporting technology, procurement, logistics, operations – which?'

'If you take pharmaceuticals, the North-East of England and the East Midlands are very good for something like clinical trials. Their big rivals are Denmark and South Africa. But they're good at clinical trials for very specific reasons. They have very good patient records on

their databases. They hook up very well with the Office for National Statistics to process information on age, mortality and all the rest. They have students and other local people willing to undergo trials.

'We live in a particularised world, in which quite micro parts of the value chain are being dispersed to international locations. If you're a pharma company active in global markets, it's no big deal, geographically, whether you invest in Britain, France or Germany – although there are important factors to consider, like the travel times that surround Heathrow, and the

number of flights a day to places like Chicago. What is more important is local expertise as I've described it. They want to know about the local levels of staff turnover, absenteeism and pay for chemistry graduates, as well as about local planning consent in terms of new sites. And they want to know about the attitude of the national regulatory authorities to drug development. It's all very specific.

'It's for this reason that no cluster in Britain can claim to be "Europe's leader in biotech" – any more than Britain can claim to be "the R&D hub of Europe".'

Jan Smit, Senior Consultant, International Location Advisory Services, Ernst & Young

If Britain does not market the merits of its geographical clusters clearly enough, however, many inward investors in the UK do recognise

what is on offer. To conclude this chapter, here's what several are doing and saying about local powerhouses of innovation in the UK:

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
<p>IBM</p> <p>USA</p> <p>Greenock, Scotland</p>	<p>2,700 staff, 1,700-2,000 of whom are in services</p>	<p>Cars, EU</p>	<p><i>'We've been at Greenock for 50 years, and are very much part of the community. We're a leading exporter in Scotland. The reason we could be a part of IBM in the past and are likely to remain so in the future is to do with being more alert than our rivals to successive waves of commoditisation in the computer industry.</i></p> <p><i>'When we started, making electromechanical typewriters, there were complaints that we were taking every TV mechanic in the area. At the same time we ourselves have helped create a plentiful supply of local talent, ready to add value to IBM strategy, products and processes. The central western belt in Scotland is good for other suppliers as well as us. Our relations with Government and the DTI have been great – not just over capital projects, but in terms of grants for training.</i></p> <p><i>'Our industry has always had supply problems. Over the years, then, we've moved from a focus on products to becoming a specialist in supply chain management and customer service. In the early 1980s, we moved from high-volume manufacture of monitors to collaborating with America in developing the first prototype of a PC. Then the manufacture here of PCs and servers peaked in 1994, after which cost pressures in the computer business began to spread to desktops and consumer markets. By the turn of the millennium, laptops were going the same way. Components were the same; what made a difference was design, weight, battery life, look and feel – and service.</i></p> <p><i>'We still do a moderate amount of assembly work – we still build mainframes, xSeries servers and ThinkPads. But, on site, our contractors Sanmina perform product engineering and configuration, make critical components and conduct testing. We've become more like an IBM control tower for the on-time delivery of keenly-priced quality parts and machines.</i></p> <p><i>'We have 400 people in our technical support help centre, handling half a million customer calls a year from large corporate customers, partners and end-users in Europe, the Middle East and Africa. In our ibm.com service centre we have 600 specialists in marketing, technology and warranty management. Our 250 people in IT development do contract work in applications, with a focus on vertical markets and especially the public sector. We have our European executive briefing centre for customers, and we have 1200 people working in strategic outsourcing, running the helpdesks of our clients' IT departments.</i></p>

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
IBM (continued)	100 designers, modelmakers and software specialists in powertrains and engines	Cars, EU	<p><i>'They are all multilingual. That kind of flexibility in the labour force has allowed the UK to take a lot of IBM business from the Continent. I think the Government could do more to help small firms supplying us, to promote IT among medium firms, to make sites available and also accessible to employees working round the clock, and to develop a real national agenda for IT and the economy (in the Netherlands, they have a cabinet minister on the case). But perhaps above all, Britain should almost make it compulsory for people to have a second language. If I could have technology and engineering people – including women – who had languages, I'd know that the value of the UK to inward investors would be immeasurably improved.'</i></p> <p>Peter Logue, Site Director and Director for Customer Service for Strategic Outsourcing</p>
<p>Pfizer</p> <p>American</p> <p>Sandwich, Kent</p> <p>Most famous for Viagra</p>	4,000 staff: 1,000 in manufacturing, nearly 2,700 in research	<p>Pharmaceuticals</p> <p>Worldwide</p>	<p><i>'We came to the UK in the 1950s on the back of a company shift to pharmaceuticals following the discovery of fermentation methods in antibiotics and the development of Teramycin. Then, the UK operation was just a few guys in a hut on the side. But in the 1970s it was decided to formalise and globalise all the company's ad-hoc research units. When Pfizer came to Europe it originally set up in Folkestone and then it bought some land available on the English coast – primarily for ease of shipment to the Continent. Once manufacturing began in Europe, this was no longer important; but the investment was there, and the R&D grew up as a result.'</i></p> <p><i>'Sandwich has originated a number of discoveries that have led to major new products. As we've expanded, we've been kept open through those discoveries – while other units have been closed. A continual stream of royalties has given us the cash significantly to expand R&D and the infrastructure behind it, to the degree that our facility is as significant as any one of the four that the company runs in the USA.'</i></p> <p><i>'Because the company has progressively shut small research facilities, it's been able to concentrate its European research into a single site in Kent. By contrast with our commercial HQ, which is in Surrey, everything we do is very capital-intensive. It's all based on chemists and biologists. Development is a bit different: it's about clinician trials, and we still have local offices to serve that.'</i></p> <p><i>'Since 9/11 there has been a natural tendency on the part of American firms to concentrate on the home market. But Sandwich is very productive and remains a key part of the company's global R&D strategy.'</i></p> <p><i>'Each site focuses on two or three therapeutic areas. Since cardiovascular research was shipped across to the USA, our areas have been pain, respiratory ailments and allergies. We're also obviously well known for our expertise in sexual medicine.'</i></p> <p><i>'It could be asked: why have a distribution centre in one corner of the UK? But since only relatively small goods roll out of Pfizer's manufacturing, we've not felt the need to locate to a central distribution point.'</i></p> <p><i>'The commercial side of the business was moved near to Reigate in 2000 because it's easier to recruit business people there than in Kent. With R&D that's not a problem. If you want to work in pharmaceuticals in the UK, you go to where the action is. So location is less important for good science researchers.'</i></p> <p><i>'We expect further rationalisation in R&D. At Sandwich we have to stay productive – we are in competition with our collaborators. But the company wants to keep a presence in Europe, partly for political reasons. When we recently acquired Pharmacia and its cancer specialists in Italy, for example, we spun the lab off rather than close it down, even though the option we took was more expensive.'</i></p> <p><i>'It's worth noting that from Pfizer's perspective, the countries that have driven drug prices down the most have been fastest to lose R&D facilities in pharmaceuticals.'</i></p> <p>Steve Collyer, Financial Director</p>

Firm, nationality, location, remarks	Turnover / staff on site	Product, main markets	What the firm says
<p>Brother Industries</p> <p>Japanese</p> <p>Audenshaw, Manchester</p> <p>£2 billion multinational headquartered at Nagoya</p>	<p>140 staff at Brother International Europe Ltd, 270 at Brother UK Ltd</p>	<p>IT peripherals, especially printers and multi-function products</p> <p>Europe, Middle East, Africa</p>	<p><i>'In 1958 Brother took the first step in establishing a base in Europe by setting up in Dublin, Ireland. In those days there were very few Japanese manufacturers making overseas investments and for Brother everything really was a step in the dark.</i></p> <p><i>'The main objective of coming to Dublin was to manufacture home-use sewing machines and we went to London to secure the financial support for this. In other words, Brother started its investment in Europe by establishing a small European HQ in London and a factory in Dublin.</i></p> <p><i>'Brother decided to invest in a factory in Dublin because of the trade restrictions in Europe on Japanese-produced sewing machines. In Dublin we were able to satisfy the local parts/content ratio and overcome trade restrictions. The main factor influencing our decision was that Brother had orders from Quelle in Germany amounting to 10,000 units a month. In reality we established a manufacturing base simply to supply this special customer. Brother was able to make this important decision because of the corporate culture of always responding to customer demands, and it had the manufacturing skill to support its decision.</i></p> <p><i>'In 1960 we had to consider further expansion of our production and it was at this time 22 Japanese arrived at Dublin airport by charter plane, having spent 72 hours travelling from Japan. In those days Dublin airport was still quite small and their arrival was big news in the Irish press. The leader of this delegation was a young man called Mr K Tazaki and he was the only one of the group able to speak English. The remaining 21 Japanese were all engineers, brought over to train the local people. The decision to expand production and send over such strong support was made by top management in Japan only one month earlier and the decision was made simply to honour Brother's agreement with Quelle. Brother's DNA was "At your side" from that point and still continues to this day. As for Mr K Tazaki, he stayed with Brother Europe and eventually became Managing Director of Brother International Europe.</i></p> <p><i>'Fortunately our business growth was very steady and in 1961 we decided that a branch office in the UK would improve our service. This decision was influenced primarily by our familiarity with English and the long-established cultural compatibility between Japan and Britain. Jones Sewing Machine Company, a Manchester company with more than 100 years of history, invited us to set up our office there as partners. The eventual merger of our two companies was very rare in the 1960s and Brother was a pioneer in this field. So the natural outcome was that our branch office developed into the European Headquarters in order to provide overall administration and support European sales and service.</i></p> <p><i>'Thereafter Brother business expanded from sewing machines to home electrical appliances, typewriters and printers. We had so many end-users, who were happily using Brother products, that in order to maintain our supply to these people we decided to establish a manufacturing base in the UK as well. Also the tightening of European Commission rules regarding typewriters encouraged this development in the UK.</i></p> <p><i>'Brother took very much a step-by-step approach towards investment in the UK, starting from finance, sales, technical service and manufacturing. In 1994 we established Brother Holdings to streamline our investment in Europe.</i></p> <p><i>'A very strong reason for Brother continuing to invest in the UK is the stable political and economic situation and a skilled labour force with a good relationship between management and workers. Of course, London being a world financial centre is another very strong reason to be in the UK.</i></p> <p><i>'In addition to sales and services for the domestic UK market, we are centralising many of our European functions at our Manchester HQ, such as finance, product planning, marketing, corporate planning, technical support, logistics and IT support.</i></p> <p><i>'If we look forward ten or 20 years, we believe that the UK will continue to provide us with good opportunities to function as the co-ordinating centre servicing the total European market. However, if the UK maintains its position outside the European Monetary Union then we have to say, with great regret, that the attractiveness of the UK will be drastically reduced and we may have no alternative but to seriously consider transferring our operations to mainland Europe.</i></p> <p>Seiichi Hirata, MD of Brother Industries, Nagoya, Japan</p>

Firm, nationality, location,	Turnover / staff on site	Product, main markets	What the firm says
<p>Siemens</p> <p>German</p> <p>Bracknell and more than 120 other sites</p> <p>R&D spend £29 million</p> <p>Exports £361 million</p>	<p>UK turnover £2.65 billion, staff 18,100</p>	<p>Information and communication; automation and control; power; transportation; medical; lighting; financial services. Affiliated companies cover computers, consulting, mobile telecommunications; domestic appliances</p> <p>EU</p>	<p><i>'William Siemens, our company's founder, first came to the UK 161 years ago. He set up an engineering business. It installed the world's first power station and electric street lighting in Godalming, Surrey. It also laid the first telegraph cables between London and Calcutta and under the Atlantic to North America.</i></p> <p><i>'Siemens has always been an international company. Our market is the global market. Today we are using the opportunities of globalisation to achieve a regionally balanced business spread and to tap into the skills and strengths of people around the world.</i></p> <p><i>'The UK continues to be an important market for us. That's not only because it is the fifth largest market for electrical engineering and electronic goods, but also because we manufacture and export there for the global market. In the UK we employ over 18,000 people; about 5,000 are in manufacturing.</i></p> <p><i>'In Oxfordshire, we design and manufacture the super-conducting magnets for all Siemens magnetic resonance imaging (MRI) body scanners, worldwide. In Congleton we design and manufacture standard viable speed drives, in Birmingham and Telford we manufacture automotive components, and in Poole we manufacture traffic control systems and rail communications systems for the global market.</i></p> <p><i>'One of our key strengths has been our decentralised business model. Another has been that, despite our focus on the large and dynamic fields of electrical engineering and electronics, we have within these two fields operated across several businesses. That's kept us robust; it's protected us from fluctuations within individual sectors such as mobile communications. That does not mean we subsidise failing businesses. But it does give us a solidity and diversity that our investors and customers appreciate.</i></p> <p><i>'Innovation has always been the lifeblood of Siemens and it will remain so. Our business portfolio is based on the ongoing search for innovations and bringing them successfully to market. Innovations in business processes have also helped us to drive costs down and improve customer service. We intend to double our UK market share in the medium term to achieve a level that we have achieved elsewhere in the EU. Our recent acquisition of Alstom's small and medium industrial gas turbines business meant we have been able to round out our power generation product portfolio and target new opportunities as well as taking on more than 2,000 new employees in Lincoln.</i></p> <p><i>'In Britain low-tech manufacturing and now repetitive administration functions have gone offshore. But you have to keep the crucial things onshore: R&D, and the manufacture of whole new generations of products and services.'</i></p> <p>Alan Wood, Chief Executive</p>

7 Think global, act global

In 1997, Staffordshire-based JCB, manufacturers of earth-moving equipment, entered the forklift truck market – and took on 40 established manufacturers in Europe. It launched the Teletruk, which today sells all over the world.

Instead of the familiar vertical fork apparatus, the Teletruk has a hydraulic arm that allows it to stretch out to and manipulate heavy loads in confined spaces. Importantly, the single arm gives Teletruk operators an unobscured vision of what they're working on.

In the more globalised world of 2024, the UK economy will need that kind of reach and that kind of vision if it is to be as agile as it needs to be.

With luck and good management, the UK can move up to making goods and delivering services that embody more market value. It can grapple with the reality of global outsourcing in a mature manner. It can expand its range of world-class companies, and its workforce is agile enough to learn the skills to match. This paper has already mentioned the UK's strength in financial services. By 2024 the UK's other strong sectors – pharmaceuticals, aerospace, biotechnology, telecommunications and creative industries – will be much more globalised than they are today. So, too, will UK manufacturing and UK software engineering. Each will have to be agile in the making and worldwide delivery of customised products and services that are high in value and often rather specialised.

Globalisation is not just a significant dimension to UK competitiveness: it is the main event. A challenging new phase has opened. Adding agility to porosity will call forth special efforts from government, and from British diplomatic and trade missions abroad. Perhaps more important, the need for agility will force much of UK business – not to speak of the public sector – to change its historic habits.

Every aspect of UK business, from now on, needs to be considered and acted upon from the perspective of globalisation – both outbound and inbound. This means neither that the local and the regional have gone away, nor that they have become more important than they were. It means only that even local business will have to be both conceived of and pursued in a manner that demonstrates agility on a global scale. Now more than ever, businesses in the UK need the systems and infrastructure to think and act global.

There are four preconditions that, over the next 20 years, will help lay the basis for the international posture that is required. Britain needs:

1. The development and application of new knowledge, not just the wider diffusion of the existing sort.
2. Businesses so agile, they can take risks – worldwide.
3. An agile national infrastructure to encourage inward investment and labour mobility.
4. The removal of regulatory barriers to agility.

Let's take each in turn.

The development and application of new knowledge, not just the wider diffusion of the existing sort

Agility means moving things about in expeditious style, but it also means mental acuity. So *an agile Britain will generate even more new, internationally valuable knowledge*. The *transfer* of knowledge certainly deserves government intervention: after all, it can be costly for a firm to acquire knowledge outside its immediate domain of competence and experience.¹¹² Similarly, Britain is right to tap into networks of international collaboration in science and technology, and into EU sources of funds for R&D as well.¹¹³ Yet if co-ordinated, collaborative partnerships for inter-firm and inter-sector spillover – the *communication* of innovation – are a good thing, the independent production of new, internationally appealing knowledge, goods and services is what will really be critical to Britain's success with globalisation.

Of course, Britain cannot go it alone in knowledge generation. Yet for more than a decade it has been all too trendy to call for *fusing old technologies*.¹¹⁴ At Harvard, the fashionable wisdom is that Big Laboratories and other closed, vertically integrated, recruit-the-best-and-the-brightest corporate mechanisms for innovation have had

their day. Now it is felt that 'Not invented here' is a good thing, since *open links* to others – suppliers, customers, venture capitalists, universities and government facilities – are the way forward.¹¹⁵

It is an attractive doctrine, if only because *someone else* is so often charged with taking the risk of being a first mover in developing innovations. Yet just as links to a cluster of local suppliers will not do everything for an inward investor, so an investor's links to local business will not do everything for city-regions nervous about their prospects. UK Government incentives for knowledge transfer will help both outgoing and incoming investors. However, even more vital are likely to be *well-designed incentives for direct corporate R&D in manufacturing and services*, as well as *effectiveness and efficiency in science, engineering, technology and design*.

Since the debate over deindustrialisation in the 1980s, fond memories of John Logie Baird have reinforced the consensus that the UK is excellent in discovery and technological invention, but poor at commercialising these things in the form of marketable innovations. Yet as Francis Spufford has shown in his recent book *Backroom boys: the secret return of the British boffin*, it is a fact that Britain has

commercialised a number of key discoveries.¹¹⁶ Vodafone, one of his examples and a company that has 125 million customers in 37 countries, remains a powerful indicator of how home-grown agility can be achieved. In the financial year 2000/01, after the internet bubble had burst, Vodafone spent £72 million on R&D. In 2001/02, it spent £110 million; in 2002/03, £164 million, and in 2003/04, £171 million.¹¹⁷

From research through to development and market application, Britain will build new Vodafones by 2024.

112 DTI, *The Government's manufacturing strategy*, op cit, p27.

113 Sainsbury, op cit, pp117-121.

114 See Fumio Kodoma, 'Technology fusion and the new R&D', *Harvard Business Review*, July-August 1992.

115 Henry Chesbrough, *Open innovation: the new imperative for creating and profiting from technology*, Harvard Business School Press, 2003.

116 Francis Spufford, *Backroom boys: the secret return of the British boffin*, Faber and Faber, 2003.

117 Vodafone Group Plc, *Annual report & accounts and Form 20-F for the year ended 31 March 2003*, 31 March 2003, p47, and *Annual Report 2004*, 31 March 2004, p13, both on www.vodafone.com/section_article/0.3035.CATEGORY_ID%253D404%2526LANGUAGE_ID%253D0%2526CONTENT_ID%253D230862.00.html?

Businesses so agile, they can take risks – worldwide

Lord Sainsbury has observed:

‘Those high-technology SMEs producing novel products that take a risk and internationalise early may reap the rewards later of becoming a global market leader.’¹¹⁸

This spirit of exploration, experiment and adventure will in fact be key not just to SMEs, but also to UK multinationals. For example: over the next 20 years, large UK firms in financial, legal and general business services will have plenty of work in front of them in China. Sooner or later, therefore, they will have to take a risk and recruit plenty of employees whose native tongue is Mandarin or Cantonese.

There are, however, four still broader areas, each bigger than a single sector, which promise to be important in the world economy over the next 20 years. They are dynamic areas for business, and impose on business a demand both for ambition and for steely nerves. They are also areas in which the UK has already shown itself able to punch above its weight internationally. First, in a world that is perceived as riskier, brands will continue to reassure billions of people about their business and consumer purchases. So the chances are that British brands will have a growing global impact. That promises to be true not only in financial, legal and general business services, retailing, and life sciences, or among tourist destinations within the UK, but also in creative industries:

- among Britain’s 4,500 design consultancies, strongly branded global players won overseas fees of £628 million between 2002 and 2003.¹¹⁹
- over the same period, FDI into UK film productions and co-productions rose from £266 million to £730 million.¹²⁰
- in television, Britain’s trade deficit has reached more than £0.5 billion, but brands such as the BBC, *Pop Idol* and *Who Wants To Be A Millionaire?* have managed to build new global audiences.¹²¹

Design, film and broadcasting are arenas in which digital techniques are more than able to confer international agility on British brands. The same may be true of education:

¹¹⁸ Sainsbury, op cit, para 7.4, p116.

¹¹⁹ Design Council and British Design Initiative, *Design industry valuation survey*, 2003, quoted in *Design in Britain 2003-04*, Design Council, p14, and on www.designcouncil.info/resources/assets/assets/pdf/Publications/Design%20in%20Britain%202003-04.pdf

¹²⁰ UK Film Council, ‘Bridget Jones, Harry Potter and Zebedee help film production spending in UK hit all-time record of £1.1bn in 2003’, 12 January 2004, and on www.ukfilmcouncil.org.uk/news/?p=D4A1572502bc423119GIH1C08D66&skip

¹²¹ ‘UK television trade deficit soars above £500 million’, *Screen Digest*, December 2003; Raymond Snoddy, ‘Have I got news for you: UK shows rule the waves’, *The Times Business News*, 3 October 2003, p36.

Acting global: Edinburgh's Interactive University

Established in 2002 by Heriot Watt University and Scottish Enterprise, the IU offers online courses to more than 90,000 students worldwide. Its main target market is post-compulsory education in the developing world. In 2003 it announced that it would enrol more than 1,500 new students at the Nanyang Institute of Management, Singapore's leading provider of private education, and so generate £6 million by 2006. Scholar, its e-learning package in the sciences, computing, engineering, maths and French, has 45,000 student users. It is the world's largest accredited online study programme.

Third, one does not have to favour a continuing rise of inequality over the next 20 years to recognise the global dimensions of what has been termed *luxury fever*.¹²⁵ Once more, British brands face an excellent global future here, not just in fashion, but elsewhere too. In the £1 billion luxury sailing market – semi-custom yachts more than 24 metres in length, 'super-yachts' from 30 to more than 100 metres long – brands such as Pendennis in Plymouth and DML in Devonport have international reputations, while VT Shipbuilding in Portsmouth, part of the VT Group, claims to build the largest single-masted yacht in the world.¹²⁶ In luxury cars, Ford's London-based brands – Aston Martin, Jaguar and Land Rover – made, along with Volvo, more than US\$100 million profit in 2003.¹²⁷

Second, a more fearful, risk-conscious world is also one which is likely to seek relief from these conditions through the outlet of play – from computer games, gambling and sport to performing arts and theme parks.¹²² And once again, British brands promise to be among the world's most agile. Games Workshop, already mentioned, has 81 shops on the Continent and 54 in North America. Babel Media, the largest tester of computer games in Europe, has Microsoft, Nintendo and Sony as clients.¹²³ Meanwhile, more than 25,000 highly trained engineers and another 10,000 other workers in the 3,000 firms around British motor racing turn over nearly £5 billion a year, more than half of it from exports.¹²⁴

Aston Martin: the global appeal for British brands

'There is tremendous opportunity for British niche luxury products in the global marketplace in the next 10-20 years because of our provenance and the credibility of British high-class brands. In order to be successful, you need to be exclusive but also have to be highly visible.'

Tim Watson, Director of Public Affairs

Last, there is a role for Britain *to get out, in an agile manner, to the world's entrepreneurs – get out to them with its own entrepreneurial skills and cut global deals.*

122 These different sectors for play are treated in James Woudhuysen, 'Play as the main event in international and UK culture', in Policy Studies Institute, *Cultural Trends*, issues 43 and 44, 2003, pp95-145, and on www.psi.org.uk/docs/2003/news-CT-Woudhuysen-play.pdf

123 On UK performance in computer games, see Sainsbury, op cit, box 1.3, p23.

124 See DTI, *Report of the Motorsport Competitiveness Panel*, 11 July 2003 and on www.autoindustry.co.uk/docs/motorsportpanelreport.pdf For a map of Britain's motorsport industry, see www.visitmotorsportvalley.com/search.cfm

125 See Robert Frank, *Luxury fever: why money fails to satisfy in an era of excess*, Free Press, 1999, and Michael J Silverstein and Neil Fiske, 'Luxury for the masses', *Harvard Business Review*, April 2003.

126 See DTI and Society of Maritime Industries, *Superyacht marine equipment market study report*, September 2003, and also 'Mirabella V', on www.vosperthornycroft.co.uk/shipbuilding/product.asp?s=&itemID=311&CatID=183

127 James Mackintosh, 'Ford's UK luxury car arm posts first profit', *Financial Times*, 26 January 2004, p29.

At the DTI, the drive to sustain inward investment into the UK embraces not just corporations, but individual entrepreneurs – British expatriates, Indians, and above all, Americans. The UK Trade & Investment's Attracting Global Entrepreneurs Scheme (AGES), a pilot:

- targets IT and biotechnology entrepreneurs with intellectual property that has the potential to build high-growth businesses,
- puts each in touch with the right UK venture capitalist, together with broader institutional and personal networks of financial, legal and technological expertise, and
- uses well-connected British dealmakers – often, former venture capitalists themselves – to do the job.

AGES offers overseas entrepreneurs not so much particular UK locations, as highly specific social networks. Two of its successes:

Tao Group

Tao Group is a privately held UK wireless software company, backed mainly by large Japanese IT companies, employing 110 people in Reading and running subsidiaries both in Japan and the USA. To raise a fair part of the US\$9 million it needed by May 2003, AGES helped it find interested entrepreneurs in Boston and New York City, as well as the head of a major global fund on Wall Street, who was impressed enough with the support offered to entrepreneurial inward investors by the DTI to invest personally.

Clearspeed

An Anglophile, the USA's Tony Heller is a world leader in the design of low-voltage, low heat chips ideal for handheld devices and server farms. AGES has helped him team up with Clearspeed, a Bristol provider of high performance programmable chips whose multi-threaded array architecture contains a whole system of thousands of parallel processors, each with its own memory and input/output capability. Together, the two hope to move into nanotechnology next.

An agile national infrastructure to encourage inward investment and labour mobility

The Sainsbury report highlights three aspects of UK infrastructure that are highly relevant to innovation: planning, transport and broadband. These are issues of a national scale, and they are relevant, too, to all those inward investors concerned with UK locations and connections over the next 20 years. In an agile UK in 2024:

- the land-use *planning* system will help inward investors build quickly and big,¹²⁹
- the *transport* system will generate confidence among inward investors that management and employees can continue easily to move into, from and around these islands, and¹³⁰
- the penetration of *broadband* will have come a long way, and many businesses will communicate around voice, instant messaging, video and data using internet protocols.¹³¹

These three things are not the only factors that will be important to inward investors. So too will be the UK's:

- agility in the face of *extreme weather conditions, infrastructure breakdown or terrorist attack,*
- reliability of *energy and water supply, and*

- quality of *air, education and housing, and general quality of life.*¹³²

There is one other fairly obvious aspect of infrastructure that Britain will need to address over the next 20 years. Inward investors currently give Britain high marks for labour supply. In the next two decades, with the ageing of the population, they will grow more attentive to UK *labour market policy on the over-50s and over-60s.*

Without regular training, people in these age groups will lose the ability to be trained. Yet retraining is just as relevant in later life as it is in middle age. Instead of mandatory retirement, fixed state pension ages and weak employment rights for people over 65, Britain needs a gradualist, flexible process of voluntary retirement, and an active struggle to overcome the distinctions between being adult and being 'old'.¹³³

Transport and telecommunications infrastructure: connecting Britain's regions into high-value services

'In services it will be organisations which are quoted on international stock markets that will transmit innovations around the world. Infrastructure plays only a supportive role. So the big challenge facing Britain is whether it will retain and attract the command and control centres of major multinationals, where there are real global decision-makers and the attendant professional service companies to back them up. Jobs of the old sort – in bank transactions, insurance claims processing, call centres, posts, airlines – were heavily regulated and national. Now they are being downsized in the UK and sent offshore.

'American investment banks and credit card companies have bred UK employees who are more cosmopolitan and more professional than in the past. Yet they and others like them will up sticks if the transport and telecommunications infrastructure here is not improved. What matters to them is how internationally connected Britain is. Capitalism is capitalism through people and conversations – so Newcastle has to be able to talk to New York more than it has to talk to Gateshead.

'We've got devolved administrations in Wales and Scotland, Regional Development Agencies elsewhere and an elected Assembly coming in the North-East. But will they help Britain in all this? We have to face the fact that, for inward investors in the UK, even national British demand is fairly modest compared with the international sort. So really what we need is for Britain's regional cities to be as well connected globally as London is.'

Dr Christopher Gentle, Head of Research, Deloitte Europe

129 See James Woudhuysen and Ian Abley, *Why is construction so backward?*, Wiley, 2004.

130 As the OECD has put it of UK infrastructure: 'even plans to double the share of public net investment in GDP to just over 2 per cent will still leave government investment below the level in most other major OECD countries. Probably the area where insufficient infrastructure investment has most impinged on long-term growth prospects is transport'. See OECD, *Economic Survey – United Kingdom 2004*, Chapter 4 'Policies to enhance potential growth', 2004, and on www.oecd.org/document/53/0,2340,en_2649_34487_24316981_1_1_1_1,00.html

131 In Q2 2003, the residential penetration of broadband in Britain, at about 10 per cent, was comparable to that in France, Germany and Italy, but only half that in America and Sweden. In Japan, Canada and South Korea, penetrations were 27, 32 and 70 per cent, respectively. Statistics from Analysys, quoted in Broadband Stakeholder Group, *3rd Annual report & strategic recommendations*, January 2004, Figure 5, p35 and on www.broadbanduk.org/reports/BSG_3rd_annual_report.pdf. For a more favourable account of Britain's 'e-readiness', see Economist Intelligence Unit, *The 2004 e-readiness rankings*, 16 April 2004, and on http://eb.eiu.com/site_info.asp?info_name=err2004

132 If only on the grounds of quality of life, the performance of *London's tube system* and the fate of *national landmarks* such as Battersea Power Station and the Dome are matters in which inward investors can be expected to take an interest.

133 For a treatment of this issue, and of the impact of EU directive that gains force in 2006, see House of Lords Select Committee on Economic Affairs, *Aspects of the economics of an ageing population*, 10 January 2004, and on www.publications.parliament.uk/pa/ld200203/ldselect/ldeconaf/ldeconaf.htm. For the discussion in America, see Ken Dychtwald, Tamara Erickson and Bob Morison, 'It's time to retire retirement', *Harvard Business Review*, March 2004.

The removal of regulatory barriers to agility

By 2024 both outbound and inbound business in the UK will be among the most powerful critics of regulation. However, quite a lot of official effort, both in the UK and in the EU, already goes into *combating* regulation.¹³⁴

An agile the UK will get less regulation from its state. In environmental liability, landfill, waste electrical and electronic equipment, batteries, scrap cars and the testing of chemicals, a watchful eye will be necessary. In life sciences and clinical trials, a light regulatory touch will be essential if inward investors are to be won and the UK's strengths maintained.¹³⁵

Businesses in the UK could spend much of the next 20 years thinking and acting local – either by looking over their shoulders at official regulators, or by bonding together in voluntary self-regulation. But that would be a mistake. From the USA, Jeffrey Garten, Dean of the Yale School of Management and former US Under-Secretary of Commerce for International Trade, calls for *maintaining the courage to take educated investment risks*. As he observes:

'If the new economy saw some reckless behaviour by the corporate elite, there could now

be too much of the opposite, with everyone wanting to play it too safe....

'Business leaders in the past have been too short-term in their orientation, with great damage to shareholder culture. They need to think longer term. Yes, they should focus on shareholders; that's not in question. But how they do that, how they create long-term sustainable value, is the issue.'

In creating long-term sustainable value, now is not a time for more regulation. Now, more than ever, is a time to think and act global – to be agile, and to dare and dare again.

134 See the work of the Better Regulation Task Force, on www.brtf.gov.uk. On the effects of regulation, see the DTI's list of Regulatory Impact Assessments, on www.dti.gov.uk/access/ria. For criticism of attempts to restrain regulation, see Institute of Directors, *The real impact of red tape*, February 2004, and on www.iod.com/intershoproot/eCS/Store/en/images/IOD_Images/PDFTheRealImpactofRedTape.PDF, as well as Tim Ambler, Francis Chittenden and Mikhail Obodovski, *Are regulators raising their game? UK Regulatory Impact Assessments in 2002/3*, The British Chambers of Commerce, Spring 2004, and on www.chamberonline.co.uk

135 According to Richard Sullivan, head of clinical programmes at Cancer Research UK, Britain has seen 'a 44-fold increase in regulations governing biomedical research in the last five years'. See "Drowning in a sea of red tape", *FT Biotechnology*, 12 November 2003, p2.

136 Jeffrey Garten, 'A new year; a new agenda', *The Economist*, 2 January 2003, and posted on http://www.economist.com/research/articlesBySubject/displayStory.cfm?story_ID=1511745&subjectid=423172

VALEDICTORY QUOTATIONS

'Low cost is easy for many countries. But after that a lot more things need to happen for innovation to take place. People need to remember this when they go on about outsourcing everything to China. There's very little data on the phenomenon. A lot of FDI into China is market-seeking, rather than just seeking efficiencies.'

'All of that explains why most of the FDI today still goes to the West. In terms of support for productivity through infrastructure, law, supplier quality, learning from competitors, quality of management, China has a very long way to go. It is not a factor in international patenting rates, and, even in 2024, its R&D will be strong only in priority areas, aided by multinationals.'

'Changing the skills base will be with Britain for years and years to come. You can change the education system over, say, ten years, but you still have a huge stock of old labour in the workforce. There are no quick easy routes. In fact the UK is already much better than Europe at open markets and tough competition.'

Christian Ketels, Harvard

'Nobody set out to create a cluster round the Bay Area. They set out to fund high quality universities – Berkeley and Stanford. These two invested enormously in labs and facilities over the years, and it paid off, big time, in both microchips and in polymer chain reactions.'

'Government has a role, but it has to go through the universities.'

**Peter Schwartz,
Global Business Network**

'We have to deal with three different European Directives. Bringing a plant from a non-EU to an EU country is a

nightmare. If it's not designed and manufactured to Directives we have problems getting the equipment accredited. Often components are passed but assembled units are not. We have had to spend a lot of time and money getting through Directives and sometimes we have to re-buy equipment. These barriers need to be looked at if non-Europeans are to use the UK to enter the European markets.'

**Garry Cranny,
DASCEM Europe**

'In China and other regions of the Far East they are educating people like crazy. At the moment they can't pick up the whole job; they are handling the implementation and manufacturing and leaving the front end. Their creativity is stifled by their lack of ability to see our markets.'

'In as little as five to ten years' time they will have that ability. More front-end and creative areas will exit the UK. Where you manufacture is where you will eventually do the front-end as well. We have a generation in which to deal with this if we are lucky!'

'Now you can't buy anything that doesn't have some part of it made in China – and other states in the region, such as Thailand and Vietnam, are also building up the same trajectory.'

**Lawrie Cunningham,
Black & Decker**

'Right now, Samsung is investing a lot in China's growing industrial design industry. At Samsung in Korea, employees have an obligation to learn Chinese. It's the second language in Korea.'

**Harry Choi,
Samsung Design Europe**

'In people-related issues things are less bureaucratic in Britain; not so in terms of things such as the climate change levy, which creates huge amounts of paperwork. In packaging waste, for example, SC Johnson is still a family business and we have our own very high standards; but we still have to complete mountains of paperwork to satisfy the UK authorities.'

Steve Ridgeon, SC Johnson

'Of course, not everyone should become an engineer, but British snobbishness against industry is deeply ingrained. Still – Margaret Thatcher's design and technology courses, though no longer compulsory in secondary schools, are very well taught and based on a very good curriculum. We're only now seeing the positive results. The problem, I suspect, is lack of parental support. But with that, we can hope that British people will at least come to know the value of engineering, even if they don't do it themselves. And we can certainly hope that such education will reduce technofear in Britain.'

**James Dyson,
Dyson Appliances**

'When Last Minute started off, the headlines were full of the fact that we'd employed three people who'd been through bankruptcies in their lifetime. Thank God! Britain still isn't a culture that likes to take a risk. It's still not comfortable with failure.'

**Martha Lane Fox,
lastminute.com**

'Britain is our home base. In ten years' time it will still be our biggest business, but it's difficult to say whether that will be the case in 20 years' time.'

Steve Gilman, B&Q

James Woudhuysen helped install Britain's first computer-controlled car park in 1968, before graduating in physics.

He wrote about chemical and biological weapons for *The Economist* in 1978, completed an instruction manual for word processing in 1983, led a multi-client study on e-commerce in 1988, and suggested Internet TV in 1993.

He has worked with AT&T, BT, Elopak, Ericsson, Equant, Hewlett-Packard, IBM, Microsoft, Midland Bank, Nokia, Oracle, Orange, Philips, RBOS, Sony, Yamaha Motor and Vodafone, as well as with the cities of Glasgow, Manchester, Birmingham and Croydon.

Professor of Forecasting and Innovation at De Montfort University, Leicester, Woudhuysen contributes regularly to Radio 4 and *IT Week*. He is co-author of *Why is construction so backward?* (Wiley, 2004).