

# Centre Piece

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## MULTINATIONAL FIRMS IN THE WORLD ECONOMY

Education economics  
Tackling unemployment  
Social mobility in Britain  
Technology and jobs  
Boffins in the USA  
Europe's economy  
Inflation and inequality  
Britain's trade unions  
Pay and performance



# Centre Piece

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THE QUEEN'S  
ANNIVERSARY PRIZES  
FOR HIGHER AND FURTHER EDUCATION  
2002

## Editorial

The UK's social scientists are sometimes accused of being reluctant to get involved in public policy-making. If this was ever true of economists, it is certainly not now. Many Whitehall chief economist positions – including at the Department of Health, the Department for International Development and the Inland Revenue – are now held by academic economists, as are the top jobs at the Bank of England, the Competition Commission, the Office of Fair Trading and Ofcom. And research institutions like the Centre for Economic Performance (CEP) and the Institute for Fiscal Studies are deeply involved in the design and evaluation of a range of government policies, including in education, taxation and the labour market.

Under its new leadership – John Van Reenen (director) and Stephen Machin (research director) – and with renewed funding from the Economic and Social Research Council, CEP is re-emphasising its commitment to seeking

to understand economic performance and inform government policy through outstanding scientific research. The latest output is on show in this issue of *Centrepiece*, including summaries of two major new books – one on multinational firms, one on education – plus a revisit to a 1990s classic on unemployment, by CEP's founder director Richard Layard and colleagues. Shorter articles focus on other topics at the core of CEP's continuing research agenda: inequality, productivity, technology and the labour market.

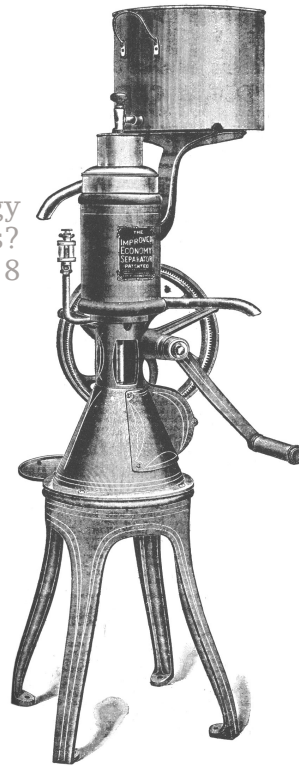
CEP is also developing its communication efforts beyond this magazine. During the UK General Election campaign, we launched a series of Election Analyses. These background briefings to the debates looked at the Labour government's record since 1997 and discussed the research evidence on some of the key policy battlegrounds, including immigration, health, education, welfare, macroeconomic performance

and labour market policy. This policy analysis format will be given a more international focus in the second half of the year, with plans to inform debate around the time of the summit meetings of the G-8, the European Union and the World Trade Organisation.

We welcome feedback on this work. Please feel free to email me with comments on articles and analyses in the magazine or on the website, or requests for more information. And do pass the magazine and/or CEP's website address (<http://cep.lse.ac.uk/>) onto colleagues who would find them interesting and useful – whether they're involved in research, policy-making or both.

**Romesh Vaitilingam**  
Editor  
[romesh@compuserve.com](mailto:romesh@compuserve.com)

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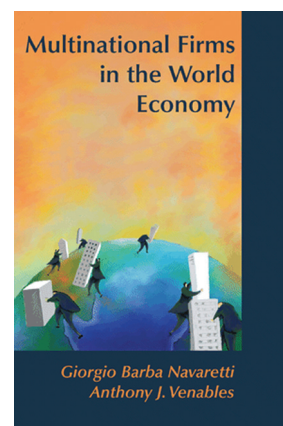
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Multinational firms are demonised by anti-globalisation campaigners. Yet according to a new book by **Tony Venables** and colleagues, the evidence is that they are generally a force for prosperity in the world economy.



# Multinationals: heroes or villains of the global economy?

**F**oreign-owned multinationals employ one worker in every five in European manufacturing and one in seven in US manufacturing. They sell one euro in every four of manufactured goods in Europe and one dollar in five in the United States.

Yet policy-makers and the public around the world have mixed feelings about multinationals: they see them either as welcome bearers of foreign wealth and knowledge or as unwelcome threats to national wealth and identity. Policy-makers want multinationals to invest in their country, but are unhappy when national firms close down domestic activities and open up foreign ones or when foreign brands compete successfully with national ones.

This Jekyll and Hyde perception of multinationals stems more from ambiguous feelings about large market players with no national identity than from rigorous economic analysis. Indeed, the debate on multinationals is rarely grounded on economic arguments and there is little understanding of what multinationals are, or of what costs and benefits they bring to local economies.

Multinationals are often different from

purely national firms and some concerns are legitimate. They are relatively large and they do have competitive power in the market place and bargaining power in the policy-making arena, particularly in smaller developing countries. They are global players that can circumvent local regulations and policies more easily than national firms. They are footloose, able to move activities between their plants at relatively low cost, removing benefits as rapidly as they deliver them. And they do mass-produce standardised products, jeopardising product variety.

Yet other features of multinationals also explain why countries compete fiercely to attract them. They often bring scarce technologies, skills and financial resources. They are fast in taking advantage of new opportunities and contributing to national wealth creation. They are bound by international standards and market competition and they often offer better employment conditions and product qualities than national firms.

Moreover, multinationals are not just giant corporations like Microsoft or Coca Cola. Many small and medium-sized enterprises, firms with limited market power in domestic and foreign markets, have one or more foreign subsidiaries. Investing abroad and thus becoming a

multinational is a strategy open to many types of firms.

Our book addresses concerns about multinationals and brings clarity to the debate. It provides a thorough assessment of what multinationals are, why and where they arise and their impact on home and host economies. We conclude that although none of these concerns have straightforward answers, the argument favours multinationals: they are a fundamental feature of modern economies and there is no evidence that they are less beneficial to home and host economies than national firms.

## What are multinationals?

Multinationals are firms that own a significant equity share – typically 50% or more – of another company operating in a foreign country. They include modern corporations like IBM, General Motors, Intel and Nike, but also small firms like Calzaturificio Carmens, a shoemaker employing 0 workers divided between Padua (Italy) and Vranje (Serbia).

The activities of multinationals are best measured by firm-level data like sales or number of employees. Unfortunately, these data are not widely available. Instead, researchers rely on data on flows



of foreign direct investment (FDI) recorded from balance of payment statistics and which are available across time, industrial sectors and for many receiving and sending countries.

FDI is an investment in a foreign company where the foreign investor owns at least 10% of the ordinary shares, undertaken with the objective of establishing a 'lasting interest' in the country, a long-term relationship and significant influence on the management of the firm. FDI flows are different from portfolio investments, which can be divested easily and do not have significant influence on the management of the firm. Thus, to create, acquire or expand a foreign subsidiary, multinationals undertake FDI.

### The facts on foreign direct investment

#### Fact 1: the recent growth of FDI has far outpaced the growth of trade and income

The past 20 years has seen an enormous growth of activity by multinationals. Figure 1 shows that inflows of FDI have grown much faster than either trade or income. While worldwide real GDP increased at a rate of 2.5% a year between 1985-99 and worldwide exports by 5.6%, worldwide real inflows of FDI increased by nearly 18%. This compares strikingly with pre-1985 data, when GDP, exports and FDI were following closer trends.

#### Fact 2: FDI originates predominantly from advanced countries

Between 1998-2000, 93% of outward FDI flows originated in an advanced country. Developing countries increased their share of outward flows through the 1970s and 1980s to a peak of 15% in the mid-1990s, only to see it then decline. Among individual countries, the United States is the world's largest foreign investor. The EU as a whole accounts for 71% of all outward stocks, a share that has risen sharply, partly because of the rise in intra-EU investments associated with deepening integration.

In the developing world, only the Asian countries – especially China, Hong Kong, Singapore, South Korea and Taiwan – supplied a significant share of world FDI flows by the mid-1990s. Most of these investments took place within Asia and

Figure 1: Trends in world GDP, exports and FDI inflows

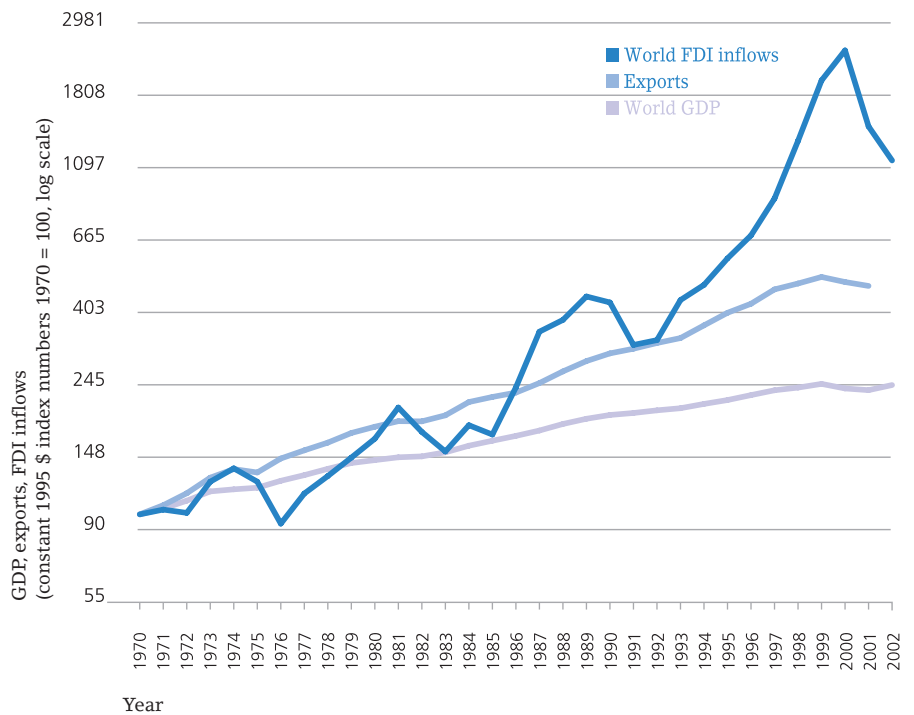
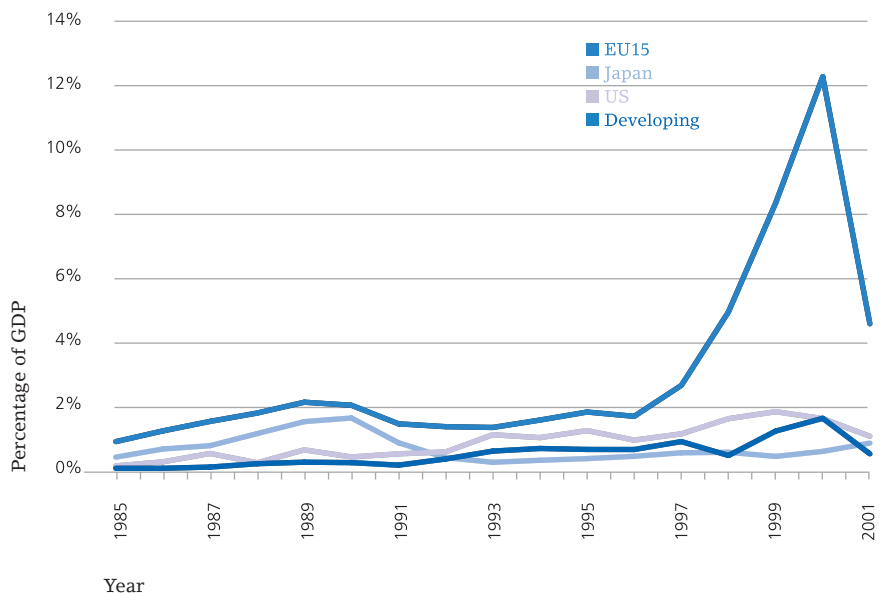


Figure 2: Sources of outward FDI



therefore declined drastically following the Asian crisis in 1997/8.

Yet most of the difference between the advanced and developing countries is accounted for by sheer economic size, and the difference in outflows relative to GDP is perhaps less than might be expected. Figure 2 shows FDI outflows relative to

source country GDP. In the mid-1990s, outward flows ranged between an average of 1.3% of GDP for the advanced countries to an average of 0.9% for the developing countries. The noticeable exception is the EU: although it declined in 2001, the FDI share of GDP remains higher for the EU than elsewhere in the world.

**Fact 3: FDI goes predominantly to advanced countries though the share of developing countries has been rising**

The advanced countries' share of world FDI inflows has fluctuated between 58% and 78%. This is a lower share than as sources of FDI but the breakdown is similar, with the largest share concentrated in the EU, although the United States is the largest single destination country. The share of worldwide FDI received by the developing and transition economies jumped from % in 1988-93 to more than 40% in 1992-7 before falling again to 21%. These flows go overwhelmingly to Asia and Latin America, with China alone taking around one quarter of the total.

The increase in FDI flows to developing countries reflects their growing importance as a source of financing in these economies. Figure 3 shows FDI inflows relative to the GDP of the host economy. During 1988-92, advanced countries received FDI inflows at an average annual rate of 0.9% of GDP, while the average for developing and transition countries was 0.78%. By 1993-9, the inflow rate for the advanced countries had increased to 2.3% of GDP, while that for developing and transition countries had more than doubled to 3.4% of GDP, with Asia and Latin America taking the lion's share.

**Fact 4: mergers and acquisitions account for the dominant share of FDI flows**

The establishment of a foreign subsidiary may take place in two ways: 'greenfield investment', when a new plant is set up from scratch; or a merger with or acquisition of an existing firm (M&A). Table 1 shows that the majority of FDI takes place through M&A and its share has increased steadily since the mid-1980s from 66% to 76%. The share of M&A is much smaller in developing countries.

**Fact 5: most FDI is concentrated in skill and technology intensive industries**

The most noticeable trend in the sectoral distribution of FDI stocks in the advanced countries is the increase in the share of services and the parallel decline of the primary sector. This trend reflects the overall shift of world GDP from the primary sector and agriculture towards services. The share of manufacturing in FDI

– approximately 40% – is larger than the share of manufacturing in world GDP – approximately 30%.

Table 2 shows the distribution of world inward FDI stocks: the share of services is 50%, manufacturing 42% and the primary sector 8%. The broad sectors in which the presence of multinationals is greatest are characterised by large investments in research and development, a large share of professional and technical workers and the production of technically complex or differentiated goods.

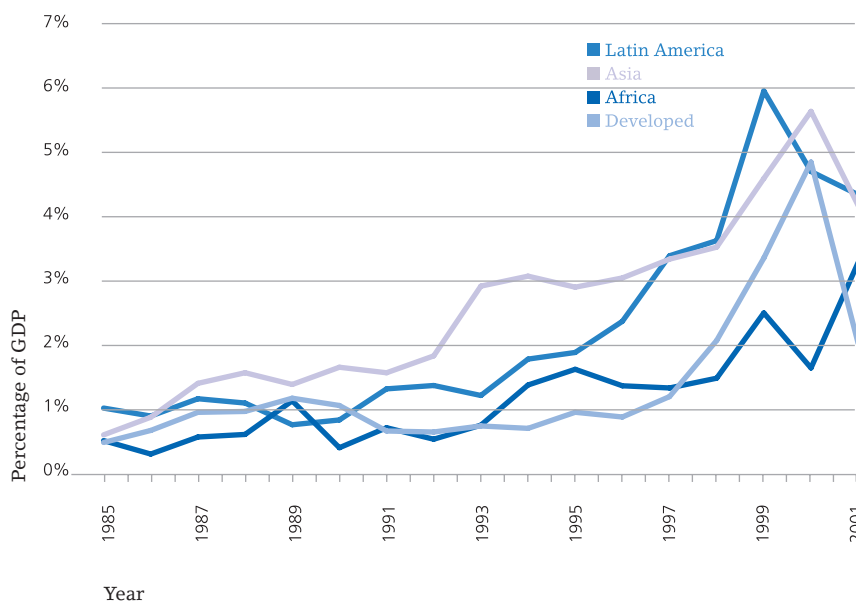
**Fact 6: multinationals are larger and typically more productive than national firms**

Multinationals are generally large companies compared with national firms. Their home activities are generally larger than those of national firms, and foreign subsidiaries are on average larger than national firms in host economies. A crude measure of this gap in host countries can be gauged by comparing the average size

Table 1: Cross-border M&A investments as a percentage of FDI inflows to the host countries

	1987-91	1992-94	1995-97	1998-2001
World	66.29%	44.75%	60.18%	76.23%
Developed countries	77.49%	64.93%	85.39%	88.96%
Developing countries and transition economies	21.94%	15.49%	25.79%	35.74%

Figure 3: Hosts of inward FDI



## Being multinational is often the best way to operate in an integrated global economy

of foreign subsidiaries with that of all manufacturing firms in the world's five biggest economies.

Table 3 shows that foreign subsidiaries are relatively large when size is measured by number of employees, turnover or value added. It also shows that the labour productivity of foreign subsidiaries is above average, both when measured by turnover and value added per employee. This finding is partly due to the sectoral

composition of FDI, which is different from that of the economy as a whole.

## The evidence on the operations and impact of multinationals

### Mobility of firms not capital

FDI is long-term compared with highly mobile capital flows like portfolio investments or bank credits. Such investments cover the cost of starting or buying and then running foreign plants or other activities, and are best thought of as movements of firms rather than movements of capital.

The key difference is that firms bring in their own very distinctive bundle of capabilities. Whether a loan is granted by Citicorp or Credit Agricole does not make much of a difference. But whether FDI is carried out by Renault or Monsanto makes a great deal of difference. Indeed, each firm is a unique bundle of factors, competences and procedures that get transferred to foreign operations. Consequently, different investments might have substantially different effects on the host and home economies.

### Variety of motives

The heterogeneity in the characteristics of multinationals is mirrored in the variety of reasons why firms become multinationals. Much FDI is 'horizontal', intended primarily to serve host country markets. In some cases, these investments arise to circumvent trade barriers and are boosted by protectionism. In others, they are promoted by trade liberalisation, as when

Table 2:  
World inward FDI stock by industry

Industry	Share of world FDI inward stock (%)
Total	100
<b>Manufacturing</b>	41.6
Food, beverages and tobacco	2.8
Textiles, clothing and leather	1.0
Wood and wood products	1.5
Publishing, printing and reproduction of recorded media	1.0
Coke, petroleum products and nuclear fuel	1.9
Chemicals and chemical products	6.7
Rubber and plastic products	0.6
Non-metallic mineral products	1.0
Metal and metal products	3.0
Machinery and equipment	2.5
Electronic and electronic equipment	3.6
Precision instruments	1.4
Motor vehicles and other transport equipment	3.0
Other manufacturing	11.6
<b>Services</b>	50.3
Trade	10.5
Transport, storage and communications	5.9
Finance	15.9
Business activities	10.4
Other services	7.6
<b>Primary sector</b>	8.1

Table 3:  
Comparing the average size and labour productivity of foreign affiliates and all firms in manufacturing in the five biggest national economies

Year: 1997	France		Germany		Japan		UK		United States	
	Foreign affiliates	All firms	Foreign affiliates	All firms	Foreign affiliates	All firms	Foreign affiliates	All firms	Foreign affiliates	All firms
Number of employees per firm	265.6	130.9	288.9	172.5	313.8	49.1	301.9	25.4	782.5	52.9
Turnover per firm (\$ millions)	61.1	25.8	105.6	33.8	184.1	11.5	94.5	4.5	234.6	10.7
Value added per firm (\$ millions)	18.0	7.7	—	6.0	34.6	3.4	32.2	1.9	66.2	3.8
Turnover per employee (\$ millions)	0.23	0.197	0.366	0.196	0.587	0.234	0.313	0.177	0.3	0.202
Value added (\$ millions)/employees	0.068	0.059	—	0.035	0.110	0.068	0.107	0.073	0.085	0.072



regional economic integration provides a boost to inward FDI.

The standard explanation of why firms invest abroad is rooted in 'scale economies'. Some firms develop intangible assets like a brand name or new technology, the benefits of which can be spread across several plants: the brand name of Coca Cola benefits Coca Cola plants in the United States as well as in Ghana. These intangible assets are a source of increasing returns to scale and market power. That is why multinationals are often giant corporations.

So why is a medium-sized firm like Calzaturificio Carmens a multinational? Because firms also invest abroad for reasons other than the exploitation of market power and by so doing are able to save on production and distribution costs. They go abroad to gain market access, to look for cheap factors of production, to source specific technologies and to exploit location-specific externalities. These motives can be pursued by relatively small firms that implement flexible and fragmented operations across several countries. Increasingly, firms are organising their production to benefit from the advantages that freer trade and lower transport costs have created.

#### Internal or external operations

Foreign operations do not necessarily need to be carried out by wholly owned foreign subsidiaries. In many circumstances, they can be carried out in looser ways, through arms' length agreements with local firms, such as licensing contracts to produce a component or assemble a finished good

**Outward FDI strengthens firms, leading them to expand rather than contract their home activities**

or agency contracts to market a given product. These agreements are often cheaper than setting up a foreign subsidiary.

A considerable share of international activities happens this way, and the share would be even larger but for market failures that often prevent such agreements from functioning efficiently. For example, a multinational with an exclusive technology may fear that a licensing contract could lead to dissipation of its proprietary knowledge. In that case, setting up a foreign subsidiary is a preferable strategy.

#### Efficiency gains for the global economy

Organising activities across the border works. There are complementarities between the capabilities of firms and the characteristics of countries that can be effectively achieved by FDI as well as by trade in goods. Multinationals generally perform better than national firms in home and host economies alike. Such firms are able to expand by becoming multinational, applying their higher productivity to a wider range of inputs.

Multinationals are also on average

larger than other firms, they do more research and development and they use more skilled personnel. There is consistent and robust evidence of this when comparing the activities of multinationals in both home and host countries with those of national firms.

#### Global benefits mostly translate into local benefits

If multinationals are more efficient than national firms, then the larger their share of world activity, the more efficient will be world production and the higher world income. But these global benefits may not necessarily make everyone better off. At the country level, world efficiency gains might not always trickle down to improve welfare.

For example, outward FDI diverts national resources to foreign countries and this diversion could impoverish home countries if it leads to a contraction of activities at home. But the evidence is that outward FDI strengthens firms, leading to expansion rather than contraction of activities at home. The relocation of labour intensive activities is a key concern in high-income countries. But in general, this is an opportunity for firms to reduce their production costs and remain competitive.

**Multinationals tend to be larger than other firms, do more R&D and use more skilled personnel**



Although some activities get transferred, they become an element of a strategic process that strengthens activities that remain in the home country. There is evidence of technological upgrading as home activities become more skill intensive and productivity growth accelerates.

Inward FDI creates employment in the host country, although there are also concerns that it causes profits to be channelled abroad and local industry to be damaged. But the evidence is generally that 'crowding out' affects only the most inefficient local producers, local resources that are released are put to a better use and prices decline to the benefit of local consumers. Multinationals generally pay higher wages than local firms and in some countries, the impact of job creation by multinationals has been so large that wages have risen rapidly, this being most obvious in the case of Ireland.

There is also considerable evidence that inward investment is associated with linkages to local firms and with technology transfer, raising the productivity of local firms. These effects are strongest where host countries have sufficient skills and technology to interact with multinationals. But when technological and income gaps are too wide, this transfer is limited and FDI is no shortcut to faster income growth.

### **Convergence or divergence of world income?**

The nature of the interaction between foreign firms and domestic activities in host countries has long-term implications for the convergence of world income. FDI in developing countries is of particular importance here. Such investments provide an important source of capital formation even in very backward economies, and more importantly, a source of firm-level capabilities that would otherwise be absent.

But the impact on host economies is small if there is little interaction with domestic activities. Consider the creation of human capital, a key ingredient for growth. The evidence is that even in developing countries, multinationals employ more educated personnel than national firms. If there is no effort to expand and enhance local skills through education policies, the gains are likely to be small.

Ireland is the shining counter-example here: the high-tech US multinationals that invested there in the 1980s and 1990s generated a massive demand for local skills. Irish engineers based abroad moved back home and an explicit policy to enhance high education in science and technology was launched. This was, of course, to the benefit of the whole Irish economy.

### **Are the positive effects of FDI short or long lasting?**

Another problem for long-term income growth is that the presence of multinationals could be short-lived. The cost to multinationals of relocating activity is generally low as production is already organised across countries. But while the only available evidence on the volatility of multinationals is for high-income economies, surprisingly it shows that they are less volatile than national firms. Multinationals react faster to shocks but the overall magnitude of their reaction is less than that of national firms.

This need not be the case for developing countries. Many recent FDI flows to developing countries are essentially seeking cheap labour and many are concentrated in cheap labour countries neighbouring large high-income markets, like Mexico or the Central and Eastern European countries. And thanks to FDI, these economies have been able to achieve high rates of growth.

But wages rise with income. For these foreign activities to stay in the longer term, other attractions must be developed. Many of these favourite locations of the 1990s are already falling out of favour as activities move to new locations where labour is cheaper. Particularly worrying are reports that even countries with an obvious locational advantage like Mexico are seeing FDI moving to locations further away from the United States but where labour is cheaper.

Foreign firms may go as they come and their positive effects could be short-lived. For this reason, developing countries cannot just rely on cheap labour to attract FDI. The strategy successfully followed by Ireland managed to use its initial cost advantage to create substantial clusters of foreign firms drawing on a highly skilled labour force.

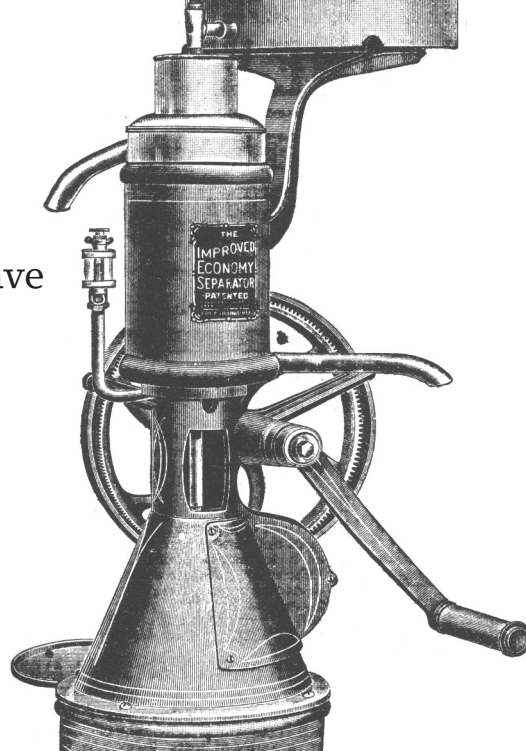
## **Even in developing countries, multinationals employ more educated personnel than national firms**

*Multinational Firms in the World Economy* by Giorgio Barba Navaretti and Anthony J Venables (with Frank G Barry, Karolina Ekholm, Anna M Falzoni, Jan I Haaland, Karen Helene Midelfart and Alessandro Turrini) is published by Princeton University Press (2005).

**Giorgio Barba Navaretti** is Professor of International Economics at the University of Milan. **Anthony J Venables** is Professor of International Economics at LSE and director of CEP's research programme on globalisation.

'If men have the talent to invent new machines that put men out of work, they have the talent to put those men back to work.'

**Chris Pissarides** investigates whether President Kennedy's claim is still true.



# Is new technology good or bad for jobs?

**G**overnments throughout the world strive for technological progress. Economists agree that differences in technological attainment are the main cause of differences in incomes and wealth across the world. So is it not odd that we should even be raising the question of how good new technology is for jobs? If it is not good for jobs, what is it good for? How can new technology achieve so many good things if it is bad for jobs?

But odd as it may seem, the question is being asked whenever there is talk of new technology. Adverse comment takes different forms. Sometimes it is in connection with the romanticised machine-breaking of the Luddites of early nineteenth century Britain, the skilled workers who lost their jobs to machines. More frequently, it is in connection with a more boring comparison of statistics across nations.

In the 1990s, new technology was making American labour more productive, employment was rising and unemployment was falling to levels that seemed to defy analysis. Europe's productivity gains were smaller but its

labour market performance was even worse. Talk of Europe's 'jobless recovery' became the vogue (though currently, it is the United States that is going through a jobless recovery, as explained by Richard Freeman and William Rodgers in the last issue of *CentrePiece*).

Why might new technology be bad for jobs, despite its many other good things, and what is in the numbers? Recent work I have done at the CEP in collaboration with Giovanna Vallanti and Sandra Bulli sheds light on this question.

Ironically, it is sometimes easier for the layperson to come up with reasons why new technology may be bad for jobs than it is for the trained economist. The layperson will almost certainly think of the Luddites' plight or the loss of manufacturing employment. If new technology invents machines that can do the job that workers are doing, then, the argument goes, it must be bad for jobs.

But the economist will point to the fact that new technology makes jobs more

productive. More productivity means more wealth and more wealthy individuals spend more. So new jobs are needed to satisfy their new needs. As John F Kennedy put it, 'if men have the talent to invent new machines that put men out of work, they have the talent to put those men back to work.' The key is that those men need to get back to work to produce the extra goods that a wealthier society requires.

Of course, new technology is not always of the kind that puts men out of work. I am writing this article on a machine that weighs three kilos. It cost my employer less than a week of my wages and does an incredible number of things, much more than I could ever do with my hands and my secretary's typewriter before this machine was invented. Yet neither my secretary nor I lost our jobs. We both learned how to work with the new technology and this has made us more productive.

True, some workers do lose their jobs

**The labour market of modern societies is in a continuous state of flux and one key reason is new technology**



when new technology is invented. Not as many workers now stand along an assembly line as in 1936, when Charlie Chaplin immortalised it in *Modern Times*. But then not as many workers sat behind desks in 1936 as in 1987, when Tom Wolfe wrote *The Bonfire of the Vanities*. The internet has made many airline ticket sellers in high streets redundant, but it has opened up demand for programmers, despatch workers and online payment administrators.

New technology replaces the old with the new; it brings change to the labour market. Some jobs become more productive, some jobs become obsolete and some new types of jobs are born. The labour market of modern societies is in a continuous state of flux and one key reason is new technology. New fashions, demographics and natural phenomena also contribute to change. But the main reason for the big changes in the labour market – the decline of agricultural employment, the rise and then decline of heavy industrial employment, the rise of the office worker – is technological change.

This change is good for jobs overall because it makes the average job more productive. But the question of employment remains: is it also good for the volume of employment or is a society undergoing faster technological change than another necessarily operating at a lower level of employment than another?

The answer to that question is in the numbers. Our theoretical work notes that there are different kinds of technology and some are good for jobs and some bad. If a large fraction of technology is of the kind that makes jobs obsolete, the workers who lose their jobs will need to be re-employed elsewhere. Although demand for new jobs will increase in response to the rising wealth accompanying the new technology, job creation and the matching of the displaced workers with the new jobs takes time.

An economy undergoing fast technological change needs to be continually reallocating workers from the industries that introduce labour-saving technology to new industries, and the result is likely to be higher transitional unemployment. But if technology is primarily of the kind that increases the productivity of workers at their place of employment, like the introduction of

computers in offices, people are more likely to hold on to their jobs and employment will on average be higher.

Our work uses statistical information from the United States, Japan and most countries in the European Union to identify the kinds of technology that have hit labour markets in the last 30 years. We find surprising results. Virtually all technology is of the kind that is good both for productivity and jobs. We find no evidence of massive job destruction at the level of the economy as a whole as a result of the introduction of new technology.

Even if some sectors of the economy are adversely affected by new technology, these adverse effects do not have an impact on the aggregate economy. In the last 30 years, both aggregate productivity and aggregate employment benefited greatly from the introduction of new technology. Modern-day Luddites undoubtedly get hurt because they lose their jobs, but JFK got it essentially right: most jobs benefit from new technology and the few that do not are replaced by others with no negative impact on the volume of overall employment.

Let me give some examples of the importance of new technology for jobs. In the United States in the decade before

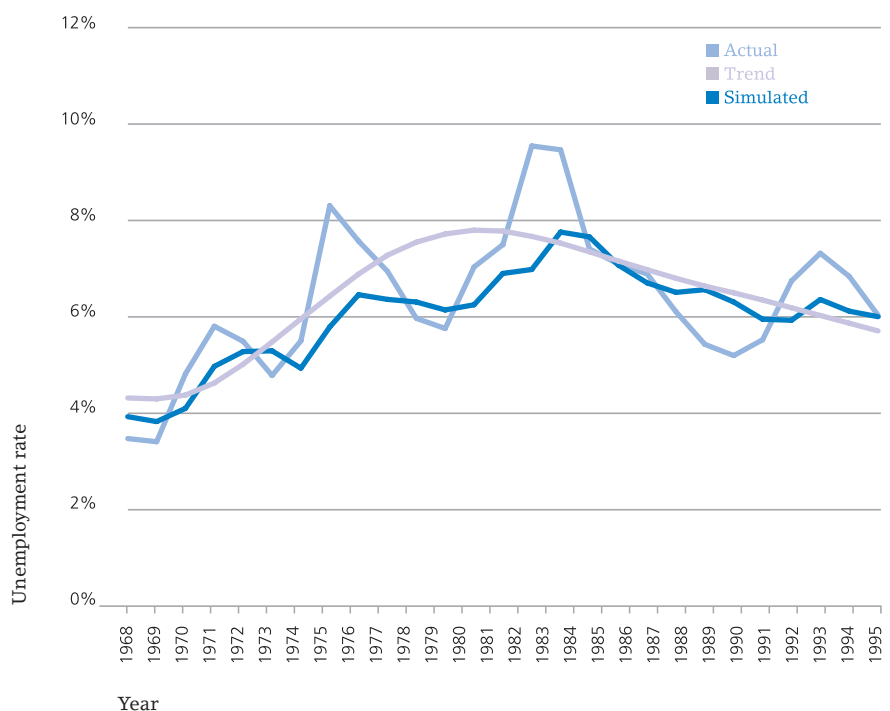
## Virtually all technology that has hit labour markets in the last 30 years is of the kind that is good both for productivity and jobs

1973, 'total factor productivity' or TFP – the measure of how efficiently inputs of capital and labour are used – was growing at about 1.9% a year. In the 20 years that followed, TFP growth dropped to an annual average rate of 0.8%. We estimate that this drop was responsible for virtually the entire rise in unemployment from about 5% to 6.8% of the labour force.

In a similar vein, in Europe, productivity growth dropped from nearly 4% to 1.8% a year while unemployment went up from 2.3% to 6.6% of the labour force. Our estimates show that just over three percentage points of this 4.3 percentage points rise were due to the productivity slowdown. This pattern is repeated throughout the last 30 years.

Figure 1 shows three series for unemployment in the United States: actual unemployment; the unemployment trend; and the series that would be generated if

Figure 1: Unemployment rates in the United States 1968-95



productivity growth were the only influence on unemployment. It is clear that our simulated series tracks the trend changes in unemployment quite well. It misses out the short-term fluctuations that are due to the business cycle and government policy, which is not surprising. But the influence of new technology on jobs seems to be sufficiently strong to track virtually all the underlying trends in unemployment.

This close correlation is not repeated in Europe, but new technology still matters and is still good for jobs. Figure 2 shows the unemployment rate in Europe versus our productivity-predicted rate. A lot more seems to be influencing the underlying trends in unemployment than new technology. The economics literature has explored the role of labour market policies and institutional rigidities and much has been written about them in *Centrepiece* (see page 23 of this issue) and elsewhere.

Productivity growth is still an important influence on jobs, but in Europe we have to face the fact that a recovery of productivity growth alone will not be able to create enough new employment to offset the rise in unemployment of the previous two decades. Institutional reform is also necessary.

**THE IMPROVED ECONOMY CREAM SEPARATOR FOR 1907**

**THE IMPROVED ECONOMY SEPARATORS FOR 1907** resemble in general appearance our 1906 model, which carried the country by storm last year, sweeping away all competitors and which was acknowledged by all fair-minded and competent judges to be the closest skimming and most practical farm cream separator ever devised. Our 1907 pattern possesses all the great improvements and special features that made our 1906 machine famous and has by far the closest skimming device ever invented. It is the easiest running, most durable and the nearest to a self-cleaning and flushing separator ever made. In our 1907 pattern we have by the expenditure of hundreds of thousands of dollars for improved machinery, much of it designed exclusively for our use, and not to be had by other makers, by employing the very best talent in every department, by a rigid system of inspection by which every machine is scrutinized and tested at each stage of its construction, attained a mechanical perfection which is at once the wonder and envy of all other makers. Our 1906 Economy was the closest skimming separator ever offered, yet our 1907 model will skim closer.

**OUR 1906 ECONOMY WAS THE SIMPLEST, EASIEST RUNNING, EASIEST CLEANED AND MOST PRACTICAL CREAM SEPARATOR EVER OFFERED, BUT OUR 1907 PATTERN RUNS STILL EASIER, CLEANS STILL EASIER AND IS STILL MORE PRACTICAL.**

**IN THE 1907 ECONOMY** we have improved the oil cup, improved the composition of the high speed bushings, improved the construction of the bowl, simplified the adjustment of the cream screw, changed and improved the supply tank and its fastening, the milk cover and spout, the crank ratchet, the method of casting the frame, and in many other points have benefited by the experience of our customers and ourselves. At the same time we have made many improvements in separator construction last year, so our 1907 model this year excels all others.

**OTHER MANUFACTURERS' Economy** are falling into line, other machines are being produced which in general outline at least, approximate the Economy, and resemble it in outward appearance, but they are and lack the vital point, the wonderfully effective skimming device of the Improved Economy, which is covered by strong basic patents and cannot be obtained in any other cream separator sold by any other maker.

**THANKS TO THE MORE THAN LIBERAL PATRONAGE** throughout the country the growth of our separator business has been almost beyond belief, really the marvel of the separator world. We are now by far the largest makers of hand cream separators in the world. Our great Economy factory in Central Iowa, with its wonderful mechanical equipment, its great expert organization, its unrivaled facilities for the transformation of raw material into the finished separator in the world, now produces 300 complete Economy Separators every working day in the year, more than two cars load more than twice as many as the year before.

**THIS WONDERFUL BUSINESS** has been built up first by the genuine merit of the Improved Economy, and then by the good will and the good words of our more than satisfied customers. Every Economy Separator we have sent out has sold others, single machines have led to our supplying whole communities. The story of its wonderful merit, quickly appreciated by our customers, has spread from mouth to mouth, from farm to farm in ever widening circles, leaped from neighborhood to neighborhood, from community to community. From far and wide orders have poured in upon us, our sales have been limited only by the capacity of our factory. While we have increased our output as fast as machinery could be produced, the demand has always exceeded the supply.

**FOLLOWING OUR FIXED AND ALWAYS UNCHANGED POLICY** of selling on a single small margin of profit and of giving our customers the benefit of every penny we can save in manufacturing cost, by reason of increased output and improved methods and machinery, we have steadily reduced the selling price of the Improved Economy from year to year until we can now offer our great 1907 Junior Economy, the most perfect hand cream separator ever built; the big 750 pound per hour size, at the wonderfully low price of \$53.95. Three years ago we were obliged to ask \$108.25 for the Improved Economy of the 500-pound size, almost equal to most of the separators sold by other manufacturers today, can in no way be compared with the "improved Economy for 1907." Each year we have by reason of our increased output, by the introduction of many thousands of dollars worth of improved machinery, by the introduction of the latest improved methods in manufacturing, reduced the manufacturing cost of every separator, and have made a corresponding reduction in our price to our customers, giving them the benefit of every penny we have saved in the cost. Feeling that their liberal patronage has enabled us to reduce the cost and that they are, therefore, entitled to all that has been thus saved, we cannot help but do otherwise.

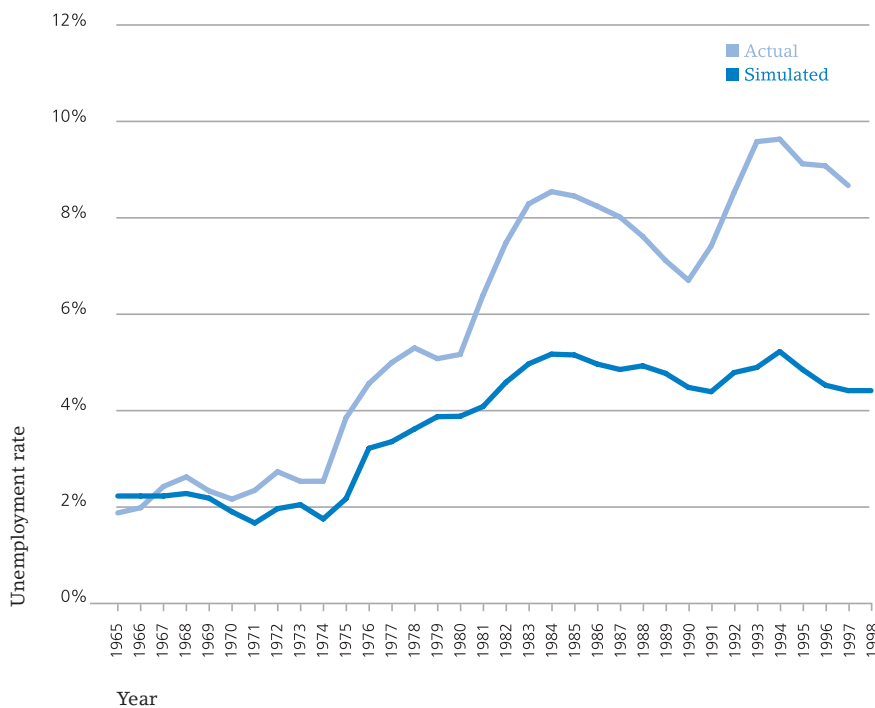
**TO BRING ABOUT this great reduction in price, amounting to \$55 on the large 750-pound size and proportionately as great on the smaller sizes, we have left no stone unturned, no deed undone that would improve our manufacturing facilities.** We have installed hundreds of thousands of dollars worth of the highest type of automatic and labor saving machinery. We now have five times as many automatic machines as any other maker. We make every bolt, screw and nut used in our separators. Other manufacturers buy these parts ready made from other concerns. Not only do we make these and many other parts which no other separator manufacturer has attempted to make, but we make our own tools, gauges, drawing and stamping dies. Our various manufacturing departments are in charge of picked experts, many of them having a national reputation in their line. Our general superintendent, Mr. M. A. Ganiard, was formerly superintendent of the DeLaval Separator Co.'s shops at Poughkeepsie, N. Y. Mr. A. E. Jackson, manager of our lathe and automatic tool department, was formerly assistant superintendent for the same concern. Mr. J. G. Jones, manager of our die making, drawing and sheet metal departments, has a national reputation as an author and lecturer in these lines, and his treatises on metal drawing and stamping are the standard authority everywhere. Our tool and gauge making room is in charge of Mr. Edward Scheldrick, formerly with Fairbanks, Morse & Co. of Beloit, Wis. Thus in these and in all other departments, our expert help, our improved machinery and appliances, our painstaking inspection and tests insure to the Improved Economy purchaser a machine that in mechanical construction and effectiveness is without an equal and at a cost that is less than one-half the price asked by other makers.

**OUR GREAT CHALLENGE OFFER** of \$1,000.00 in gold to the separator manufacturer who could produce a machine that would outskim the Improved Economy at 50, 60, 70, 80 and 90 degrees, made last year, still stands unclaimed. Although advertised far and wide, no maker has dared to come forth and accept our challenge. The Improved Economy is still the closest skimmer in the world at all temperatures and under all conditions.

**THE TERMS OF THE FREE TRIAL OFFER** only have this year been extended from thirty days to sixty days in order to give our customers not only ample time to become thoroughly familiar with the operation of the machine, but also to find out from their own experience what the money saves. It is, how much more better it is to try our Improved Economy really is for every dairyman. You have sixty days in which to try our Improved Economy Separator and to put it to as any test you may wish, and if at the end of that time you are not fully satisfied with it in every way, you may return it to us and we will at once return all the money you have paid us, and also pay all the transportation charges both ways, so that you cannot lose a penny.

**This is the fairest and most liberal offer ever made by any separator maker, and is possible for the reason that our experience has proven that no other separator in any way compares with the Improved Economy.**

Figure 2: Unemployment rates in the European Union 1965-98



On its own, a recovery of productivity growth in Europe will not create enough new employment to offset the rise in unemployment

Christopher Pissarides is Professor of Economics at the London School of Economics and director of CEP's research programme on macroeconomics. More details on the research discussed here are in 'Productivity Growth and Employment: Theory and Panel Estimates', CEP Discussion Paper No. 663, by Christopher A Pissarides and Giovanna Vallanti (<http://cep.lse.ac.uk/pubs/download/dp0663.pdf>).

in brief...

# Boffins in the USA: the boost to UK productivity

**The US innovation boom since 1990** has had major benefits for the UK economy. According to new research by CEP's director **John Van Reenen** and colleagues, without the growth in US spending on research and development (R&D) in the 1990s, UK productivity would have been about 5% lower in 2000.

R&D is important for innovation and productivity, not just for pushing forward the technological frontier in itself but also making it possible for firms to learn about and absorb innovations from elsewhere, including the output of basic science. Foreign direct investment can play a significant role in this 'technology transfer', and so can 'outsourcing' R&D to overseas locations.

This research indicates that the 'special relationship' between the UK and the United States exists not only in politics but also in economics. UK firms that have placed a large number of their researchers in the United States have been able to tap into the new ideas of US scientists. Bringing these ideas from places like Silicon Valley back to the UK helps boost our productivity.

The study analyses the accounts of large R&D performing firms (188 in the UK and 570 in the United States) between 1990 and 2000 to test the 'technology sourcing' hypothesis. This is the idea that foreign research labs located on US soil tap into US R&D 'spillovers' and improve home country productivity. The results show that UK firms that had

**The productivity benefits of US-based R&D suggests that policy-makers should not subsidise firms into relocating their labs back to Europe**

established a high proportion of US-based inventors by 1990 benefited disproportionately from the growth of the US R&D stock over the next ten years. What's more, the benefits of such technology sourcing were larger in industries where the productivity gap with the United States was greater.

The report also looks at US firms investing in R&D labs in the UK. Unfortunately for the Americans, the benefits of UK research have not been so large. Just as with particular industries, it turns out that technology sourcing is more important for countries that have 'most to learn'. So when it comes to the special relationship, the UK benefits much more from US R&D than vice versa.

A key question for both research and policy is what is the ideal place for UK and European companies to locate their R&D – near universities, near their production facilities, at home, overseas? Many European policy-makers fearing 'delocalisation' are trying to get firms to relocate their R&D labs back to Europe in order to reach the 'Lisbon agenda' target of getting R&D up to 3% of GDP. But the evidence on the productivity benefits of US-based R&D suggests that they could be shooting themselves in the foot.



Bringing ideas  
back from places  
like Silicon Valley  
helps to boost  
UK productivity

This article summarises 'How Special is the Special Relationship? Using the Impact of US R&D Spillovers on UK Firms as a Test of Technology Sourcing' by Rachel Griffith, Rupert Harrison and John Van Reenen, CEP Discussion Paper No. 659 (<http://cep.lse.ac.uk/pubs/download/dp0659.pdf>). **Rachel Griffith** and **Rupert Harrison** are at the Institute for Fiscal Studies and University College London. **John Van Reenen** is director of CEP.



# More inequality means higher inflation

**All governments claim to want low inflation** – but not all achieve it. While poorer countries generally fare worse, inflation rates can differ markedly even between equally wealthy countries. Turkey and Korea had similar levels of per capita income at the start of the 1980s. But while Turkey's inflation ran at an average of 60% a year over the next two decades, Korea's was only 6%.

One explanation is that policy-makers in countries like Turkey were simply unlucky or incompetent. But new evidence on the relationship between inequality and inflation uncovered by CEP researcher **Chris Crowe** suggests an alternative explanation.

Figure 1 illustrates the inequality-inflation relationship for 53 countries between 1981 and 2000. The vertical axis plots the average 'inflation tax rate' (a transformation of the inflation rate that prevents extremely high values dominating the data). The horizontal axis plots the most widely used measure of income inequality, the 'Gini coefficient'. More inequality is associated with higher inflation.

What explains this link? Crowe argues that politicians in high-inequality countries might face incentives to choose higher inflation. His story has two stages. The first shows why more wealthy groups might actually prefer higher inflation. The second shows how greater inequality can make their preferences more salient.

To demonstrate the first stage, note that inflation is a tax. Printing money raises revenue for the government, in the process expropriating a proportion of any wealth held in nominal assets such as cash. But not all people face the

same inflation tax rate. Inflation is regressive, a tax that hits the poor and middle class hardest because they hold more nominal assets, as a fraction of total income, than the wealthy. This means that the wealthy – who can mostly avoid the inflation tax – might well prefer it to more progressive taxes such as income tax.

To demonstrate the second stage, note that where democratic institutions are less effective, some groups will carry more weight than others. To put it simply, money talks. But if political voice depends on income, then greater inequality means greater inequality in political participation. In turn, this increases the adoption of policies – such as inflation – more favourable to the wealthy.

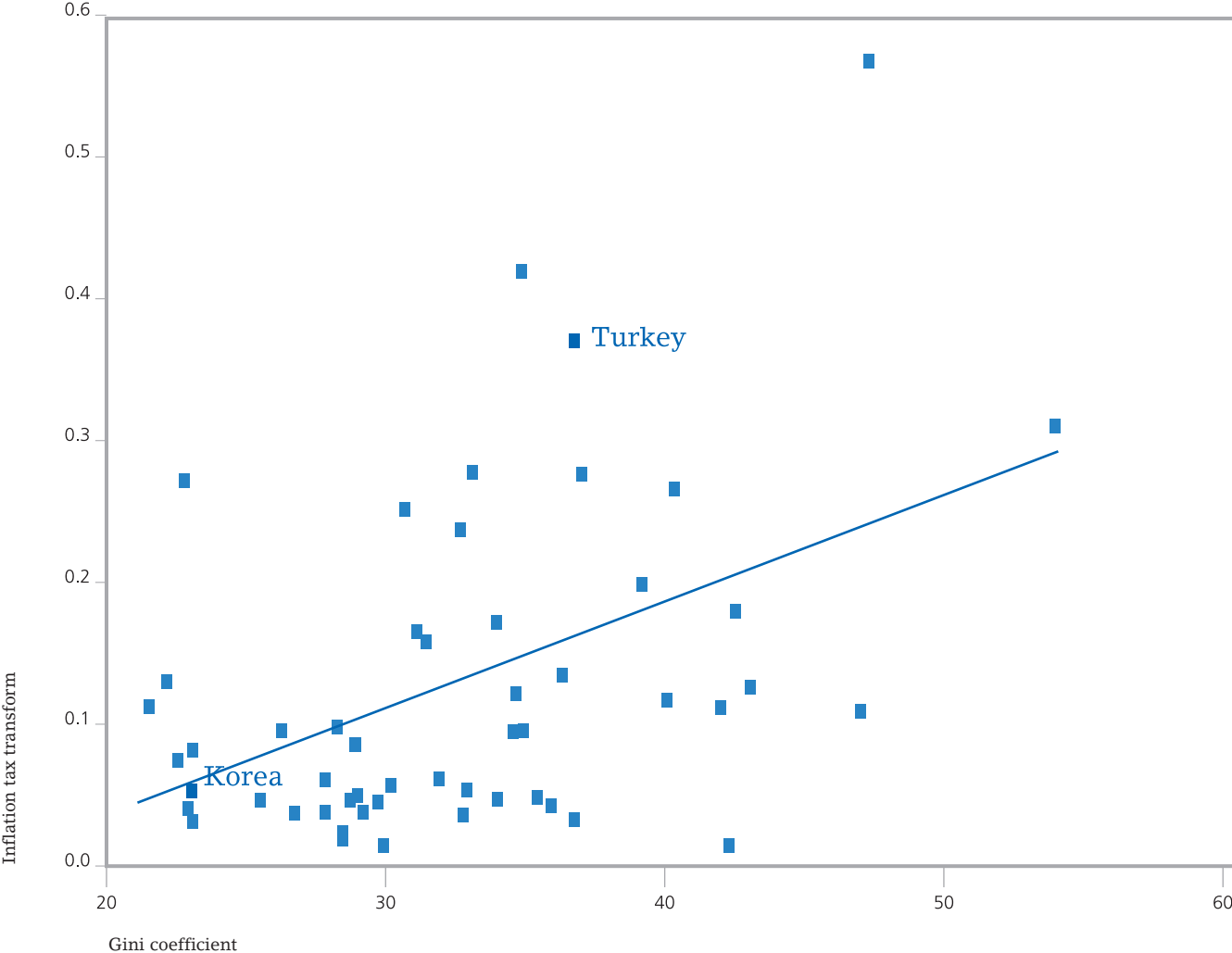
Analysis of the data shows that the positive relationship between inequality and inflation holds even when controlling for other factors like the overall level of development. On average, countries with the highest levels of inequality will face inflation at least 40% higher than countries with the lowest inequality. There is also evidence that inflation is higher in countries with less participative political systems.

Of course, this story provides only one explanation for inflation. Some policy-makers are simply incompetent. And inflation worldwide has shown clear common trends – higher in the 1970s and 1980s than in the 1990s – while inequality has not. But this research offers an explanation for the positive cross-sectional relationship between inequality and inflation. More generally, it shows how the distribution of income and wealth can affect policy performance.

## Politicians in high-inequality countries might face incentives to choose higher inflation

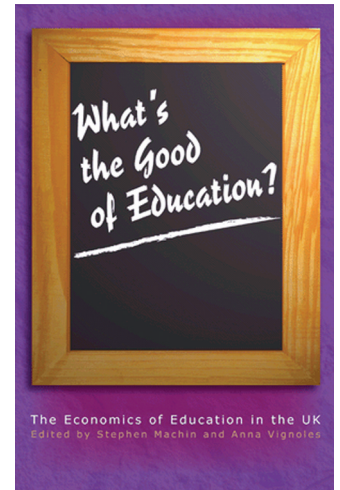
# Greater inequality means greater inequality in political participation – and policies more favourable to the wealthy

Figure 1:  
The inequality-inflation relationship



This article summarises 'Inflation, Inequality and Social Conflict' by Christopher Crowe, CEP Discussion Paper No. 657 (<http://cep.lse.ac.uk/pubs/download/dp0657.pdf>). **Chris Crowe** is a research assistant in CEP's globalisation programme. In the autumn, he joins the International Monetary Fund.

What is the economic value of investments in education made by individuals, firms and governments? A new book edited by **Stephen Machin** and **Anna Vignoles** provides top quality empirical evidence on the diverse set of issues that this question raises – about school effectiveness, higher education funding, vocational study and much more.



# What's the good of education?

**T**housands of books have been written on the subject of education. Most try to suggest how we can have both more and better quality education. It is taken as read that this should be the goal of any sensible society. Yet is there really sufficient evidence to support the common held belief that we as individuals, and as a community, should be investing more in education?

To answer this crucially important question, we need to turn to an exciting and rapidly advancing field of research. The economics of education is about how education is produced, who gets more (or less) education and the economic impact of education on individuals, firms and society as a whole.

It is therefore concerned with a diverse range of issues and provides an analytical framework to think about such questions as: What is the best way to raise pupil achievement? What should we be paying our teachers? Why has society become more unequal? And how many graduates does our society really need?

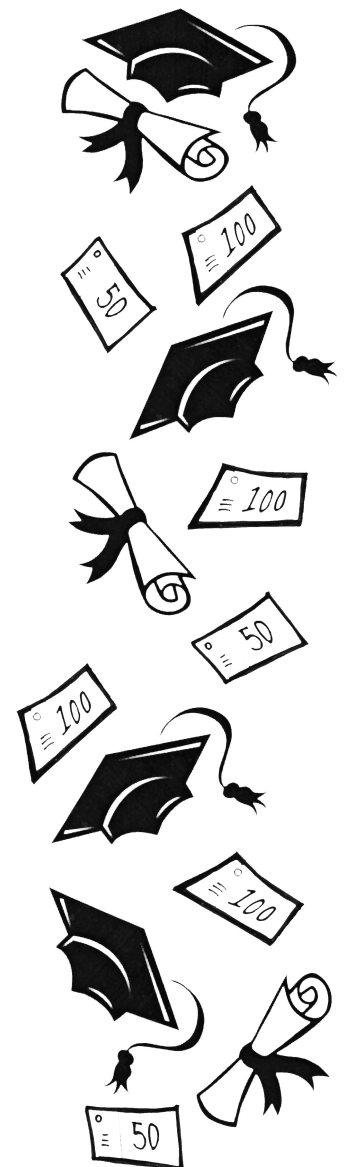
## Human capital theory

The economics of education has a long and distinguished history. Adam Smith

alludes to the idea that people might invest in education to increase the productive capacity of society. But it is Gary Becker who is generally considered the founding father of the field, developing an analytical framework to explain why individuals invest in education and training in a manner analogous to investment in physical capital. The resulting human capital theory is still the basis of most research in the field today.

Human capital theory represented a distinct break from the past in that previously education was largely considered to be a consumption good. The wealthy were assumed to consume more non-compulsory education than the less well off, just as they consumed more of other goods. Education was also classified as a status good, consumed by the middle and upper classes to signal higher social standing.

Human capital theory suggests that in fact education should be seen primarily as an investment good. Individuals invest in human capital such as schooling because it makes them more productive and this is reflected in higher wages. Thus, it is argued that individuals primarily make investments in schooling and other forms of human capital to earn a return, that is, to increase their income in the future.





This essentially simple theory is a powerful tool for analysing a diverse range of phenomena. First, there are numerous forms of human capital, ranging from formal education through to on the job learning or firm-provided training. So human capital theory can be used to explain investments in schooling, the provision of training by firms, the acquisition of vocational qualifications, the benefits of informal on the job learning and so on.

But human capital theory also provides a framework for analysing policy interventions that result in investments in education. When the government invests in programmes such as a youth training scheme or a smaller class size initiative, we can analyse the likely impact of these programmes and their expected social and private rates of return using human capital theory. That is the focus of much of our book, exploring the latest research evidence on what raises performance at different stages of the education process – from compulsory education through higher education to the role education plays when children reach adulthood and enter the labour market.

### Compulsory schooling

In the area of compulsory schooling, there are two key questions. The first is whether schools really matter for pupil attainment, a subject addressed in a now voluminous literature on school effectiveness. The answer is that schools do matter in that a significant proportion of the variance of pupil attainment can be accounted for by school and teacher effects. But even here, the story is not so simple. Parental influences are very important determinants of pupil attainment, although the best work in this area still finds a significant contribution from school attended over and above other factors.

Given that the school you attend matters, the second question is how can education policy be best designed to enhance student performance? The answer depends on a number of issues. First, as theoretical analysis of the delivery of public services makes clear, it is vital to understand the objectives of decision-makers in schools. Schools are not like private sector firms where the dominant view of economists is that the objective is to maximise profits and where there are clearly defined relationships between

## Knowing what works in education is not sufficient to inform policy – we need to know at what cost relative to alternative policy options

interested groups. Rather, in the case of schools, there are multiple interest groups, often with conflicting objectives.

Of course, there are also multiple outputs from the education system, ranging from improving test scores to engendering a love of learning. So the critical issue for policy is to work out the best means by which competition, incentives and accountability can be brought together to enhance educational outcomes in the broadest sense.

This leads straight to the second point, namely that evidence (mainly from the United States – see Hoxby, 2003) shows that increased competition among schools and moves to decentralise school finance may enhance attainment, but can also raise inequality because richer parents are better able to take advantage. This has a productivity cost in that more able pupils from poor backgrounds fall behind.

This is particularly important in the UK context where there is a ‘tail’ of poor achievers. But despite moves to set up ‘quasi-markets’ in schooling, the government has also been introducing initiatives to raise attainment at the bottom end of the education distribution, and these seem to be working in the desired direction.

### School resources

From a practical policy perspective, research on school resources and their potential impact on pupil attainment is an important area. Distinguishing between what works and what does not work is difficult, and the lines are somewhat hazy since it is hard to compare the efficacy of different policies. It is more feasible to

state what does seem to raise pupil attainment.

The literature on school resources is controversial, especially research on the effects of reductions in class sizes. The vast bulk of studies on class size find little (and sometimes counter-intuitive) effects of class size reductions on performance. But this can be misleading. The best, although rather context specific, studies, which adopt a more rigorous experimental approach to evaluating the impact of class size reductions, do find important effects on pupil attainment. Nonetheless, such reductions only offer a ‘one-off change’, the effects do not persist and the changes that do seem to affect attainment involve relatively large decreases in class size and are therefore costly. Moreover, some studies using similar methods do not reach the same conclusions.

Anecdotally, there are many statements that teachers, and the way that teaching is organised, matter for pupil attainment. While there is some UK evidence on this, the US evidence showing important links between year and grade-specific variations in test score gains and teacher characteristics does establish that some teachers achieve consistently better achievement scores from the children they teach than do others.

There are currently severe problems in attracting high ability, highly qualified students into teaching. One important policy angle seems to be to try and re-establish teaching as an important and well-respected profession. This requires policy-makers to think seriously about improving the total compensation package for teachers, including their pay relative to other professions, as well as non-pecuniary conditions of work.

As to the content of teaching, there is little quantitative evaluation in the UK setting. But Stephen Machin and Sandra McNally’s (2004) work on the literacy hour shows that improving the way in which teaching is delivered – in this case through the well-structured literacy hour – can provide a cost effective means of raising pupil attainment.

Of course, knowing what works in education is not sufficient to inform policy. We need to know at what cost it works relative to alternative policy options. Yet there remains a deficiency of good cost-benefit evaluations in education. Perhaps the best example of a properly designed

evaluation in the UK is one of the Educational Maintenance Allowance (EMA) – a scheme that essentially involves ‘paying children to stay on at school’ – but even this does not include a full cost-benefit analysis (Dearden et al, 2005).

Simple comparisons of the magnitude of intervention effects (ignoring costs) are more common. For example, Eric Hanushek and Steven Rivkin (2003) conclude that greater school competition increases teacher quality or, more specifically, reduces the variance in teacher quality. They then attempt a direct comparison of this school competition effect with the class size effects arising from the now infamous Tennessee experiment. They suggest that a reduction in class size has an effect on pupil attainment that is in the order of one quarter to one fifth as large as a comparable increase in the impact of greater school competition and higher teacher quality.

While it is disputable whether these findings can be generalised, what is clear is the importance of at least being able to compare the magnitude of any intervention effects. Only when this is done to a much greater extent in the economics of education will researchers be able to give stronger advice to policy-makers as to where they should be spending the marginal dollar or pound of taxpayers’ money.

### Post-compulsory education

The size of the post-compulsory sector of education has changed dramatically in many countries in recent years. So has the socio-economic mix of students. Contrary to what many expected before the expansion of higher education, the expansion has actually increased educational inequalities so that a greater share of participants are from well off backgrounds. As the article on UK social mobility on page 18 of this issue of *CentrePiece* indicates, this has had longer-term intergenerational consequences.

The fact that simply expanding the UK higher education system in the 1980s and 1990s did not narrow the socio-economic gap should be born in mind when considering future expansion of the system, especially in the light of government targets aimed at getting 50% of all young people to attend university by 2010.

Going beyond the issue of socio-economic inequality, there are two main

questions about the expansion of higher education. The first is whether more graduates are needed and whether, in the face of an increased supply of graduates, investment in post-secondary degree acquisition still yields a significant return. Here, there is strong evidence that the demand for graduates still outstrips the supply and there is still a significant payoff to having higher education qualifications.

### Funding universities

In the face of continually rising student numbers, the second question is where do we find the resources to fund universities? The issue of charging student fees to attend UK universities is an important policy question since many people think students should pay (especially if they are to earn a future payoff), while others believe university should be a free good. On this issue, the empirical evidence is much weaker, partly because UK tuition fees were introduced in a way that has prevented evaluation of their impact on student participation.

From an economic perspective, the empirical evidence of persistent high private returns to a post-secondary degree would appear to provide justification for greater student contributions in the form of higher fees. But the critical point returns to the issue of the socio-economic mix of students. If fees are charged (the structure of which may in the future go more like the United States with

differential fees by subject and/or university), then it is absolutely vital that this does not act to reinforce inequality.

We know that the demand for education is generally quite inelastic: increasing the price will not depress demand substantially. But to the extent that demand from poorer students is more elastic, fees will provide yet another barrier preventing wider access to higher education. Providing financial support for able students from poor backgrounds has to be built in, even if it is costly. The 2003 proposals, which include exemption for poorer students and an income contingent loan system to cover fees, go some way towards this.

Research also indicates that socio-economic inequalities in education emerge well before entry to higher education. Therefore, policy focus needs to be directed towards reducing inequalities in the compulsory schooling phase.

### Vocational education

The other aspect of post-compulsory education that is highly policy relevant is the issue of academic versus vocational qualifications. The ‘problem’ of vocational education appears to be a recurring theme the world over. Many countries, like the UK, are concerned with the evident lack of parity between vocational and academic education, as measured by the lower economic returns to vocational qualifications.

This is to miss the point. A major reason that employers hold vocational qualifications in lower regard is because less able students choose to go down the vocational route. Education acts at least partially as a screening device, and there is UK evidence that opting to take the vocational route generally signals less cognitive ability.

But there are additional problems within the vocational education system itself, at least in the UK. The proliferation of vocational qualifications has led to a system little understood by employers. If employers are not even sure what a person has learned as a result of taking a particular vocational qualification, it is unsurprising that some qualifications have very little economic value. Continuing to develop new vocational qualifications in the fruitless struggle for parity with academic qualifications may actually exacerbate the problem (see McIntosh, 2004).

### New education policies need to be drawn up in a way that allows robust quantitative evaluation



## Education and the labour market

How well does the education system meet the needs of the labour market? What is evident is that employer demand for graduates is not letting up. Despite rapid increases in the supply of graduates, facilitated by the expansion of higher education, wage differentials between graduates and non-graduates have not fallen over time. This implies that the demand for skills continues to rise. The other side of this is that, in rapidly evolving modern workplaces, there are fewer places for those without educational qualifications.

This is one of the key policy issues of our time. It is compounded in some countries (notably the UK and the United States) where the education and skill distribution has a significant proportion (as many as one in five) of adults with basic skills problems. Add to this the fact that lifelong learning has very little directly measurable labour market value in the UK and it would appear that 'getting it right' in the compulsory schooling phase is critically important.

We also know that less able UK students who go down the vocational route at age 16 often end up with qualifications that do not benefit them in the labour market. While improving the content and marketability of these qualifications is one strategy, the underlying message for policy-makers is that as many as possible of our 16 year olds should have attained good basic skills and the cognitive ability to pursue a high value qualification. If we continue to let students leave the education system with very poor basic skills, these individuals will be disadvantaged for life. Going back and trying to repair the damage in mid-career is unlikely to help them.

## Evaluating education policies

So how do we assess the economics of education field in terms of its usefulness for policy-making? While by no means perfect, the evaluation of the EMA scheme provides a standard in terms of robust and policy applicable analysis. There are two reasons why it was so effective. The first is that in this particular policy area, economists already had the necessary tools with which to undertake the analysis. The more important reason, however, is that policy-makers specifically

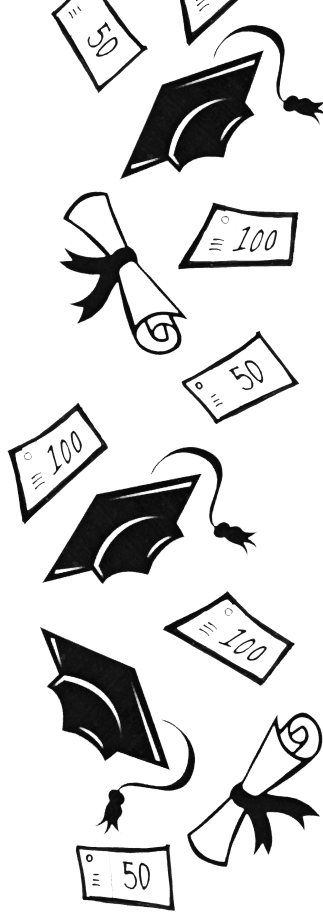
designed the EMA intervention in such a way as to make it amenable to rigorous quantitative evaluation. For example, it was not rolled out nationally and a serious attempt was made to obtain proper control groups.

This would seem to be the future of effective policy-making in education. Policies need to be drawn up in such a way that robust quantitative evaluation is possible, with much emphasis on the need to construct a proper control and to document fully the inputs and outputs associated with the policy intervention.

In the right circumstances, randomisation can be an attractive, and conceptually appealing, possibility here and one that the government should be more open to pursue. But we would not go as far as some, who argue that random experiments need to be conducted to test any new educational policy. There are instances where random experiments are neither feasible nor ethical, and where non-experimental analysis of observational data can be extremely useful.

Nonetheless, if we wish to see a step improvement in the quality of education policy-making, much more attention must be directed towards the design of such policies and their potential to be accurately and precisely evaluated. Those working in the field of economics of education have, of course, an important role to play in this process.

If we continue to let people leave the education system with very poor basic skills, they will be disadvantaged for life



*What's the Good of Education? The Economics of Education in the UK* edited by Stephen Machin and Anna Vignoles is published by Princeton University Press (2005). **Stephen Machin** is Professor of Economics at University College London, research director of CEP and director of the Centre for the Economics of Education, which is funded by the Department for Education and Skills. **Anna Vignoles** is Senior Lecturer at the Institute of Education and a CEP research associate.

### Further reading

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Eric Hanushek and Steven Rivkin (2003), 'Does Public School Competition Improve Teacher Quality?', in Hoxby (ed.).

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The government wants 'to create a Britain that is economically successful because it is socially mobile'. But new research by **Jo Blanden, Paul Gregg and Stephen Machin** indicates that social mobility is not only declining but also significantly lower than in some other developed countries.

# Social mobility in Britain: low and falling

**S**ocial mobility – or 'intergenerational mobility' as economists prefer to call it – measures the degree to which people's social status changes between generations. It is seen by many as a measure of the equality of life opportunities, reflecting the extent to which parents influence the success of their children in later life or, on the flipside, the extent to which individuals can make it by virtue of their own talents, motivation and luck.

The rapid increase in UK income inequality that began in 1979 is sometimes justified by the argument that society is now more meritocratic so that it is easier for the poor to become richer if they are willing and able to work hard. In fact, our research shows that the opposite has occurred – there has actually been a *fall* in the degree of social mobility over recent decades. Children born to poor families are now less likely to break free of their background and fulfil their potential than they were in the past.

The fall in social mobility can be illustrated by comparing two sons born in 1958 and who left school in the 1970s (those individuals tracked in the National Child Development Survey) where the

parents of one earned twice as much as the parents of the other. The richer son would earn on average 17.5% more in his early thirties than his poorer friend. For two comparable boys born in 1970 and who left school in the 1980s (tracked in the 1970 British Cohort Study), this advantage increased to %.



The wider focus of our research is to understand better whether the extent of social mobility in Britain and its recent decline are mirrored in other developed countries. The results show that Britain has mobility levels of the same order of magnitude as in the United States, but well below Canada, Germany and the Nordic countries. What is more, the decline in mobility in Britain between the 1970s and 1980s is not replicated in the United States even though inequality was rising in both countries.

Education has been seen as a route to greater intergenerational mobility. So it is natural to ask what role education plays in the recent decline in mobility and whether it can help explain why mobility has fallen in Britain but remained constant in the other countries. Our research highlights how the relationship between family income and children's higher education attainment has grown stronger between cohorts completing their education in the 1970s and the late 1990s. This implies that the big expansion in university participation has tended to benefit children from affluent families more.

We consider two stages of educational performance: staying on at school after the compulsory school leaving age of 16; and higher education attainment. Since this



# The strong relationship between family income and educational attainment is at the heart of Britain's low mobility culture

Figure 1:  
Staying on rates by parental income group

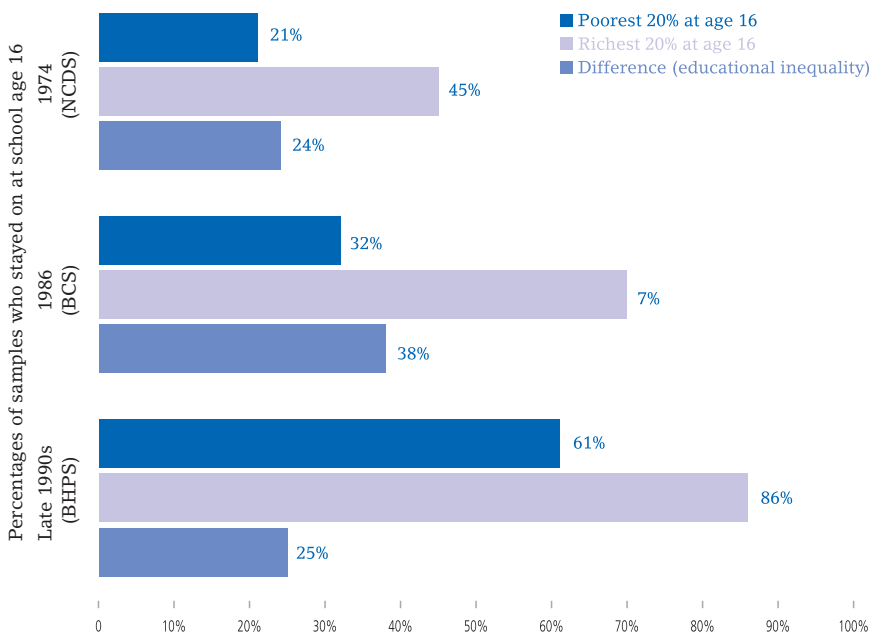
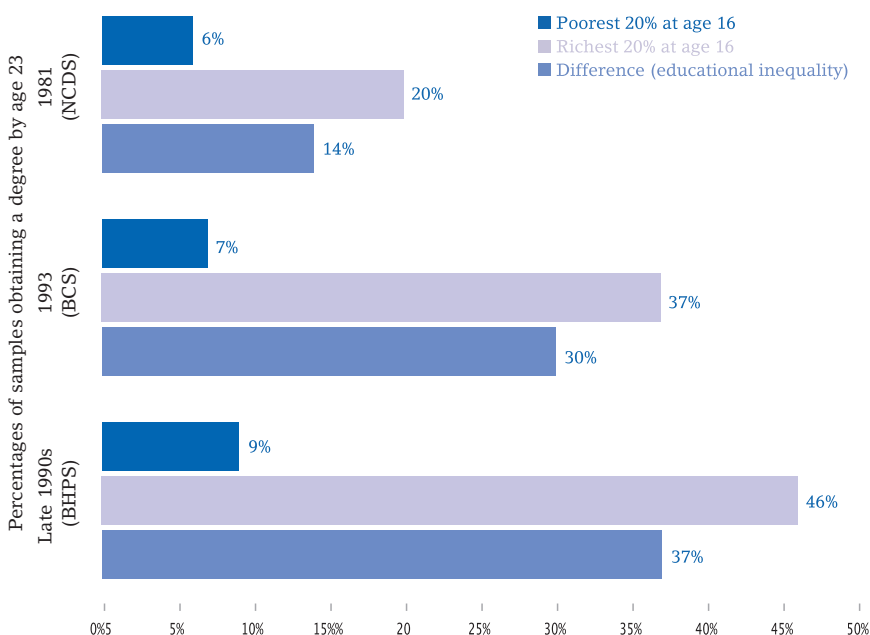


Figure 2:  
Degree completion by age 23 by parental income group



involves looking at education rather than incomes when adults, we can add a third cohort to those of 1958 and 1970: children reaching the age of 16 in the 1990s. This gives a partial picture of how mobility may be changing for a more recent birth cohort.

Figure 1 shows how the proportion of young people staying in education beyond the age of 16 has evolved over time. Educational inequality is measured as the difference in the staying on rate of young people with parental income in the richest 20% compared with young people with parents in the poorest 20%.

The first thing to note is that the staying on rate has increased from 1974 to the late 1990s for young people from both income groups. The more interesting result is that the speed of the increase has varied substantially for young people in different periods. It is clear that between 1974 and 1986, staying on rates for children from the richest backgrounds were rising faster, which led to an increase in educational inequality.

But from 1986 to the late 1990s, the staying on rate of those from the poorest backgrounds rose more quickly, leading to a reversal of educational inequality. Over the 1990s, young people from poorer backgrounds have clearly taken up the opportunity to stay on in post-compulsory education as never before. This is likely to be in part a consequence of the introduction of the General Certificate of Secondary Education (GCSE).

But do the trajectories that individuals are on lead to higher qualifications? We can explore this question by considering the completion of higher education by income group in a similar way. Figure 2 presents results similar to those from Figure 1 but this time with degree attainment by age 23 as the outcome. Once again, educational expansion is evident with increases in attainment for students from all backgrounds.

But in contrast with the staying on

results, educational inequality has risen in all periods. Young people from the poorest income groups have increased their graduation rate by just 3 percentage points between 1981 and the late 1990s, compared with a rise in graduation rates of 26 percentage points for those with the richest 20% of parents.

The clear conclusion is that the expansion in higher education in Britain has benefited those from richer backgrounds far more than poorer young people. This occurred over a period when means-tested student support declined sharply. We have used this evidence as a cautionary tale in the recent debate around the introduction of top-up fees for universities in England and Wales. In the past, increasing the numbers of students has failed to increase the participation of the poorest groups. It is crucial that this situation changes for further expansion of higher education – and that means commitments to provide more generous grants and fair access.

So to what extent is the relationship between education and income a causal one? In other words, does 'money matter' or is it that richer families produce more educated children because parental education, motivation and other aspects of family culture differ?

Separating the effect of income from the impact of other aspects of the family is a difficult identification problem. In our research, we use a number of techniques that net out permanent differences in income, which will be related to factors such as parents' education, to focus on transitory differences in income and their impact on educational outcomes. This can be done in a number of ways focusing on differences across siblings or across time for the same child.

Overall, the results provide consistent evidence of a significant causal impact of family income on educational attainment. They suggest that a one-third reduction in

income from the average increases the probability of a child getting no A-C GCSEs by 3 to 4 percentage points and reduces the chances of achieving a degree by a similar magnitude. Unfortunately, it is not possible to judge if the causal effect of income on education has changed across cohorts. But what is clear is that family income differences between the rich and the poor do have an important impact on children's educational outcomes.

At the same time, it must be clarified that the impact of income on education is small compared to the overall gap in attainment between rich and poor children. This implies that policies to raise intergenerational mobility also need to focus on raising children's attainment through targeted services in addition to considering income redistribution.

In this area, meeting a target of equalising educational opportunities needs to use more direct means such as early years education, improved schools for poor communities and steps to promote participation in post-compulsory education. Indeed, this is the policy direction that the government seems to be taking through Sure Start, Excellence in Cities and the Educational Maintenance Allowance (EMA). It is important, however, that these policies have solid evaluation strategies, such as has been pursued with the EMA, so we can improve our knowledge of what really works.

The evidence suggests that intergenerational links in Britain are particularly strong, which means that the current extent of policy development may be insufficient for the task at hand. We need to adopt a strategy to equalise opportunities coupled with careful policy evaluation to help us understand how policies can begin to narrow intergenerational inequalities.



**The expansion in higher education has benefited those from richer backgrounds far more than poorer young people**

**Jo Blanden** is a research officer in CEP's programme on education and skills. **Stephen Machin** is Professor of Economics at University College London and CEP's research director. **Paul Gregg** is Professor of Economics at the University of Bristol and a senior research fellow in CEP's labour markets programme.

More details on the research discussed here are in 'Intergenerational Mobility in Europe and North America' by Jo Blanden, Paul Gregg and Stephen Machin (<http://cep.lse.ac.uk/about/news/IntergenerationalMobility.pdf>), a report supported by the Sutton Trust; and in 'Educational Inequality and Intergenerational Mobility' by the same authors, a chapter in *What's the Good of Education? The Economics of Education in the UK* (Princeton University Press, 2005).

#### Further reading

Jo Blanden and Paul Gregg (2004), 'Family Income and Educational Attainment: A Review of Approaches and Evidence for Britain', *Oxford Review of Economic Policy*.

Jo Blanden (2005), 'Essays on Intergenerational Mobility and its Variation over Time, Place and Family Structure' (PhD thesis, University of London).

## Children born to poor families are now less likely to break free of their background than they were in the past

in brief...

# What's wrong with Europe's economy?

The argument that Europe needs deep structural reform is often overstated – but not in relation to pensions

There is a conventional wisdom that Europe's poor economic performance is a sign of deep structural problems, which must be addressed by product market liberalisation, labour market reform and reduction of uncompetitive tax burdens. But writing in a new CEP book, **Adair Turner** argues against that conventional wisdom. In his view:

- The Eurozone's poor growth is caused by macro-policy problems and rules, which must be changed.
- Taxation burdens are not in some general and structural sense unsustainable.
- Looking at longer-term differences between European and US prosperity and productivity, we need to recognise the impact of physical environment and social choice. Within this context, while the EU's product market liberalisation agenda is positive, it is unlikely to have more than a marginal impact.
- But some EU labour markets are seriously inefficient and should be reformed.

Provided such a policy mix is pursued, there is no reason why Europe should not continue to grow GDP per capita at an attractive rate, delivering increasing prosperity and employment in an already rich continent. Absolute GDP per capita will almost certainly remain permanently below the United States, because of the social choices that Europeans make, but it will grow as far as fast.

The issue that then arises is whether these choices – to sacrifice some productivity potential in order to protect the environment and to take some of the benefits of productivity growth in increased leisure – are unsustainable? Some people believe they are, assuming that Europe cannot choose to trade off income for leisure or income for protected environment because such choices make Europe 'uncompetitive' in the global economy. But these arguments are in general quite wrong.

National economies do not compete with one another in the normal sense of the word and societies have wide degrees of freedom to make their own trade-offs. If Europeans choose both to produce less and to consume less, that has no consequences for competitive sustainability. Provided Europeans understand the consequences of their trade-offs – for instance, that shorter hours worked mean lower GDP per capita – there is nothing unsustainable about that choice.

But choices could become unsustainable if based on inconsistent assumptions: for instance, on decisions to do less work without accepting the consequences of lower income. And there is certainly one European social choice that is unsustainable: the current combination of birth rates, retirement ages and explicit or implicit pension promises. The argument that deep structural reform is required to the European model is often overstated, but not in relation to retirement ages and pension provision.

Europeans can choose both to produce less and to consume less without becoming 'uncompetitive'



This article is an extract from 'What's Wrong with Europe's Economy?' by Adair Turner, chapter 1 of *Challenges for Europe* edited by Hugh Stephenson (Palgrave, 2004), a collection of the eight public lectures delivered at LSE to celebrate CEP's award of the Queen's Anniversary Prize in 2002.

**Adair Turner** is vice chairman of Merrill Lynch Europe, chair of the UK Pensions Commission and chair of CEP's Policy Committee. **Hugh Stephenson** recently retired as CEP's head of public affairs.

# Pay inequalities and economic performance

Greater pay inequalities within firms seem to be related to better business performance

What is the relationship between the structure of earnings within firms and their business and employment performance? A major CEP project led by **David Marsden** has been using new European data to examine the role that firms' performance management systems play in the macroeconomy. In particular, the project has explored the ways in which these systems interact with institutional features of the labour market to produce different outcomes in different regional and industrial contexts.

The research finds that greater pay inequalities within firms seem to be related to better business performance. But the relationship appears to weaken as inequality levels increase, and their incentive effect appears to depend on the type of work organisation and human resource management approach adopted by the firm. The effect of greater pay inequalities on performance may be related to the slow diffusion of newer, more team-based, methods of work organisation within the EU.

The greater pay inequalities in some countries – Ireland, Spain and the UK compared with Belgium, Denmark and Italy – do not systematically give rise to higher employment rates in these countries. In 1995, Denmark and the UK had the highest ratios of employment to population, and Spain and Italy the lowest ones.

The greater inequality in the first three countries appears to be linked to a greater degree of labour market segregation of low paid groups and by gender. This segregation goes beyond the familiar industry

concentration and emerges as a phenomenon associated with employment in certain kinds of firms. Hence, more attention should be given to their human resource policies with regard to low pay and gender. Youth employment appears segmented along similar lines.

National and sectoral pay agreements do not uniformly restrict employers' pay policies across countries more than single employer agreements. Whereas single employer bargaining has been associated with greater earnings variation compared with national bargaining in the UK, the opposite appears to hold for Belgium and Italy. There, enterprise bargaining is associated with less inequality than national or sectoral bargaining. The reason for the smaller variation in Belgium and Italy seems to lie in the greater degree to which single employer bargaining is coordinated across firms.

Finally, pay inequalities at firm level have to be considered in conjunction with other human resource management and work organisation policies. The beneficial effect of greater pay variability on performance depends on there being an appropriate work environment for such incentives.

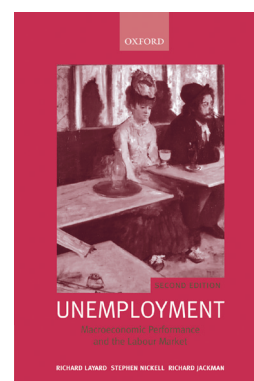
The project has been conducted by a multidisciplinary team of researchers with support from the European Commission and in close collaboration with Eurostat and the national statistical institutes. At the core of its empirical research programme is the 1995 European Structure of Earnings Survey, which provides rich data on key micro-level variables on a comparable basis across Europe.

## The beneficial effect of greater pay variability on performance depends on an appropriate work environment

This article summarises 'Pay Inequalities and Economic Performance' by David Marsden ([http://cep.lse.ac.uk/piep/papers/Final\\_Report\\_V5.pdf](http://cep.lse.ac.uk/piep/papers/Final_Report_V5.pdf)), the final report of a project funded under the EU's fifth framework programme. The CEP team also included Tanvi Desai, data manager, and Richard Belfield, researcher. **David Marsden** is Professor of Industrial Relations at LSE and an associate in CEP's labour markets programme.



Why has unemployment fallen in some European countries but not in others? To answer this question, **Richard Layard**, **Stephen Nickell** and **Richard Jackman** revisit their landmark analysis of macroeconomic performance and the labour market.



# Tackling unemployment: Europe's successes and failures

**I**n 2002, average unemployment in Europe was relatively high compared with OECD countries outside Europe. Yet the majority of countries in Europe in 2002 had lower unemployment than any OECD country outside Europe, including the United States. These two facts are consistent because the four largest countries in continental Western Europe – namely, France, Germany, Italy and Spain – have very

high unemployment and most of the rest have comparatively low unemployment.

This variability is highly informative because despite 'free' movement of labour, European countries have more or less independent labour markets in practice. Using this information, we see how changes in the structure of the various labour markets explain a substantial proportion of the secular fluctuations in unemployment in the various countries.

In particular, we can pin down some of the particular factors that enable us to understand why some European countries have been able fully to recover from the unemployment disasters of the early 1980s whereas some have not.

## Changing labour market institutions

Table 1 presents a picture of unemployment in the OECD since the

Table 1  
Unemployment (standardised percentage rate)

	1960-64	1965-72	1973-79	1980-87	1988-95	1996-99	2000-1	2002
Australia	2.5	1.9	4.6	7.7	8.7	7.9	6.5	6.3
Austria	1.6	1.4	1.4	3.1	3.6	4.3	3.7	4.3
Belgium	2.3	2.3	5.8	11.2	8.4	9.2	6.8	7.3
Canada	5.5	4.7	6.9	9.7	9.5	8.7	7.0	7.7
Denmark	2.2	1.7	4.1	7.0	8.1	5.3	4.4	4.5
Finland	1.4	2.4	4.1	5.1	9.9	12.2	9.4	9.1
France	1.5	2.3	4.3	8.9	10.5	11.5	9.0	8.7
Germany (W)	0.8	0.8	2.9	6.1	5.6	7.4	6.4	6.8
Ireland	5.1	5.3	7.3	13.8	14.7	8.7	4.0	4.4
Italy	3.5	4.2	4.5	6.7	8.1	9.9	8.4	7.4
Japan	1.4	1.3	1.8	2.5	2.5	3.9	4.9	5.4
Netherlands	0.9	1.7	4.7	10.0	7.2	4.5	2.6	2.8
Norway	2.2	1.7	1.8	2.4	5.2	3.8	3.6	3.9
New Zealand	0.0	0.3	0.7	4.7	8.1	6.8	5.7	5.2
Portugal	2.3	2.5	5.5	7.8	5.4	6.0	4.1	5.1
Spain	2.4	2.7	4.9	17.6	19.6	19.4	13.5	11.4
Sweden	1.2	1.6	1.6	2.3	5.1	8.6	5.5	4.9
Switzerland	0.2	0.0	0.8	1.8	2.8	3.5	2.6	2.6
UK	2.6	3.1	4.8	10.5	8.8	6.8	5.2	5.1
United States	5.5	4.3	6.4	7.6	6.1	4.8	4.4	5.8

1960s. Our analysis suggests that a large part of the dramatic rise in unemployment in the big continental European countries over this period can be explained by changes in the key labour market institutions – changes in unemployment benefit systems, increases in labour taxes, increased power of trade unions and changes in employment protection law.

It is widely accepted that labour market rigidities are an important part of the explanation for the high levels of unemployment that are still to be found in a number of OECD countries. But acceptance is not universal. One often cited argument is that labour market rigidities cannot explain why European unemployment is so much higher than US unemployment because the institutions generating these rigidities were much the same in the 1960s as they are today and in the 1960s, unemployment was much higher in the United States than in Europe.

What are the facts? It is indeed correct that US unemployment was much higher than European unemployment in the 1960s, but as we have seen, the picture today is less clear-cut than is commonly thought. And what of the argument that the European institutions generating labour market rigidities have been more or less unchanged since the 1960s? In fact, the evidence makes clear that this is simply not true.

## Unemployment benefits

There are four aspects of the unemployment benefit system for which there are good theoretical and empirical reasons to believe that they will influence the long-run, equilibrium, level of unemployment: the level of benefits; the duration of entitlement; the coverage of the system; and the strictness with which the system is operated.

Of these, data are only available for the first two for the OECD countries. The OECD has collected systematic data on the

unemployment benefit replacement ratio for three different family types – single, with dependent spouse and with spouse at work – in three different duration categories from 1961 to 1999.

The key feature of these data is that in nearly all countries, benefit replacement ratios tended to become more generous from the 1960s to the late 1970s, the exceptions being Germany, Japan and New Zealand. Italy had no effective benefit system over this period for the vast majority of the unemployed.

After the late 1970s, countries moved in different directions. Italy introduced a benefit system and those in Finland, Portugal and Switzerland became markedly more generous. By contrast, benefit replacement ratios in Belgium, Ireland and the UK have fallen steadily since the late 1970s or early 1980s.

It is unfortunate that we have no comprehensive data on the coverage of the system or on the strictness with which it is administered. This is particularly true in the case of the latter because the evidence we possess appears to indicate that this is of crucial importance in determining the extent to which a generous level of benefit will actually influence unemployment.

For example, Denmark, which has very generous unemployment benefits, totally reformed the operation of its benefit

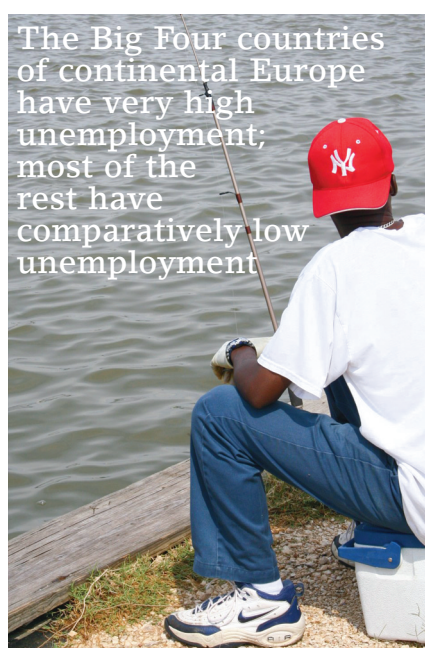


Table 2

### Union density (union members as a percentage of employees)

	1960-64	1965-72	1973-79	1980-87	1988-95	1996-98	Extension laws in place
Australia	48	45	49	49	43	35	✓
Austria	59	57	52	51	45	39	✓
Belgium	40	42	52	52	52	-	✓
Canada	27	29	35	37	36	36	✗
Denmark	60	61	71	79	76	76	✗
Finland	35	47	66	69	76	80	✓
France	20	21	21	16	10	10	✓
Germany (W)	34	32	35	34	31	27	✓
Ireland	47	51	56	56	51	43	✗
Italy		32	48	45	40	37	✓
Japan	33	33	30	27	24	22	✗
Netherlands	41	38	37	30	24	24	✓
Norway	52	51	52	55	56	55	✗
New Zealand	36	35	38	37	35	21	✗
Portugal	61	61	61	57	34		✓
Spain	9	9	9	11	16	18	✓
Sweden	64	66	76	83	84	87	✗
Switzerland	35	32	32	29		23	✓
UK	44	47	55	53	42	35	✗
United States	27	26		20	16	14	✗

system through the 1990s with a view to tightening the criteria for benefit receipt and the enforcement of these criteria via a comprehensive system of sanctions. The Danish Ministry of Labour is convinced that this process has played a major role in allowing Danish unemployment to fall dramatically since the early 1990s without generating inflationary pressure.

A further aspect of the structure of the benefit system for which we do not have detailed data back to the 1960s are those policies grouped under the heading of active labour market policies (ALMPs), the purpose of which is to provide active assistance to the unemployed that will improve their chances of obtaining work.

We do, however, have data from 1985, which shows that, by and large, the countries of Northern Europe and Scandinavia devote most resources to ALMPs. It might be hypothesised that they do this because high expenditure on ALMPs is required to offset their rather generous unemployment benefit systems and to push unemployed individuals into work. Such additional pressure on the unemployed is less important if benefits are very low relative to potential earnings in work.

## Systems of wage determination

In most countries in the OECD, the majority of workers have their wages set



by collective bargaining between employers and trade unions at the plant, firm, industry or aggregate level. The available data on collective bargaining coverage – the proportion of employees covered by collective agreements – show that across most of continental Europe, including Scandinavia but excluding Switzerland, coverage is both high and stable. This is either because most people belong to trade unions or because union agreements are extended by law to cover non-members in the same sector.

In Switzerland and the OECD countries outside continental Europe and Scandinavia, coverage is generally much lower, with the exception of Australia. In New Zealand, the UK and the United States, coverage has declined with the fall in union density, there being no extension laws.

Table 2 shows the percentage of employees who are union members. Across most of Scandinavia, membership tends to be high. By contrast, in much of continental Europe and in Australia, union density tends to be less than 50% and is gradually declining. In these countries, there is, consequently, a wide and widening gap between density and coverage, which it is the job of the extension laws to fill. This situation is at its most stark in France, which has the lowest union density in the OECD at around 10%, but one of the highest levels of coverage at around 95%.

Outside these regions, both density and coverage tend to be relatively low and both are declining at greater or lesser rates. The absence of complete coverage data means that we have to use density measures to capture the impact of unionisation on unemployment. As should be clear, this is only half the story, so we must treat any results we find in this area with some caution.

The other aspect of wage bargaining that appears to have a significant impact on wages and unemployment is the extent to which bargaining is co-ordinated. Co-ordination refers to mechanisms whereby the aggregate employment implications of wage determination are taken into account when wage bargains are struck.

This may be achieved if wage bargaining is highly centralised, as in Austria, or if there are institutions, such as employers' federations, which can assist bargainers to act in concert even when

bargaining itself ostensibly occurs at the level of the firm or industry, as in Germany or Japan. It is worth noting that co-ordination is not, therefore, the same as centralisation, which refers simply to the level at which bargaining takes place: plant, firm, industry or economy-wide.

Notable changes in co-ordination since the 1960s are the increases in Ireland and the Netherlands towards the end of the period and the declines in Australia, New Zealand and Sweden. Co-ordination also declined in the UK over the same period but this simply reflects the sharp decline of unionism overall.

## Employment protection

Employment protection laws may tend to make firms more cautious about filling vacancies, which slows the speed at which the unemployed move into work. But the mechanism here is not clear-cut. For example, the introduction of employment protection laws often leads to an increased professionalisation of the personnel function within firms, as was the case in the UK in the 1970s. This can increase the efficiency of job matching.

So in terms of outflows from unemployment, the impact of employment protection laws can go either way. By contrast, such laws will clearly reduce involuntary separations and hence lower inflows into unemployment. So the overall impact on unemployment is an empirical question. Furthermore, employment law may also have a direct impact on pay since it raises the job security of existing employees, encouraging them to demand higher pay increases.

## Labour taxes

The important taxes here are those that form part of the wedge between the real product wage (labour costs per employee normalised on the output price) and the real consumption wage (after tax pay normalised on the consumer price index). These are payroll taxes, income taxes and consumption taxes. Their combined impact on unemployment remains a subject of some debate despite the large number of empirical investigations.

All countries exhibit a substantial increase in the total tax rate on labour over the period from the 1960s to the 1990s although there are wide variations across countries. These mainly reflect the

Table 3  
 'Policy' changes from the early 1980s to the late 1990s

	Replacement rate	Benefit duration	Benefit strictness	ALMP	Union coverage	Union density	Co-ordination
Europe							
Austria	×	-	-	-	-	✓	×
Belgium	✓	-	-	-	-	-	×
Denmark	-	×	✓	✓✓	-	-	×
Finland	×	-	-	-	-	×	✓
France	-	×	-	✓	×	-	×
Germany (W)	-	×	-	✓	-	-	-
Ireland	✓	×	-	-	?	✓	✓
Italy	×	-	-	-	-	-	✓
Netherlands	-	-	✓	✓	-	-	✓
Norway	×	×	✓	✓	-	-	×
Portugal	×	×	-	✓	-	✓✓	-
Spain	✓	-	-	-	×	-	-
Sweden	×	-	-	-	-	-	×
Switzerland	××	×	-	✓	-	-	×
UK	✓	×	✓	×	✓✓	✓	-
Non-Europe							
Australia	-	-	✓	✓	-	✓	×
Canada	✓	×	-	-	-	-	-
Japan	×	-	-	-	-	-	-
New Zealand	-	-	-	×	✓✓	✓	××
United States	-	-	✓	-	-	-	-

extent to which health, higher education and pensions are publicly provided along with the all-round generosity of the social security system. Some countries have made significant attempts to reduce labour taxes in recent years, notably the Netherlands and the UK.

### Labour market institutions and the successes and failures of the 1990s

Having looked at some of the key factors that the evidence suggests have some impact on equilibrium unemployment, let us see how changes in these variables over the last two decades can contribute to our

understanding of unemployment changes over the same period.

Table 3 provides a picture of changes in the relevant variables with a tick referring to a significant move that will tend to reduce unemployment and a cross for the reverse. Double ticks and crosses reflect really big moves. A dash implies no significant change. Of course, this is a pretty crude business and a proper panel data analysis is arguably preferable. But here we are able to take account of variables where we are unable to obtain long time series data.

So we can ask the question: do the ticks and crosses bear any relationship to

the unemployment changes reported in the final columns of the table? Our analysis indicates that the number of ticks and crosses explains about half the cross-country variation in unemployment changes from the early 1980s to the present. We may reasonably conclude that the countries that had very high unemployment in the early 1980s and still have high unemployment today simply have too few ticks and/or too many crosses.

### Four strategies for tackling unemployment

The experience of the last 15 years shows that given sensible macroeconomic policies, it is possible to ensure that unemployment remains fairly close to the full employment level. Four strategies seem particularly relevant.

- To prevent people drifting into long-term unemployment, there should be active policies to ensure that everyone gets offers of work or training within a year of becoming unemployed. The work should where possible be with regular employers, and secured if necessary by a recruitment subsidy. A modernised Public Employment Service is a key instrument in the business of





Table 3  
– cont'd

	Employment protection	Labour taxes	Total		Unemployment		Unemployment change
			✓	×	1980-87	2000-1	
Europe							
Austria	-	×	1	3	3.1	3.7	0.6
Belgium	✓	-	2	1	11.2	6.8	-4.4
Denmark	✓	-	4	2	7.0	4.4	-2.6
Finland	✓	-	2	2	5.1	9.4	4.3
France	×	-	1	4	8.9	9.0	0.1
Germany (W)	✓	-	2	1	6.1	6.4	0.3
Ireland	-	✓	4	1	13.8	4.0	-9.8
Italy	✓	×	2	2	6.7	8.4	1.7
Netherlands	✓	✓	5	0	10.0	2.6	-7.4
Norway	✓	-	3	3	2.4	3.6	1.2
Portugal	✓	-	4	2	7.8	4.1	-3.7
Spain	✓	-	2	1	17.6	13.5	-4.1
Sweden	✓	-	1	2	2.3	5.5	3.2
Switzerland	-	-	1	4	1.8	2.6	0.8
UK	-	✓	6	2	10.5	5.2	-5.3
Non-Europe							
Australia	-	?	3	1	7.7	6.5	-1.2
Canada	-	X	1	2	9.7	7.0	-2.7
Japan	-	-	0	1	2.5	4.9	2.4
New Zealand	-	?	3	3	4.7	5.7	1.0
United States	-	-	1	0	7.6	4.4	-3.2

channelling job offers to workers. It should be properly staffed and funded, with private agencies free to compete with it.

- The welfare-to-work approach will not prevent long-term unemployment if individuals who receive offers from employers can instead choose to continue living on benefit. A system of complementary rights and responsibilities is needed where the citizen can expect high-quality help in finding work, but in return must take advantage of it or cease to draw benefits. Provided the state is channelling offers of work or work-related activity to everyone within the first year of unemployment, that should be the maximum period for which benefits are paid to people who are not working or engaged in some work-related activity.
- Further policies are needed to deal with regional unemployment. In particular, the decentralisation of wage setting and measures aimed at improving the external environment where firms operate (for example, the efficiency of public administration, the enforcement of the rule of law, etc.) are also essential. The decentralisation of collective bargaining can be accompanied with measures



There should be a maximum period for which benefits are paid to people who are not working

encouraging regional labour mobility and encouraging take-up of relatively low-paid jobs, for example, by providing in-work benefits to low-wage earners.

- Labour supply reducing policies such as early retirement, as well as uncontrolled access to invalidity pensions, should be phased out as the welfare-to-work approach makes it possible to deal with redundancies without having to implement (high cost) early retirement for older workers. Reforms of pension systems should also remove from public pension arrangements those features that discourage the participation of older workers.

*Unemployment: Macroeconomic Performance and the Labour Market* by Richard Layard, Stephen Nickell and Richard Jackman is published by Oxford University Press (second edition, 2005; first edition, 1991).

**Richard Layard** is Emeritus Professor of Economics at LSE, a member of the House of Lords and founder director of CEP.

**Stephen Nickell** is School Professor of Economics at LSE, a member of the Bank of England's Monetary Policy Committee and a research associate in CEP's programme on labour markets. **Richard Jackman** is Professor of Economics at LSE and a research associate in CEP's programme on labour markets.

in brief...

# New opportunities for Britain's trade unions?



The Employment Relations Act has been very important in stimulating increased union organising

The passage of the 1999 Employment Relations Act arguably signified the recovery of trade unions' political influence after many years of exclusion from policy-making under the Conservatives. As a new CEP book edited by **John Kelly** and **Paul Willman** shows, the Act has been very important in stimulating increased union organising and a pragmatic accommodation to union recognition by many employers.

But it has also become clear that there are severe limits to the influence that unions can exert over the Labour government. The DTI review of the union recognition provisions was regarded by the TUC as a valuable opportunity to engage the government in dialogue over improvements to the operation of the recognition law. But the government largely ignored many of the representations and proposed few statutory amendments.

In areas beyond employment legislation, unions have also found it difficult to influence the government. Many public sector unions have opposed the private finance initiative but have failed to persuade the government to abandon, slow down or even review its planned role. In some cases, unions have been handicapped by competition among themselves. In others, ministers have exploited deep policy divisions between unions to secure a coalition of support behind contentious measures while isolating their most vocal opponents.

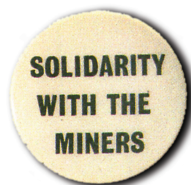
If the modest impact of unions on government has not been helped by problems on the union side, it is only fair to note the structural difficulties they face. Many unions remain affiliated to Labour despite growing disquiet over government policy. Even if the new generation of union leaders were to succeed in launching a more coordinated campaign inside the party, the changes in party structure, rules and funding over the past ten years have seriously eroded the potential for union influence.



Looking forward, a number of events might disturb current trends. The radicalisation of union leaderships is one. While this emerges from democratic choices made by existing union members, its role in assisting the broadening of the membership base remains to be seen. Leadership change has been particularly evident in public sector and industrial unions and may exert its greatest effect in these remaining bastions of union strength.

A second event with very different possible implications is the European directive on information and consultation. This has two likely consequences. First, the sector with no union voice is likely to shrink substantially under the impact of this statutory requirement: only the smallest firms will escape.

Second, since the directive requires representative structures, it will affect workplaces where direct communication is the dominant voice mechanism. It is difficult not to see in this measure a major opportunity for unions to assist employer compliance in ways that might increase membership and perhaps bargaining coverage.



There are severe limits to the influence that unions can exert over the Labour government

*Union Organisation and Activity* edited by John Kelly and Paul Willman (Routledge, 2004) is published in CEP's series on the future of trade unions in Britain.

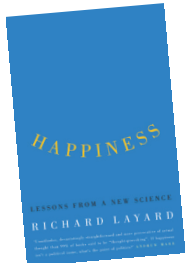
**John Kelly** is at Birkbeck, University of London. **Paul Willman** is at Oxford University.

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The Publications Unit  
Centre for Economic Performance  
Houghton Street, London WC2A 2AE  
Telephone +44 (0) 207 955 7673  
Fax +44 (0) 207 955 7595  
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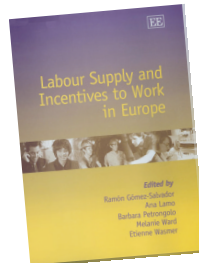
## **Happiness: Lessons from a New Science by Richard Layard**

Allen Lane  
256pp £16.99 h/b  
ISBN: 0-713-99769-9

In this landmark book, Richard Layard shows that there is a paradox at the heart of our lives. Most people want more income. Yet as societies become richer, they do not become happier. This is not just anecdotally true, it is the story told by countless pieces of scientific research. We now have sophisticated ways of measuring how happy people are, and all the evidence shows that on average people have grown no happier in the last 50 years, even as average incomes have more than doubled. In fact, the First World has more depression, more alcoholism and more crime than 50 years ago. This paradox is true of Britain, the United States, continental Europe and Japan. What is going on?

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Part Two: What Can Be Done? 8. The Greatest Happiness: Is that the goal? 9. Does economics have a clue? 10. How can we tame the rat race? 11. Can we afford to be secure? 12. Can mind control mood? 13. Do drugs help? 14. Conclusions for today's world



## **Labour Supply and Incentives to Work in Europe edited by Ramón Gómez-Salvador, Ana Lamo, Barbara Petrongolo, Melanie Ward and Etienne Wasmer**

Edward Elgar  
424pp £75.00 h/b  
ISBN: 1-845-42129-9

*Labour Supply and Incentives to Work in Europe* highlights recent developments in the labour supply in Europe and gives a detailed assessment of their link with economic policies and labour market institutions. Despite major changes in European labour supply during the past few decades, the existing literature still lacks a comprehensive study of the relationship between labour supply and labour market institutions from a macro perspective.

The contributors, themselves from a variety of academic disciplines and backgrounds, consider aspects of labour supply such as incentives to work, determinants of labour force participation and new forms of employment relationships. Each original and specially written chapter has its own discussion chapter to follow it. The book ends with a valuable panel discussion on the topic of labour supply in an enlarged Europe. This book will be read with interest by scholars of economics and labour economics in particular, as well as those researching industrial relations.

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7. Recent Developments in Part-time Work in EU Countries: Trends and Policy  
8. Matching Workers to Jobs on the Fast Lane: The Operation of Fixed-Term Contracts

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