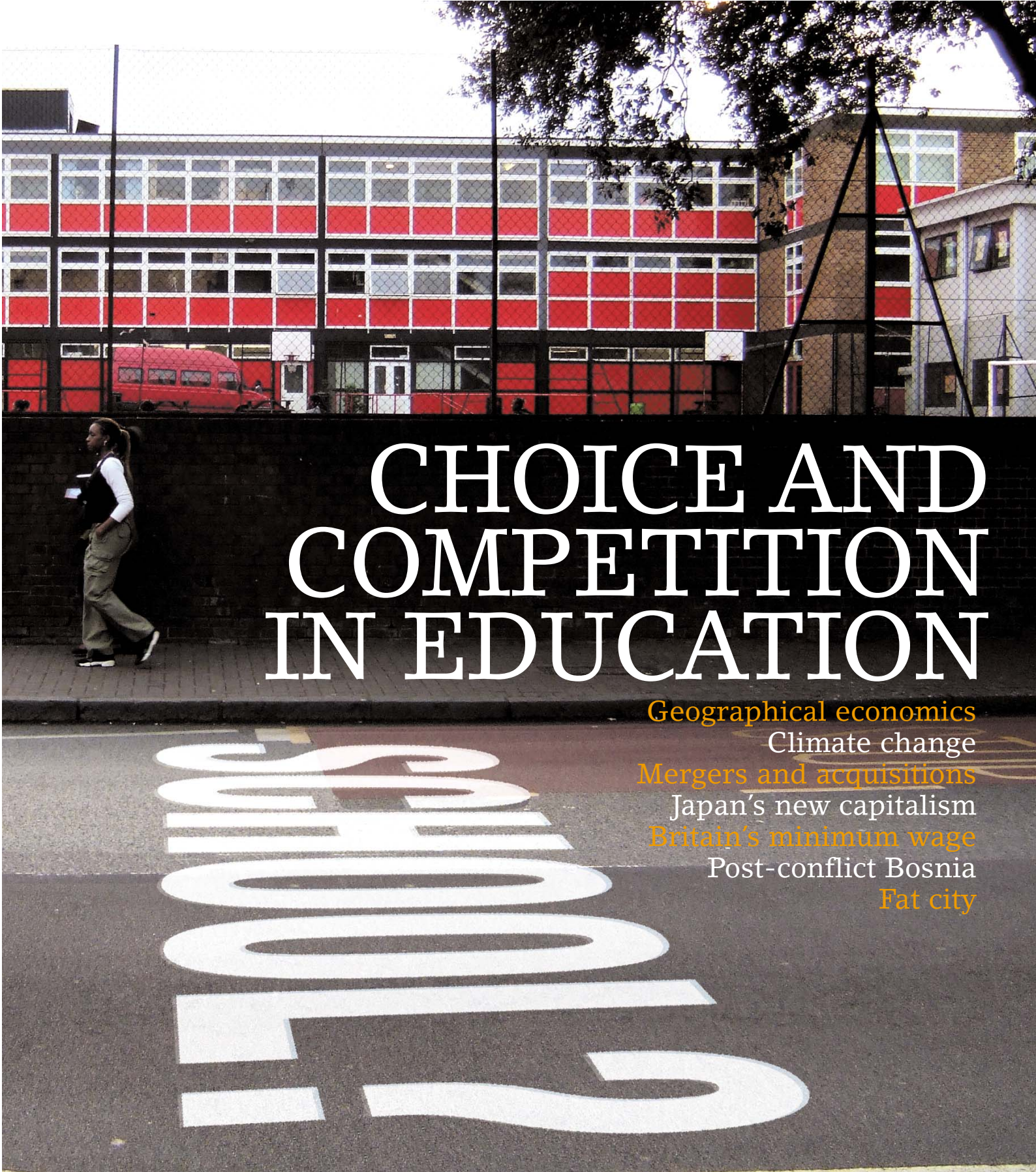


Centre Piece

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CHOICE AND COMPETITION IN EDUCATION

Geographical economics

Climate change

Mergers and acquisitions

Japan's new capitalism

Britain's minimum wage

Post-conflict Bosnia

Fat city

CentrePiece

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CEP research director, Stephen Machin

Editor, Romesh Vaitilingam
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Editorial

It is generally agreed that children's life chances should not be determined by their circumstances of birth. And yet 'intergenerational mobility' – a measure of the degree to which people's social status changes between generations – has fallen between the cohort of British children who grew up in the 1960s and early 1970s and those who grew up in the 1970s and 1980s. 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.

This social science 'fact' – uncovered in a series of studies by the Centre for Economic Performance (CEP) – is now in the national bloodstream, mentioned almost daily by politicians and commentators. But what is to be done about it?

Since children's attainment in school is crucial for their future employment and earnings, one key policy arena has to be education. And while the headline aim of

the government's school choice agenda is to raise standards across the board, there is also a focus on giving low-achieving children from poorer families a better deal in the education system.

Our cover story in this *CentrePiece* explores whether the reforms are having the desired effects. So far, the results are discouraging: there is some evidence that market mechanisms in education lead to better performance, but such improvements may come at the cost of even greater inequalities and social polarisation.

CEP research has been influential on an international stage too, with Tony Venables' overview of the 'new economic geography' launching last summer's symposium at the annual gathering of the world's central bankers in Jackson Hole, Wyoming. In his opening remarks, US Federal Reserve chairman Ben Bernanke also cited two of our recent studies of productivity.

CEP researchers are also prominent in the

first issue of an annual publication from the Economic and Social Research Council (ESRC). *Britain Today: The State of the Nation in 2007* features Mark Schankerman (the new director of our research programme on productivity and innovation) on the contribution that university research – in both the natural and social sciences – makes to national productivity and long-run growth.

The ESRC magazine also includes summaries of CEP research on 'productivity races', mental illness, computers in schools and the benefits of reducing barriers to trade via liberalisation and new transport infrastructure. Look for it on newsstands or at <http://www.esrc.ac.uk/ESRCInfoCentre/>. And as ever, feedback on *CentrePiece* would be most welcome.

Romesh Vaitilingam
Editor
romesh@compuserve.com



page 22
Japan's
shareholder
revolution

page 10
Britain's minimum wage



Contents

in brief...

page 2
Trade liberalisation and the market for corporate control
Holger Breinlich explores what freer trade means for mergers and acquisitions activity

page 6
The educational impact of parental choice and school competition
CEP research is assessing what the choice agenda is doing for educational outcomes and inequalities

page 12
Shifts in economic geography and their causes
Tony Venables outlines what's driving the economic geography of cities, nations and the world economy

page 22
Japan's shareholder revolution
Ronald Dore traces the conversion of Japanese managers to Anglo-Saxon capitalism

page 26
Technologies to tackle global warming
Ralf Martin proposes a way of funding increased public spending on research into carbon-mitigating technologies

page 10
Britain's minimum wage: what impact on pay and jobs?
David Metcalf surveys the evidence on the effects of the minimum wage on pay and jobs

page 20
Bosnia: the labour market costs of conflict
Florence Kondylis looks at the impact of conflict-induced migration on people's employment prospects

page 25
Fat city: does urban sprawl lead to human sprawl?
Henry Overman and colleagues wonder if urban planning can really play a part in the campaign against obesity

We know that freer trade between countries usually increases efficiency by reallocating resources from less productive plants to more productive plants. **Holger Breinlich** finds that it can also have a significant impact on mergers and acquisitions activity – which has important implications for competition policy.

Trade liberalisation and the market for corporate control



What are the effects of freer trade on employment, productivity and other aspects of economic activity? Recent research in the area has shifted attention from broad cross-country comparisons towards firm- and plant-level responses to trade liberalisation. This focus on micro-level adjustment processes has allowed researchers to disentangle the influence of trade from other factors that shape economic activity.

A central insight from these studies is that a substantial part of the impact of freer trade works through a reallocation of resources across individual plants and firms. In particular, the contraction and exit of low productivity establishments and the expansion of more productive ones can explain a sizeable share of aggregate productivity increases (and job losses) found in the wake of trade liberalisations.

But a question that remains unresolved is whether plant closure, contraction and expansion really are all there is to firm-level adjustment to free trade. In particular, only scarce attention has so far been paid to adjustment through the market for corporate control – that is, through mergers and acquisitions (M&As).

This is despite the fact that M&As can, in principle, play a similar role as the adjustment processes highlighted in previous research. Instead of closing down establishments, reducing output or exiting altogether, firms also have the option to search for buyers interested in all or parts of their operations. Similarly, expanding firms can buy and integrate other firms rather than increasing production at existing plants or opening new ones.

My research tries to fill this gap by evaluating empirically whether M&As do indeed play a role in industrial restructuring in the face of trade liberalisation. This is not only of academic interest but could have much wider implications. Most importantly, M&As are not just another way of transferring resources but are likely to be qualitatively different from the other forms of adjustment in that they are swifter and potentially more efficient.

Instead of workers and capital becoming unemployed for some period before being rehired, acquisitions allow for an immediate transfer into new

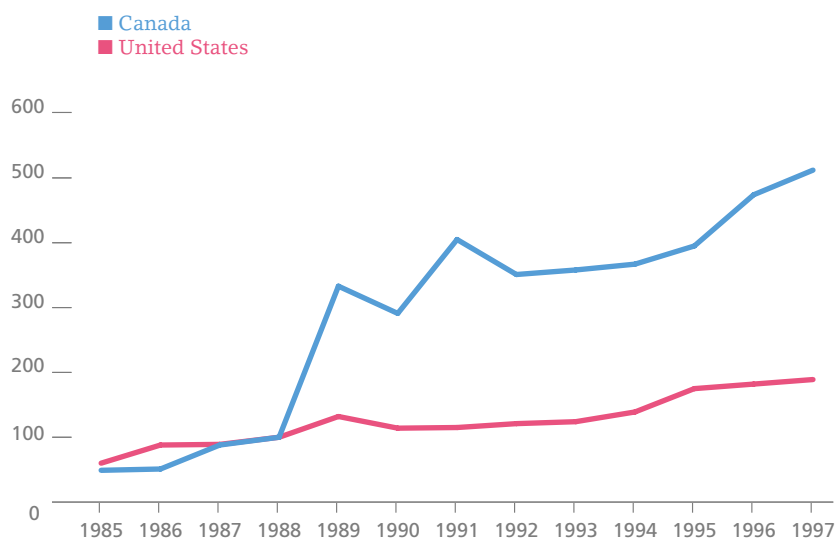
ownership. M&As also allow the takeover of entire production structures, which may be most efficient if preserved as a whole. These observations might have important implications for the design of competition policy after trade liberalisation.

The first question, however, is whether we can indeed link increases in M&A activity to trade liberalisation. I approach this question by examining the impact of

one particular liberalisation: the 1989 Canada-United States free trade agreement (CUSFTA), under which the two countries agreed to phase out their bilateral tariff barriers within a decade. I look at manufacturing firms, since these produce the largest fraction of tradable goods and are thus most directly affected by trade liberalisation.

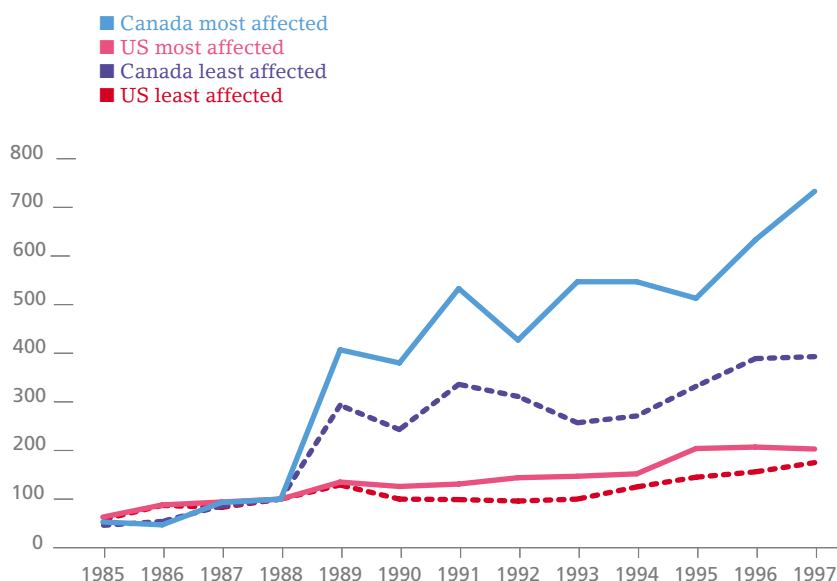
Figure 1 shows that there was a jump

Figure 1: Number of M&A transactions in manufacturing in Canada and the United States (1988 = 100)



Source: Thomson Financial, author's calculations

Figure 2: Number of M&A transactions, comparing the manufacturing industries with the highest and lowest tariff cuts as a result of the CUSFTA (1988 = 100)



Source: Thomson Financial, Statistics Canada, author's calculations

Mergers and acquisitions are an efficient way of transferring resources towards more productive owners

in M&A activity in Canadian manufacturing in 1989, the first year of tariff cuts. Nothing much seems to have happened in the United States but that is consistent with what we would expect. Since the US market is ten times the size of Canada, the trade integration shock was much smaller there. Still, we would like to be sure that nothing else was going on at the time of the CUSFTA's implementation that might have caused this jump, for example, changes in economy-wide activity or stock market valuations.

This is why Figure 2 plots two lines in the figures for both the United States and Canada. The solid line represents M&A activity in the 50% of industries most affected by the CUSFTA, that is, the ones with the highest domestic tariff cuts. Obviously, there will be greater pressure for adjustment after trade liberalisation the larger the increase in exposure to foreign competition, that is, the larger the tariff cuts. We would thus expect this line

Table 1:

Resource transfer in Canadian and US manufacturing firms via contraction, M&A and bankruptcy

Yearly sample averages 1985-97	Canada	United States	Total
(1) Total employment ('000s)	757.0	15496.8	16253.8
(2) Gross job reductions at continuing firms ('000s)	32.6	744.7	777.3
(3) Job reductions through bankruptcy/liquidation ('000s)	0.5	11.2	11.6
(4) Job transfers through M&A ('000s)	14.3	263.3	277.6
(5) Total job transfers ('000s) – sum of (2)-(4)	47.4	1019.2	1066.5
(6) Total job transfers as percentage of employment – (5)/(1)	6.3%	6.6%	6.6%
(7) M&A as percentage of total job transfers – (4)/(5)	30.2%	25.8%	26.0%
(1) Total output (millions of 1995 US\$)	147,448	3,007,327	3,154,775
(2) Gross output reductions at continuing firms (millions of 1995 US\$)	7,159	96,564	103,723
(3) Output reductions through bankruptcy/liquidation (millions of 1995 US\$)	101	1,374	1,476
(4) Output transfers through M&A (millions of 1995 US\$)	3,812	42,744	46,556
(5) Total output transfers (millions of 1995 US\$) – sum of (2)-(4)	11,072	140,682	151,755
(6) Total output transfers as percentage of output – (5)/(1)	7.5%	4.7%	4.8%
(7) M&A as percentage of total output transfers – (4)/(5)	34.4%	30.4%	30.7%

Note: The table shows the amount of job and output transfers via contraction at continuing firms and via exit by bankruptcy/liquidation and M&A. 'Total employment' and 'Total output' are obtained by summing over all firms active in a given year. 'Gross job/output reductions at continuing firms' are the sum over all employment/output reductions at continuing firms as compared to the previous year. 'Job/output reductions through bankruptcy/liquidation' and 'Job/output transfers through M&A' are the sum over the last available employment/sales figures for firms exiting the dataset in a given year due to bankruptcy/liquidation or M&A.

Source: Compustat, author's calculations

to be above the dashed one (which represents the remaining 50% of industries) after 1989 but not before it.

Again, this was clearly the case for Canada and much less for the United States. In other words, it seems that M&A activity changed after 1989 in exactly the way we would expect if trade liberalisation drove the changes.

The results from these simple graphs are supported by more complex econometric evidence, quantifying the different effects. In particular, I find that every percentage point cut in domestic tariffs led to an increase in M&A activity in Canada of the order of 10-11%. Given that the average tariff cut across Canadian industries was 7 percentage points, this implies a trade-induced increase in M&A activity of over 70%.

The increase in the United States was again much smaller: an increase in M&A activity of 0.7-0.9% per percentage point in tariff cuts. Given that US domestic tariffs only declined by about

4 percentage points, this yields an overall effect of just 3%.

While the figures for Canada are certainly very large, they are not implausible: the number of domestic M&A transactions in Canada increased by over 300% in the 1990s (and by 150% in the United States). While the CUSFTA thus played a role, it was certainly not the only influence on M&A activity.

Having established that the CUSFTA led to an increase in M&A activity, I now turn to two related questions. First, previous studies focusing on plant closures, contractions or expansions have shown that resources seem to be transferred towards more productive firms and plants after trade liberalisation (since these are the ones that expand). Thus, the question arises whether M&As also transfer resources towards more productive owners.

My research suggests that this is indeed the case: Canadian acquirers were on average 9-16% more productive than

UNDER NEW MANAGEMENT

MADE IN CANADA

Canadian targets. Since previous research has shown that M&As tend to increase joint productivity levels when the acquirer is more productive, this suggests that the CUSFTA triggered an efficiency-enhancing M&A boom in Canada.

My second question is whether the observed increase in M&A activity is quantitatively important compared with the forms of adjustment previously studied. Table 1 provides some evidence in the affirmative. It reports that in the period studied (1985-97), M&As were responsible for about 30% of output and employment transfers away from contracting firms.

To summarise, it seems that CUSFTA did lead to an increase in M&A activity, that resources were transferred from less to more productive firms in the process and that the magnitude of the overall transfer was quantitatively important.

These findings highlight the fact that adjustment to freer trade can take less drastic forms than firm and plant closure and the associated mass layoffs of workers and liquidation of capital. Indeed, if M&A does represent a swifter and more efficient way of transferring resources between

firms, this has important implications for competition policy.

In particular, one would like antitrust authorities to facilitate the necessary transfer of resources by reducing restrictions on acquisitions in the wake of trade liberalisations. Given the generally higher level of restrictions imposed on M&A activity in developing countries, this proposition could be of particular relevance there.

This line of thought is reminiscent of certain strands of research in corporate finance (notably those associated with Michael Jensen), which argue that takeovers represent a far superior way of restructuring industries than internal adjustments or bankruptcy and as such should not face unnecessary legal restrictions.

Trade liberalisations like the 1989 Canada-United States free trade agreement increase M&A activity

This article summarises 'Trade Liberalisation and Industrial Restructuring through Mergers and Acquisitions' by Holger Breinlich, CEP Discussion Paper No. 717 (<http://cep.lse.ac.uk/pubs/download/dp0717.pdf>).

Holger Breinlich is a lecturer in economics at the University of Essex and a research associate in CEP's globalisation programme.

A central focus of current education policy is to expand parents' choice over where their children go to school and to promote competition between schools. A long-running CEP research programme by **Stephen Gibbons, Stephen Machin** and **Olmo Silva** has been assessing the effects on both educational outcomes and inequalities between schools.



The educational impact of parental choice and school competition

Choice in education is an issue that ranks high on the political agendas of governments around the world and is increasingly being pushed hard in the UK. While many regard choice as a value *per se*, most proponents emphasise the improvement in educational standards that could result from it.

There are two main economic arguments for moving from a neighbourhood-based system – in which pupils attend their local school – to a system based on parental choice. The first is about allocation: more choice allows better matching of pupils with schools according to personal tastes and pedagogical needs. If every parent can find a school that educates their child at least as effectively as under a neighbourhood-based system, then average achievement must improve.

The second argument is about teaching technology: if families are free to

choose, then the mechanisms of market discipline will ensure that schools offer high standards. For this to work, school finances (and headteachers' incentives) must be linked to school popularity via pupil numbers: unpopular schools must lose pupils and money while popular schools gain pupils and additional funding. So schools must innovate and adapt to meet parental demand for 'quality' or shrink and ultimately close.

There are counter-arguments in defence of a neighbourhood-based school admission system. For example, it is claimed that teaching proceeds better in a stable environment, where teachers are not under competitive pressures. Classes in a choice-based system may suffer higher pupil turnover, which can further disrupt teaching. And the distances that pupils have to travel will be greater under a choice-based system, and this may have a detrimental effect on achievement because of lateness or stress.

But the biggest concern about wider

parental choice seems to be that even if it has the potential to boost pupil achievements, this may come at the cost of increased inequality across schools. The fear is that if the most disadvantaged families are least able to exercise choice, then less socially disadvantaged, higher ability pupils will end up concentrated in schools with the best resources and teaching, so that the gains from competition are unevenly distributed.

But there are also reasons to think that breaking the link between where pupils live and where they attend school will *reduce* inequalities between schools. This might happen if, for example, pupils in social housing can more easily access schools in better neighbourhoods.

Since the theoretical advantages of competition and choice seem so uncertain, is the current policy focus on expansion of parental choice and school competition founded on a strong evidence base?

Unfortunately not: extensive US research using various methods and data

sources is very mixed in its findings about the performance effects of this type of policy. The scant UK-based research has been similarly inconclusive. Moreover, none of the evidence so far reveals whether any improvements in educational standards are caused by pupils finding more suitable schools or by efficiency gains induced by market discipline.

More has been written about the effects of choice and competition on segregation in the UK context, but again there is no consensus. Much of this work is based on observations of what has happened in schools since the reforms started in the late 1980s: while some researchers claim that these reforms led to a decrease in social stratification, others find evidence for the opposite.

So, on the basis of the available international evidence, the conclusion that the gains from competition and choice more than compensate for any losses resulting from greater inequality – what US education economist Caroline Hoxby calls ‘a tide that lifts all boats’ – seems unduly optimistic.

Measuring choice and competition in education

Our research has mainly focused on the effects of parental choice and school competition on pupil progress during primary education. As a measure of choice we use detailed information on where pupils live and where they go to school in order to work out which alternative schools they had available. Knowing this, we can deduce which schools are ‘competitive’ – in the sense that their pupils had many choices available – and which are not.

Our study focuses on an area around and including London, which encompasses 200,000 pupils in 2,400 primary schools. The area is urban and suburban in character, but there is great variation in the number of schools that are accessible from a particular home.

How do we work out which schools a pupil can reach from their home? We do this by studying how far other children travel to local schools. So, for example, if pupils at Springfield Primary travel, on average, 1km to school and Lisa lives within 1km of Springfield Primary, then we would treat Springfield Primary as a possible choice for Lisa – even if she actually attends a different school.

Once we know how many choices pupils have, it is easy to work out which schools are more competitive: simply calculate the average number of choices that pupils have in each school. If all the pupils in a school have that school as their only option, then the school is ‘monopolistic’, rather than competitive. But if, on average, pupils in a school have lots of alternatives, then the school has to compete with those other schools to attract its pupils.

Ideally, we need to look at differences in choice and competition that vary according to where a family lives and where schools are located; but we do not want to consider differences that are the result of the choices parents make about which school to attend or which school to live close to.

We isolate this by looking closely at local education authority (LEA) boundaries. This is because, for the years in our data, LEA boundaries imposed important institutional restrictions on parental choice: families were allowed to apply to schools in LEAs other than their LEA of residence, but in practice primary school pupils rarely crossed LEA boundaries to go to school. This is probably because parents felt that banking on admission outside their own LEA was a high-risk strategy: they had to make separate applications to each LEA and may have doubted that they would be given the same priority as pupils who lived in the same LEA as the school.

Indeed, it turns out that, in our study area, only 4.7% of community school pupils attend schools outside their home LEA. The highest rate of LEA crossing is for pupils in ‘voluntary aided’ schools (predominantly faith schools), but this is still only about 10%.

Because families living near LEA boundaries generally do not cross to neighbouring LEAs, they face longer journeys than families in the interior of an LEA to reach the same number of schools. And since travel is costly, they face a more restricted set of choices and are more likely to send their children to nearby schools inside their own LEA. In turn,

In general, greater competition arising from more parental choice does not boost the performance of primary schools

schools near to LEA boundaries face less competition because they do not have to compete with so many other schools for this pool of pupils.

In short, the nearer a pupil lives to the LEA boundary, the less choice they will have, and the nearer a school is to the LEA boundary, the less competition it will face. If more competition and choice improve the rate at which a pupil progresses at school, then we would expect to see lower attainment among pupils living and attending school near LEA boundaries than among pupils living centrally. We can use this relationship to determine whether competition and choice really make a difference.

The link between competition and performance in primary schools

Is there really any difference in the number of choices that pupils have (according to our definition) and do schools in different locations really face varying degrees of competition? The number of school choices available to families certainly differs from place to place. On average, apart from their own school, every child has one to two schools they could have gone to instead. Very few children have more than three local alternatives. But one in four pupils have no other schools within a reasonable travel distance.

These differences show up as variation in the level of competition faced by different schools. This can be seen in Figure 1, which maps our competition index over the London area.

Some schools (those located in the darkest shaded areas) have as many as seven competitor schools. But many others (those located in the unshaded areas) appear to be completely monopolistic in the sense that there are no local alternatives for their pupils: our detailed analysis shows that this is the case for one in every ten schools.

The map shows that this variation is only partly related to urban centrality and density. Some of the highest values of our competition index occur in suburban districts such as Barnet and Brent, while schools in some inner city areas like south Hackney or Southwark face little competition from each other.

Our first question is whether this variation in any way affects a child’s progress at primary school. As a measure

of academic progress, we use the standard 'value-added' scores collected by the Department for Education and Skills to track pupil and school performance in the primary years.

It turns out that there is indeed a positive correlation between the competition that a school faces from other schools, and the rate at which pupils at that school progress. In contrast, the number of choices that parents have at their home address is unrelated to their children's rate of progress.

Taken at face value, this indicates small but significant gains for pupils in schools facing more competition, but no individual gains from being offered more school choices. But when we look instead at differences between pupils living close to and far away from LEA boundaries, the picture is quite different. Schools close to LEA boundaries where the market is less competitive actually perform slightly better than schools further away from the boundary – the implication being that greater competition tends to reduce school performance (see Table 1).

Using this approach, we find that an increase of one additional competitor school reduces average pupil progress by about half a term (5-6 weeks) between the ages of 7 and 11. But we do not have

Table 1:

Summarising the effects of parental choice and school competition on pupil attainment

	Age 7-11 progress in community primary schools	Age 7-11 progress in voluntary aided primary schools	Index of pupil diversity in ability in primary schools (Gini)	Age 11-16 progress in secondary schools
Number of choices a pupil has from home	No relationship	No relationship	–	–
Competition from one additional school	Reduces pupil progress by 0.9 value-added points	Increases pupil progress by 1.6 value-added points	Reduces ability diversity index by 0.3% to 0.4%	Small positive impact

very precise estimates and cannot rule out the possibility that there is simply no relationship at all between competition and performance. If we look at the number of school choices available to parents using this method, we again find no measurable impact on their children's personal attainment at school.

Autonomy, urban density and school performance

Perhaps the reason we find little real positive benefit from competition is because the mechanisms to make it work

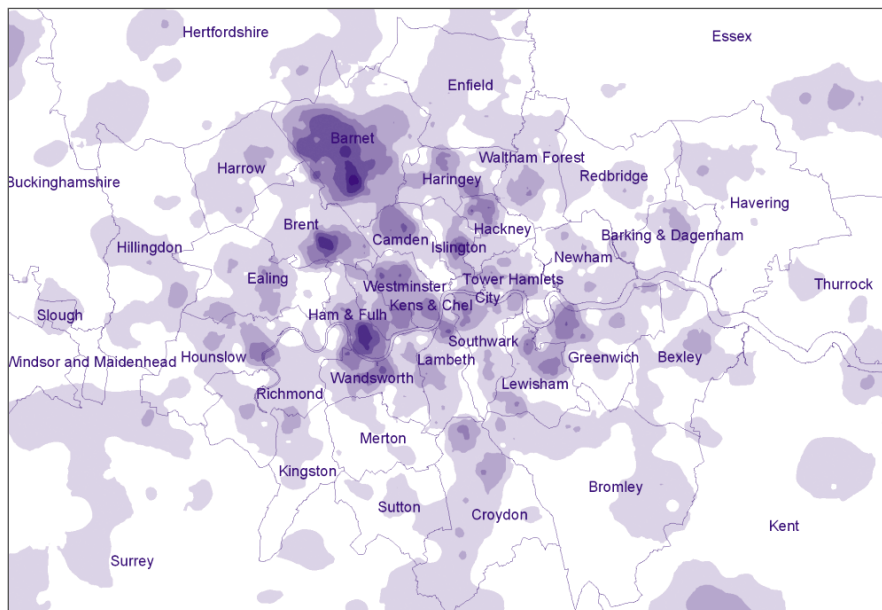
are just not in place: schools must have the right incentives to respond if competition is to be effective in raising standards.

While all state schools in England are funded according to the number of pupils on the roll, and headteachers' pay is linked to performance (both going some way towards providing the right incentives), admissions policy and autonomy from LEA control also play a role. What usually happens is that a central LEA admissions team simply reallocates pupils from popular, oversubscribed schools to unpopular schools, preventing competitive incentives from operating.

Some schools are, however, quite independent of LEA influence and control their admissions – especially faith schools and others classed as voluntary aided. In these schools, the religious or charitable institution that owns the school premises has a majority representation on the governing body and a strong influence over its running; the governing body is also the admissions authority. In community schools, governance is shared more equally among LEA representatives, teaching staff and parents, and admissions are controlled by the LEA. Perhaps the place to look for competition effects is among schools in the voluntary aided sector.

In this sector, we do find some evidence that competition is positively related to performance. For voluntary aided schools, one additional competitor is linked to a 1.6 point increase in the average pupil value-added at a school, or 16-19 weeks of progress in one of the core subjects, between the ages of 7 and 11. Then again, this estimate is quite imprecise and

Figure 1: **Primary school competition in the Greater London area**



Note: This figure maps the local average of the school-level competition index described in the text. A school in the unshaded areas has none or just one competitor school. A school in the darkest shaded areas has six or seven competitor schools. Each level of shading represents a one-school interval in the competition index between these two limits.

does not suggest a particularly strong link between competition and performance.

We have also used an alternative strategy to uncover the possible effects from competition on *secondary* school attainments. In this work, we look more generally at how urban density affects pupil test results.

The impression that most people have is that schools in densely populated inner-urban areas offer a poor education. In fact, by looking at the changes in academic achievement that take place after pupils move from primary school to secondary school, we show that density is a *good* thing. Pupils perform slightly better when they are at school in places that are highly urbanised and – particularly importantly – where there are many other neighbouring schools.

There are many possible explanations for the stronger performance of pupils in dense school markets, but a strong candidate is greater inter-school competition among secondary schools located close together in more urban settings.

The link between competition and segregation in primary schools

So greater competition arising from more parental choice does not seem to boost performance among primary schools generally. But it may be effective among some autonomous primary schools and among secondary schools.

Critics of choice-based reforms point to their potential costs in terms of increased inequality between schools. They argue that better-off parents are more able to make good decisions about school quality and to get what they want from the admissions authorities, as well as being less constrained by transport costs.

The main concern here is not just that schools become segregated in terms of pupils' ethnicity or income, but also that academically able and less able children become segregated into different schools. This means that some schools and pupils could lose out because of the additional difficulties and resource costs involved in teaching lower ability groups.

One key question is whether the potential gains in performance we find in a minority of schools are accompanied by wider inequalities. We can answer this question within the same framework we used when looking at pupil attainment in primary schools, but now asking whether

schools facing high levels of competition draw in pupils with a narrower range of abilities than more monopolistic schools.

To measure the diversity of abilities within a school, we use one of many standard indices of inequality between individuals. The index we choose in our work on segregation is the Gini index, calculated on pupil test results at the ages of 7 and 11. The test results at the earlier age mainly capture intake differences, whereas results at the age of 11 also reflect influences during the primary school years.

The key point is that if competitive schools are more educationally segregated, they will have lower pupil Gini indices than non-competitive schools. This is exactly what we find, although our estimates are not so precise that we can be completely confident of our conclusions: schools located near LEA boundaries where there is less choice and which therefore face less competition tend to have pupils with a wider range of abilities; this is true at the ages of both 7 and 11.

Although not precisely estimated, the possible effects of competition on ability segregation are very large. The average school that enrolls pupils who have no other feasible alternatives has a diversity index of around 0.41. By contrast, a highly competitive school enrolling pupils with as many as eight alternative choices would have a diversity index of just 0.25.

The effects of expanding choice

Choice and competition have been at the centre of recent policy debates on how to improve educational standards. But as it stands, according to our research, pupils with many primary schools close to home do no better than pupils who have few local schools. So either families are not exercising the choice that they have or they are making choices that do not offer any academic benefits.

On the other hand, our research provides some support for the view that policy intervention to introduce market mechanisms as a means of stimulating inter-school competition and innovation may work to boost pupil achievements. Although there seem to be no general benefits from competition at the primary level – it seems weakly linked to worse performance – we do find some evidence that schools running their own admission



Market mechanisms in education may come at the cost of increased social polarisation

systems and characterised by more autonomous governance structures have higher educational standards in more competitive markets. And pupils do seem to do better if their secondary school is in an urban environment and not geographically isolated from other schools.

On the downside, we have also uncovered evidence that school competition increases inequality, with high- and low-ability pupils more segregated in schools that face more competition. This suggests that whatever performance advantages it offers, further expansion of market mechanisms in education may come at the cost of increased social polarisation.

This article summarises a series of research papers, including: 'Choice, Competition and Pupil Achievement' by Stephen Gibbons, Stephen Machin and Olmo Silva, Discussion Paper No. 56 from the Centre for the Economics of Education (CEE) at CEP (<http://cee.lse.ac.uk/cee%20dps/ceedp56.pdf>); 'Competition and Accessibility in School Markets: Empirical Analysis Using Boundary Discontinuities' by Stephen Gibbons and Olmo Silva, in *Improving School Accountability: Check-ups or Choice* edited by Timothy Gronberg and Dennis Jansen (Elsevier); and 'Urban Density and Pupil Attainment' by Stephen Gibbons and Olmo Silva, mimeo, CEP.

Stephen Gibbons, Stephen Machin and Olmo Silva are all CEE researchers and active members of CEP's wider research programme on education and skills.

in brief...

Britain's minimum wage: what impact on pay and jobs?

The national minimum wage is now an established part of the British labour market. In the first evaluation of all the evidence of its impact on pay and jobs, **David Metcalf** shows that there has been a big boost in the pay of those towards the bottom of the pay league table with no associated loss of jobs.

A century has passed since the first call for a British national minimum wage. In a remarkable 1906 Fabian tract, WS Sanders anticipated almost all of today's debates.

He analysed: how the wage should be set, arguing it should provide subsistence for a family with three children; its likely coverage – around 6% of workers; whether employment would fall or rise once the minimum was set; the need for a thorough inspection and enforcement regime; the interaction between the proposed minimum wage and the social security system or Poor Law arrangements; and the distinction between the minimum wage and a 'living wage'.

But the tract was also a creature of its time. It advocated a lower minimum wage for women than for men. Sanders also had salty views on Chinese workers and Jewish immigrants, writing of the 'cunning of the yellow man' and how 'the Jew overcrowds whole districts with his habit of living in misery'.

The British national minimum wage was finally introduced in 1999. It has had a profound impact on pay:

- When it was first introduced, it gave over one million workers an average pay rise of 10-15%.
- Since then it has been updated seven times. It is now £5.35 per hour. If it had simply been indexed to prices since 1999, it would now be just £4. So the real pay of those at the bottom of the wage league table has been given a huge boost.
- This, in turn, reversed the trend in the 1980s and 1990s towards greater wage inequality.
- The minimum wage has also narrowed the pay gap

between women and men. In 1998 – before the minimum wage – the gap in average hourly wages was 17.4%. It is now only 13%.

- Now, two million workers directly benefit from the minimum wage, around one worker in ten.

When the minimum wage was being discussed in the 1990s, there were dire warnings that it would lower employment. For example, Alan Walters – Mrs Thatcher's economic guru – wrote that it was 'utter nonsense' to argue that jobs might not be lost.

Perhaps this hostility was unsurprising. Orthodox economic theory predicts job losses, the scale depending on how high the minimum wage is set and the 'elasticity' (or sensitivity) of employment with respect to the wage.

But more subtle observers suggested that the labour market – especially the low wage sectors – may not mirror the economists' competitive ideal. In particular, labour market frictions – imperfect information, the costs of switching between firms and the rich variety of workers' preferences – mean that employers have considerable discretion in wage setting. Under these circumstances, a carefully set minimum wage would not necessarily cost jobs and may even boost employment as recruits are found for previously hard-to-fill vacancies.

This issue of the association between the minimum wage and employment is one of the most contentious in economics. But we now have evidence from over 25 British studies so we no longer need to rely on our prejudices. The conclusions are clear-cut – the minimum wage has not had an adverse impact on jobs:

- Aggregate employment has continued its upward trend so that there are now over 30 million jobs in the economy.
- The share of total employment accounted for by the low paying sectors – retail, hospitality, cleaning, agriculture, security, textiles, clothing, hairdressing – is 26%, identical to the share when the minimum wage was introduced.
- Tracking individual workers affected by the minimum wage, and comparing them with a control group of otherwise similar workers,

The minimum wage has not cost jobs either in the aggregate economy or in the low wage industries and occupations



shows no differences between the groups in their employment rates.

- The minimum wage has greater bite and coverage in a low wage county like Lincolnshire than in high wage Surrey. But there is no evidence of lower employment growth in the 'low wage, high impact' counties.
- Those workplaces with a high fraction of low wage workers in 1998 have had similar employment growth to workplaces with just a few, or no, low paid employees. Although there is a hint of some job losses in the care home sector, this may reflect previous overcapacity rather than the minimum wage.

The consensus is that the minimum wage has not cost jobs, either in the aggregate economy or in the low wage industries and occupations.

So, traditional economic theory predicts job losses but they have not happened. Why? I have examined nine possible explanations. Some can be dismissed but others are very plausible. We can probably dismiss the following:

- Was the minimum wage set too low? No: the evidence shows that it has greatly advanced the position of the low paid.
- Is there incomplete coverage with workers gravitating to low wage jobs in sectors that are not covered by the minimum wage? No: the minimum wage applies to virtually all workers.
- Have employers cut back on fringe benefits like subsidised meals or pensions to fund the minimum wage? Probably not: it is high wage workers who get these fringe benefits, not the low paid.
- Will the employment losses only show up in the future? Probably not: many of the studies look at data over a relatively long run of years. Anyway, it is almost impossible to pinpoint the labour market impact of a wage increase some years ago because so many other factors – extra holidays, hours restrictions, energy costs, etc. – come into play.
- Might the large rises in the minimum wage since 2002 have a bigger impact on jobs than before? Possibly: but a careful quantitative study of the 2003 and 2004 upratings again shows no employment effects.

It is the next four items that hold the key to the lack of any impact on jobs:

- The employer has much more discretion in setting the wage than orthodox economic theory admits. In particular, where firms were making good profits from paying low wages prior to the minimum wage, now these excess profits are moderated and channelled back to low paid workers. In such firms, profits rather than jobs took the strain.
- Although the studies I have surveyed show no employment effects, there is some suggestion of modest cuts in hours.
- There is evidence of illegal collusion between some



Part of the explanation for the absence of job losses is incomplete compliance with the minimum wage

employers and workers so that both gain at the expense of the state. The employer pays below the minimum wage but understates true hours. This permits the worker to get a larger tax credit, the top-up payment designed to 'make work pay'. There is evidence of this in some Bangladeshi restaurants and Indian clothing manufacturers.

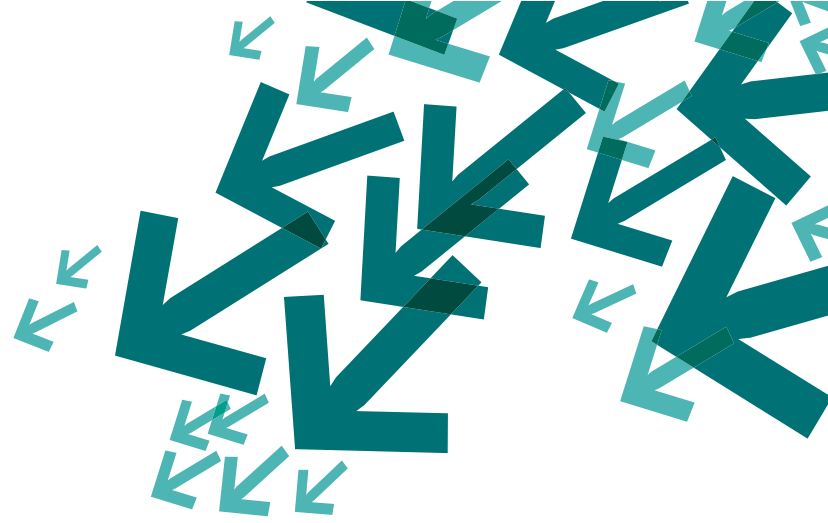
- Incomplete compliance with the minimum wage, particularly among the immigrant communities. My own research on the Chinese labour market in London covering restaurants, health shops, food manufacture and distribution and clothing, concluded that not a single worker below the level of chef or shop manager was receiving the minimum wage.

Compliance depends on the probability of being caught and the penalty for non-compliance. Frankly it is amazing that so many employers do comply with the minimum wage. A typical employer will get inspected once every 330 years. And if the employer is caught not complying he simply pays back the arrears: there is no other penalty.

Note that one unintended and favourable side effect of this non-compliance (and of illegal collusion between employers and workers) is higher employment in the non-complying sector. For example, the Chinese restaurant and health care sectors are fiercely competitive and some restaurants and shops would close if the minimum wage were fully enforced.

David Metcalf is professor of industrial relations at LSE, a member of the Low Pay Commission and a research associate in CEP's labour markets programme.

This article summarises his December 2006 paper 'On the Impact of the British National Minimum Wage on Pay and Employment' (<http://cep.lse.ac.uk/research/labour/minimumwage/WP1481c.pdf>).



Shifts in economic geography and their causes

Recent decades have seen momentous changes in the economic geography of the world. Political transitions and economic liberalisation have brought formerly closed countries into the world economy. In Richard Freeman's phrase, this amounts to a 'doubling of the world labour force': the collapse of Soviet communism adds 260 million workers, the opening up of China 760 million, and Indian liberalisation 440 million.

At the same time, technological change has continued to reduce the cost of interactions within and between countries. Accompanying technological innovation has been business innovation. Multinational firms have expanded rapidly, with foreign direct investment growing at twice the rate of world trade, which itself has grown at twice the rate of world income. New forms of trade have emerged with the growth of outsourcing and production networks.

There have also been changes in the

location of economic activity. Figure 1 illustrates the historical record of shares of world GDP for different regions. In essence, there have been four phases: the initial dominance of Asia; followed by the rapid growth of Europe during and after the industrial revolution; then the subsequent rise of North America; and now the resurgence of Asia.

Part of the change is due to population, but much the larger part is due to changes in per capita income – the 'great divergence', which saw the ratio of per capita incomes of the richest to poorest nations increase from 8:1 in 1870 to more than 50:1 in 2000.

Economic geography has changed at all spatial scales – not just aggregate regions, but also within regions and countries. The most important sub-national change is urbanisation with a majority of people now living in cities. China alone expects a doubling of its urban population to nearly one billion people by 2030.

This sketch describes some of the forces driving change in the world

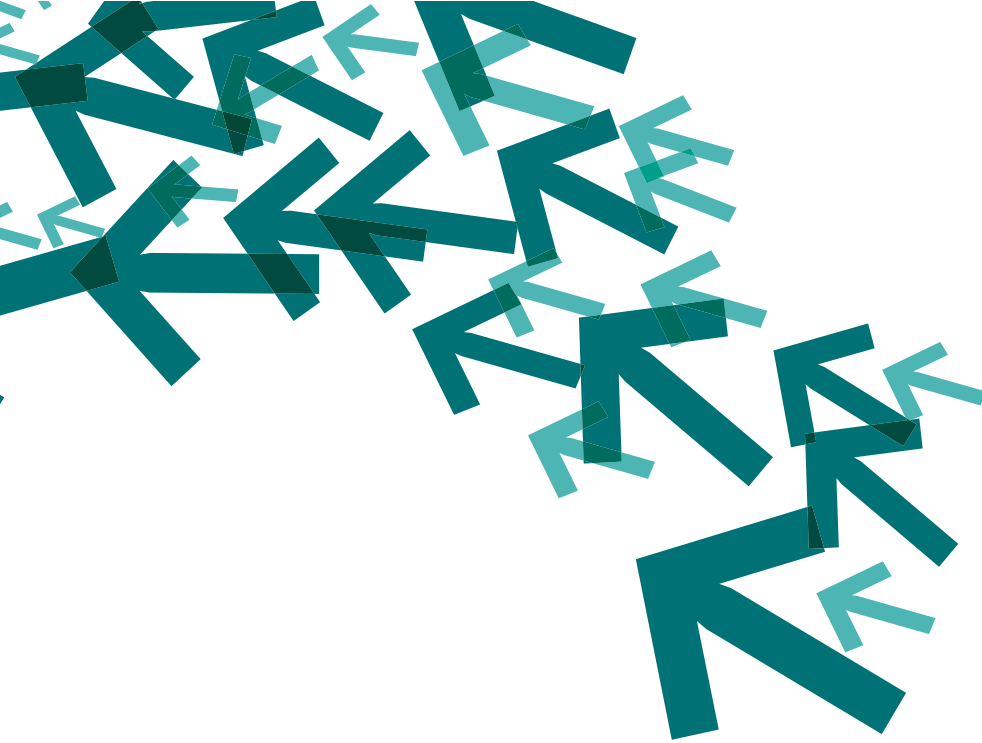
economy, and some of the ensuing changes in economic geography. It also challenges our understanding of the location of economic activity and the determinants of changes in the pattern of location.

The key questions

The first question is: why are economic activity and prosperity spread so unevenly? Is an American really 50 or 100 times more productive than an Ethiopian? Even within the UK, why are a Londoner's earnings 70% higher than those of someone from Stoke?

Standard economic theory suggests that while differences may arise as some countries or regions gain initial advantage, they should be rapidly arbitrated away. Capital will flow to where labour is cheap, and knowledge and new technologies will be transferred. Fundamentally, if there are diminishing returns to economic activities, then there will be a continuing process of convergence and a tendency for activity to be spread relatively uniformly across space.

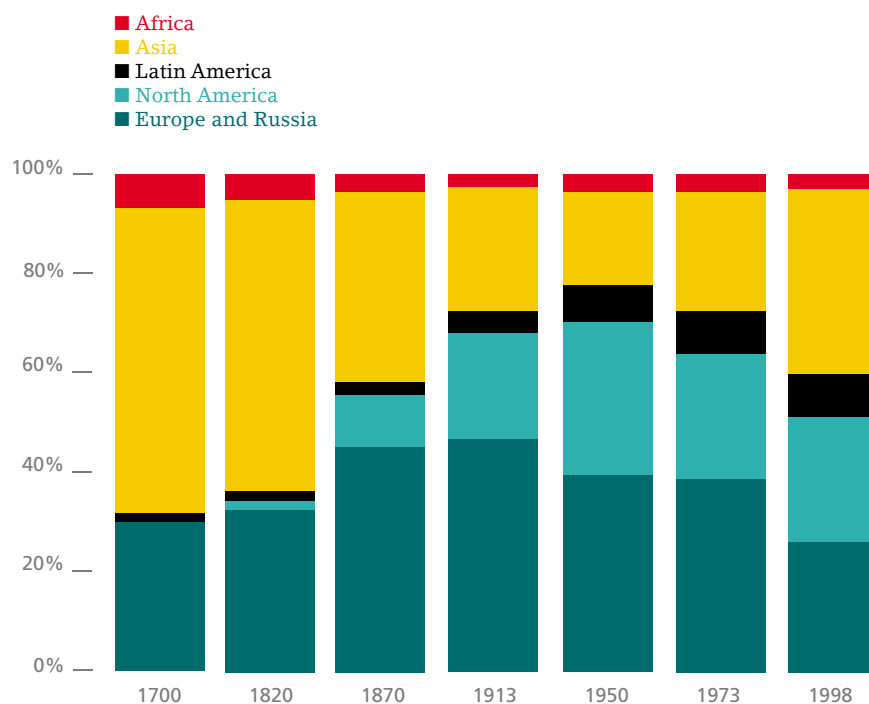
Yet these forces seem to operate in a



Why are economic activity and prosperity spread so unevenly, and does globalisation necessarily narrow these differences?

Tony Venables outlines the key forces driving the economic geography of cities, nations and the world economy – and how we should think about future patterns of location for both developed and developing regions.

Figure 1:
Shares of GDP



Source: Angus Maddison (2001)

manner that is, at best, selective. Even within reasonably well-functioning market economies spatial disparities persist, and in the wider world economy they are astonishingly large.

The second question is: does increasing trade necessarily narrow these differences? The standard answer of international economics is that price and income differentials will narrow although production structures may diverge. Yet there have been many episodes in history where falling transport costs and opening to trade have been associated with increasing differences between countries.

So the third question is: how should we think about future developments, both for developed and for developing regions? We are currently in an era of globalisation in which some economic activity is dispersing from existing centres, but what determines which sectors move and where they go? Will prosperity be widely dispersed or will some regions continue to be left behind?

Answering these questions requires a general theory of the location of economic activity. This is not an area well served by mainstream economic theory, which is generally 'aspatial': the core theory of international trade treats countries as points with no spatial structure either between or within them. In addition, standard theory generally predicts convergence of performance: differences between regions arise because of 'exogenous' factors – differences in endowments, institutions or technology – and economic forces generally erode them or at least do not amplify them.

New economic geography

'New economic geography' has worked towards addressing these deficiencies. The objective is to offer an integrated theory of location, capable of explaining divergence as well as convergence in economic performance.

The key building block is the recognition that proximity is good for productivity: dense configurations of economic activity work better than sparse or fragmented ones. Mobile factors of production – firms and possibly workers – will locate in order to take advantage of higher productivity, and this creates a positive feedback. Firms and workers go where productivity is high, and by so doing

tend to raise productivity further, creating an uneven distribution of activity and spatial income disparities.

There are several analytical challenges here. One is to have sound theories and evidence as to why proximity is good for productivity. The second is to place the proximity-productivity relationship in a wider model and thereby identify the trade-offs between forces for concentration or dispersion of economic activity. Then hypotheses can be formed about circumstances in which activities may concentrate or disperse, and about the associated shifts in economic geography.

The next three sections discuss three key propositions. First, that proximity to other economic agents – workers, consumers and firms – is good for productivity. Second, that large income disparities are a perfectly natural outcome of a world in which proximity matters. And third, that the effects of increased trade are potentially ambiguous: there are circumstances in which cheaper spatial interactions cause inequality not convergence.

Proximity and productivity

The first proposition is that proximity to other people is good for productivity. What is the evidence, and what are the economic mechanisms that drive the effect? There is a long list of mechanisms, which fall under two headings: product markets and labour markets. These correspond loosely to different spatial scales: some of the product market effects might operate over long distances; while labour market effects are short range, even coming down to the benefits of face-to-face contact.

Product markets

The most immediate effect of proximity is that it saves transport and other trade costs. Thus, if two producers have identical physical productivity, the one producing in the large market will have higher productivity since it does not have to bear the costs of transport to remote consumers. This producer will also have lower cost intermediate inputs, not having to absorb its share of shipping costs on these inputs.

But trade costs should be thought of in much more general terms than just



freight charges. Time in transit is costly – partly from the costs of carrying stock, and also from the likelihood that long transit times reduce the reliability and predictability of deliveries. It also makes firms slower to respond to changing demand or cost levels, which by itself can be a force for the clustering of activities (see Harrigan and Venables, 2006).

Transport and trade cost savings are a direct benefit of proximity, but its full economic impact comes from economies of scale associated with operating in an area of dense economic activity – close to consumers, workers and other firms. In a small or fragmented market, there is a trade-off between having firms large enough to achieve economies of scale without becoming monopolists.

A large or integrated market shifts this trade-off, allowing benefits of both large scale and more intense competition. As a consequence, firms will be larger, operating at lower average cost and setting lower prices. The more intense competition will weed out less efficient firms, concentrating production in efficient firms. A larger market will also support a greater variety of products. These price and variety effects benefit consumers and, if the goods are intermediates, benefit firms in downstream sectors.

Labour markets

In addition to efficiency gains in the goods market, firms also gain from operating in a large labour market. The larger the pool of workers that a firm can access, the more likely it is to be able to find the exact skills that suit its needs.

A large labour market will also increase the incentives for workers to undertake training. This argument turns on increased intensity of competition. In a small market, workers who acquire specialist skills may be 'held-up' by monopsonistic employers, so there is no incentive for them to invest in skills. A large number of potential employers removes this threat of opportunistic behaviour, and thereby increases training incentives.

A further set of arguments has to do with communication between workers. In many activities, face-to-face contact is extremely important, enabling higher frequency interchange of ideas than is possible by email, phone or videoconference. Brainstorming is hard to

do without the ability to interrupt and use parallel means of communication – oral, visual and body language.

Face-to-face contact is also important for building trust. By breaking down anonymity, it enables networks of the most productive workers to develop, and promotes partnerships and joint projects. All these considerations are productivity enhancing.

A final set of arguments concerns ‘knowledge spillovers’, which are easier between proximate firms than remote ones. The mechanism may be labour mobility, face-to-face social contact between workers or observation of the practices of other firms. Such effects are particularly important in innovation intensive activities.

Location specific knowledge spillovers also arise as firms learn about the characteristics of their location, and this knowledge spills over to other firms. This may be learning about real economic characteristics of locations, or may just be ‘herding’, as firms simply copy the location decisions of other (successful) firms. All of these knowledge spillover effects are summarised in Alfred Marshall’s phrase: ‘the mysteries of the trade become no mystery but are, as it were, in the air’.

Different scales of proximity effects

The various proximity effects operate over quite different spatial scales. Product market effects can be long range: firms in New York may benefit from a large market in California, and reductions in international shipping costs will increase market access for exporting firms. Labour market effects operate within a much narrower area – indeed, Rice et al (2006) suggest that 45 minutes driving time is the appropriate range for these effects.

Proximity effects also operate across different sectoral scales. Some are driven by aggregate demand: proximity to a mass of consumers will cut trade costs and raise demand for all firms whose sales, direct or indirect, are concentrated in the area. All such firms will appear to have higher productivity near centres of high demand. Other effects are narrowly sector specific: for example, a film actor benefits from proximity to a film producer but won’t care much about aggregate demand in Los Angeles.

The financial sector provides a good

example of these varying scales. Some of its backroom activities can be easily separated from the rest of the firm, and operated from low cost locations. Other parts of the business, such as retail banking, require proximity to final consumers. And the most skill intensive parts of the sector are spectacularly prone to clustering, valuing face-to-face contacts, access to thick labour markets and a dense network of firms offering complementary services.

Similarly, within manufacturing, some stages of the production process can be outsourced and moved to low cost locations. For other parts, this is not possible, partly because of the costs of breaking the production flow within the firm and partly because of the loss of proximity to complementary inputs, skilled labour markets or consumers.

The evidence for proximity effects

There are many sources of evidence for the claim that proximity is good for productivity. The most extensively researched is from studies of the productivity of cities. Rosenthal and Strange (2004) report a consensus view that, over a wide range of city sizes, doubling city size is associated with a productivity increase of 3-8%. This is a large effect: moving from a city of 50,000 inhabitants to one of five million is predicted to increase productivity by more than 50%.

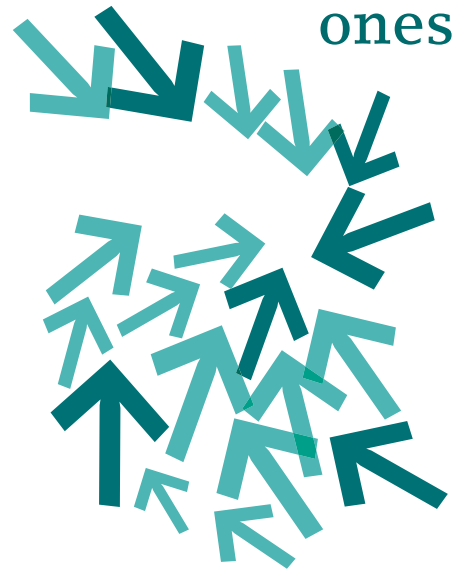
In the international context, proximity manifests itself in large trade flows – and the gains from trade are widely documented. For example, Redding and Venables (2004) focus on measuring countries’ access to markets and sources of supply, and find that a 1% improvement in a country’s market access – which has the effect of increasing its exports by 1% – raises per capita income by around 0.25%.

Equilibrium disparities

The second proposition is that large spatial disparities in income can be a persistent ‘equilibrium’ outcome. To establish this, the arguments about proximity need to be combined with other forces to give a theory of the location of economic activity, and consequent wage and income differentials.

The best way to do this is to think

Dense configurations of economic activity work better than sparse or fragmented ones



about the profitability of a firm choosing between various production sites. How do its potential profits vary across alternative locations? They depend on three elements: productivity, defined broadly to include the benefits of transport cost savings; product market competition – the number of competitors that the firm will face in its chosen location; and input prices, including those of intermediate goods and primary factors.

The equilibrium location of activity is the arrangement of firms that causes productivity levels, product market competition and input prices to adjust until all firms are indifferent about their choice of location.

Now what happens to the profits of firms in a location when an additional firm establishes operations in the same location? If profits increase, then adding this firm increases the incentives for further firms to come, so there is an agglomeration process, with differences between locations becoming amplified. If profits fall, then activity will be dispersed and firms will tend to spread out.

Large income disparities are a perfectly natural outcome of a world in which proximity matters



The proximity-productivity relationship is an amplification force, since adding firms raises productivity and profits of existing firms. Product market competition and input prices are dispersion forces: adding another firm crowds the market, thus reducing revenue, and bids up the prices of immobile factors, raising costs.

Equilibrium location is therefore a balance between the proximity-productivity relationship, a force that amplifies initial differences, and product market competition and factor cost forces, which tend to dampen down effects.

First nature geography and international wage differences

How do these forces interact? Consider first the implications of exogenous differences between countries, such as institutional or policy differences or differences in natural geography. Geographers have a longstanding distinction between 'first nature geography' – coasts, mountain ranges, natural endowments – and 'second nature geography' – the geography of

interactions between economic agents.

There are the direct disadvantages of bad first nature geography – for example, propensity to disease lowers productivity and being landlocked raises transport costs – but what are the full equilibrium effects? Advantages and disadvantages of first nature geography become amplified, as firms move into locations with good geography, and the proximity-productivity relationship causes further increases in productivity, while countries with bad first nature geography will have low levels of economic activity, reducing productivity further.

Who bears the costs and benefits of these spatial variations in productivity? They are borne entirely by immobile factors, which in the international context means labour. Since labour may be a small share of the costs of production, there can be a large multiplier effect. If labour is 10% of gross costs, then a 50% difference in the productivity of all inputs will translate into a 500% wage difference.

Such large effects are confirmed by Gallup and Sachs (1999), who find that 70% of cross-country variation in per capita income can be accounted for by just four measures of physical and economic geography: malaria, hydrocarbon endowment, coastal access and transport costs.

Second nature geography and economic agglomeration

The proximity-productivity relationship does not just amplify economic differences that arise because of exogenous factors. If amplification effects are strong enough, then they can create disparities between locations that are identical in underlying characteristics. Indeed, they are the driving force behind the existence of cities, the most commonplace manifestation of the unevenness of economic activity.

A world with diminishing returns to activity would have no cities, as activity would be smeared across space. But the proximity-productivity relationship is a force for clustering all activity into a mega-city.

Pulling in the opposite direction are dispersion forces: product market competition, which means that some firms remain dispersed to supply remote consumers; and high urban prices of immobile factors. If workers are free to migrate within a country, then the only immobile factor is land, the price of which

is bid up, thus also raising urban wages as mobile workers are compensated for regional variations in the cost of living. Further dispersion forces may be provided by urban congestion and commuting costs.

Notice that dispersion forces are generally not sector specific but some agglomeration forces are since the proximity-productivity relationship can vary between sectors. This gives rise to sectorally specialised cities – London and Hollywood – the size of which depends on the importance of the sector in the world or regional economy.

Trade, location and inequality

The third proposition is that trade is not necessarily a force for convergence of incomes. The historical record shows that nineteenth century globalisation was associated with substantial divergence of income between regions, and the impact of twenty-first century globalisation on international inequality remains hotly debated.

The interactions between trade and income divergence are complex, but the basic ideas can be developed using the stylised model of Krugman and Venables (1995). This model has just two countries, which have identical economic structures and identical real wages when trade costs are high. This is because when trade is expensive, supply and demand in each country's product market – a dispersion force – are dominant in determining the location of activity.

As trade costs fall, the possibility of supplying consumers through trade rather than local production develops, and the proximity-productivity relationship becomes relatively more important. Below some level of trade costs, these forces come to dominate, and one of the countries gains most of the manufacturing and the other is 'deindustrialised'.

But as trade costs fall further, so the clustering force becomes weaker, and location comes to be determined by factor prices, a dispersion force. This is the era of globalisation, in which manufacturing starts to move from developed to developing countries and wages narrow.

Clearly, this model is highly stylised, but it illustrates the complex role of trade in determining the location of activity. Trade changes the balance between the

dispersion forces of product and factor market competition and the clustering force of the proximity-productivity relationship. The model provides the apparatus to think through other shifts in economic geography.

Lumpy dispersion

So world economic geography can be thought of as a balance between concentration forces and dispersion forces. What light does this shed on potential future changes in a globalising world economy?

This question can be answered under three headings. First, sectorally: which activities are likely to remain concentrated and which to disperse? Second, by country: what might the cross-country pattern of location look like, and how will the international distribution of income change? And third, sub-nationally: where next for cities?

The running theme is that much activity will move out of existing centres, but relocation will be 'lumpy', benefiting some regions more than others and re-coalescing into new patterns of agglomeration.

Which sectors move?

Which sectors are most likely to detach from existing centres of activity and relocate to lower wage regions? One determinant is factor intensity: so, for example, unskilled labour intensive activities will tend to relocate to low wage countries. But it is helpful to extend this reasoning with a broader notion of comparative advantage, encompassing a variety of country characteristics, including institutional quality and business environment. Thus, countries with good intellectual property protection will tend to attract sectors that value this protection, and so on.

Comparative advantage is only part of the story. There is the 'linkage' intensity of the product: how easy is it to detach the activity from its existing location, and how expensive is loss of proximity to related economic activities? This depends on all the elements of the proximity-productivity relationship. If firms in a sector are highly dependent on a network of suppliers or on capabilities embodied in the local labour force, then it is unlikely that the sector will relocate.

The effects of increased trade are potentially ambiguous: cheaper spatial interactions can cause inequality not convergence

The strength of these interactions varies across sectors and depends on the costs of transport and other spatial interactions. Thus, face-to-face contact may be crucial for some economic activities but not for others. Skills may be embodied in the labour force and hard to transfer, or it may be very easy to train workers in a new location. And timely delivery may be crucial for some goods: there is evidence that production of fashion sensitive garments has moved back to high wage countries for this reason.

The profitability of relocation also depends on the extent to which the production process can be 'fragmented' into different stages, with different factor endowments and different linkages to related activities. This is being studied in a rapidly expanding research literature on fragmentation, production networks, outsourcing and offshoring (for example, Grossman and Rossi-Hansberg, 2006).

The argument is that globalisation has created the possibility of a finer pattern of specialisation as it is now possible to locate different parts of the production process in different countries. Component parts and semi-finished goods can cross borders multiple times, and countries are able to engage in 'vertical specialisation', producing just one very narrowly defined part of a product.

This is an area where much more research is needed. For high-income countries, is it possible to identify activities that are more or less likely to become detached? We need to develop a way of measuring whether a country has a 'deep' or a 'shallow' comparative advantage in a particular product or task.

For developing countries, which are the sectors that are most footloose – apparel, electronic assembly? And can we diagnose why a labour intensive activity might not be willing to move? What exactly are the linkages that would be forgone in moving out of an established centre of activity, and how easily can they grow in a developing country?

There are also a number of policy issues. The proximity-productivity relationship creates a coordination failure, suggesting a role for national industrial policy to act as a catalyst to overcome the failure. Internationally, it should influence the way we think about trade policy.

Where will production go?

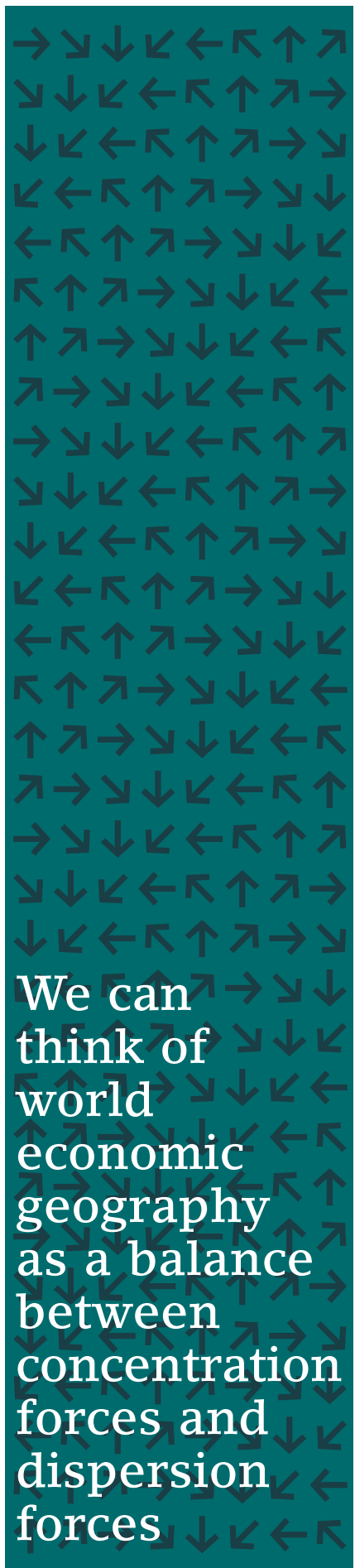
Turning to countries, what pattern of development is predicted? The fundamental point from the theory is that simultaneous development of similar countries is likely to be unstable. For example, suppose that activity is relocating from an established centre into two similar emerging economies, and that proximity-productivity relationships operate in the sectors concerned. Then whichever country gets slightly ahead will have higher productivity and become the more attractive location for further investment, while the other country will fall behind.

This observation has a number of implications. First, we should expect growth and development to occur in sequence, not in parallel. Instead of all poor countries steadily converging to high-income status, there is an inherent unevenness. Some countries will grow extremely fast while others will be left out of the process.

Which countries go first? Many factors count, including first nature geography and the institutional and policy environment. The models predict that economic development will spread out from existing centres, going to regions with low transport costs, such as the coastal regions of neighbouring countries. This is a view of the world that fits well with recent growth patterns in Asia as compared with Africa.

While this aggregate view is important, the phenomenon is seen even more sharply at the sectoral level. As sectors migrate from established centres of activity, so their new location pattern exhibits clustering. A striking feature of growth has been the fact that many countries have done well in a few extremely narrow product segments, such as India's software industry and Bangladesh's success in exporting shirts, trousers and hats to the United States, while Pakistan does well in bed linen and footballs.

So the story is that sectors will relocate, but that this relocation will be 'lumpy', sectorally and in aggregate, with some countries being left out. A corollary of this is that small initial differences – the factors that first attract a sector to a country – will generate large differences in outcomes.



We can think of world economic geography as a balance between concentration forces and dispersion forces

Once again, this points to the importance of policy. Bad policy environments can ensure that a country is left out. Creating a good business environment, institutionally and in terms of infrastructure provision, is essential. The role of pro-active industrial policy remains intensely controversial.

Spatial concentration: regions and cities

Finally, what shifts in economic geography are occurring within countries? High-income countries have an established city structure, but are nevertheless witnessing some changes. After decades of decline, cities are undergoing a renaissance as more knowledge-based activities seek to benefit from clustering.

The situation is more fluid in developing countries, experiencing rapid structural change and migration. Spatial inequality tends to increase during development, often arising from spatial concentration in manufacturing. For example, states in southern India have come to prominence in manufacturing, and Mexican manufacturing has concentrated in regions on the US border, leading to large increases in spatial variation of per capita incomes.

While increasing spatial disparities are a problem for some developing countries, managing the process of urbanisation is a problem for almost all of them. The number of cities in the world with a population of more than one million went from 115 in 1960 to 416 in 2000; for cities of more than four million, the increase was from 18 to 53; and for those with more than 12 million, from one to 11. This indicates that, despite the massive diseconomies associated with developing country mega-cities, there are even more powerful economies of scale, making it worthwhile for firms to locate in these cities.

This creates another major policy challenge. Mega-cities may expand far beyond their efficient scale, but the clustering forces make it difficult for new urban areas to compete and become established. There is a case for policy intervention to decentralise activity, but we remain woefully ignorant about what works and what doesn't.

Conclusions

There are many reasons for variation in the prosperity of countries and regions. Some factors are truly exogenous – first nature geography – and others are a function of political and institutional history. On top of these exogenous factors, we need to place a theory of the location of economic activity.

International trade theory gets us part of the way, and the new economic geography approach broadens this out to capture (in a micro-founded and evidence-based way) 'endogenous' variations in productivity. The approach offers an explanation of the emergence of disparities between countries and regions – and of their persistence.

It suggests that even as globalisation causes dispersion of activity, so economic development will be in sequence, not in parallel: some countries will experience rapid growth while others will be left behind. At the micro-level, it points to the importance of overcoming coordination failures and threshold effects in growing new cities and in establishing new industries in developing economies.

As
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Further reading

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This is an edited version of 'Shifts in Economic Geography and their Causes' by Anthony J Venables, CEP Discussion Paper No. 767 (<http://cep.lse.ac.uk/pubs/download/dp0767.pdf>). The paper was originally prepared for the symposium on 'The New Economic Geography: Effects and Policy Implications', sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, 24-26 August 2006 (<http://www.kc.frb.org/publicat/sympos/2006/sym06prg.htm>).

Tony Venables is professor of international economics at LSE, chief economist at the UK government's Department for International Development and former director of CEP's research programme on globalisation.



in brief...

Bosnia: the labour market costs of conflict

The last issue of *CentrePiece* reported research by **Florence Kondylis** on the costs of conflict-induced migration for individual households in Rwanda. In this issue, she explores similar questions for people displaced and resettled as a result of the war in Bosnia and Herzegovina.

Bosnia and Herzegovina is a former territory of ex-Yugoslavia, which became independent with the fall of the regime in 1992. Shortly after independence was declared, conflict broke out between the three main ethnic groups living in the territory, the Serbs against the Croats and the Bosnians.

In 1995, shortly after the Srebrenica massacre, which took place in July, the Dayton agreement marked the end of the armed conflict, and initiated the partitioning of the country into two distinct entities: the Bosnian and Croat-led Federation of Bosnia Herzegovina, and the Serb-led Republika Srpska. Each entity makes up roughly a half of the total territory.

The most conservative estimate of the total number of casualties of the Bosnian war is 102,000. The number of people displaced by the conflict is estimated at about 1.3 million (in exile or internally displaced). Between 1996 and 2004, over one million of the internally displaced 'resettled' in Bosnia and Herzegovina. Most of the displaced Bosnians resettled in the Federation of Bosnia Herzegovina, whereas most of the displaced Serbs chose the Republika Srpska.

My research examines the impact of this conflict-induced migration on the labour market status of displaced people after they permanently resettled in Bosnia and Herzegovina – their propensity to be employed, unemployed or inactive (that is, not in education and neither working nor looking for work).

The labour market in Bosnia Herzegovina mainly consists of unregulated jobs – often referred to as the informal sector. Workers in this sector do not usually have access to health and unemployment insurance, and they cannot rely on other institutional amenities. Moreover, job opportunities in the sector are rarely made public since small-scale

employers tend to rely on informal networks to find suitable candidates. As the population of displaced people resettles within the country, I argue that they are likely to have reduced access to those informal networks. They are hence less likely to find employment or even engage in fruitful job-search activity.

I focus on the labour market outcomes of displaced people aged between 18 and 64, using data from the first post-war household survey in Bosnia, which was collected annually between 2001 and 2004, visiting the same households each year. Observing the labour market characteristics of the same people at different points in time makes it possible to estimate the impact of displacement on labour market status more accurately.

So what does the analysis reveal? First, I look at the average effect of displacement on labour market outcomes over the period 2001-4. Overall, displaced Bosnians are faring worse in terms of employment than their 'stayer' counterparts, although there is no evidence of such an effect for displaced Serbs. For Serbian women, there is no significant effect of displacement on work or inactivity, although there is a positive and significant effect on unemployment. There is also a significant effect of displacement on Serbian women's hours and hourly wages, suggesting that employed displaced Serbian women work shorter hours and earn less than their stayer counterparts.

These results are in line with the idea that labour market outcomes of displaced people are worse than those of stayers. Moreover, the fact that, despite higher levels of worklessness, the displaced tend not to experience higher levels of inactivity lends some support to the idea that they cannot 'afford' idleness.

People displaced by the Bosnian war are faring worse in the labour market than their 'stayer' counterparts



Looking at patterns of assimilation back into the labour market over time, I find that these vary along ethnic and gender lines. On returning, displaced Bosnian men experience significantly lower levels of employment as well as higher levels of unemployment and inactivity. As they gain in seniority, there is no evidence that they transit into employment, although they may transit out of inactivity and into unemployment. For displaced Serbian men, there seems to be little change over time.

Bosnian women are more likely to be workless on returning, but they tend to catch up with their stayer counterparts over time. This is very much in line with the results for Bosnian men. Serbian women are initially more likely to be inactive and less likely to be unemployed, but the differentials are reduced over time. There is no evidence of an increase in their employment over time.

Those results are particularly relevant in the context of conflict resolution and economic intervention. Overall, displaced people are faring worse, on returning, than their stayer counterparts, but Bosnians more so than Serbs. This is of particular concern in terms of crisis management, as they are likely to experience highly precarious conditions, which might put their and their children's livelihood at risk.

Although there is some evidence of assimilation into the labour market over time, most groups still

Bosnians are not doing as well as Serbs in getting back into employment

find it difficult to find a job, and merely transit from inactivity into unemployment.

High levels of informality in the labour market are likely to make it harder for the returning displaced to find, or even search, for some work.

Moreover, as those people are likely to have no wealth and no access to credit, they are less likely to react to the lack of opportunities for paid employment by setting up their own businesses. Credit interventions targeting people willing to be entrepreneurial might be a valuable avenue for policy-makers to pursue.

This article summarises 'Conflict-induced Displacement and Labour Market Outcomes: Evidence from Post-war Bosnia and Herzegovina' by Florence Kondylis, CEP Discussion Paper No. 777 (<http://cep.lse.ac.uk/pubs/download/dp0777.pdf>).

Florence Kondylis is a postdoctoral fellow at the Earth Institute at Columbia University and a former research economist at CEP.



Japan's shareholder revolution

Over the past decade or so, there has been a fundamental change in what the managers of Japanese companies believe are their key objectives. **Ronald Dore** traces the country's conversion to Anglo-Saxon capitalism – and growing concerns about the emergence of a new 'divided society'.

'Economic reform' has been the banner slogan of Japanese governments for the last ten years, and the new government promises more of it. For prime minister Shinzo Abe, it is not quite the strident claim to fearless determination that it was for his predecessor. In his initial policy speech, he used the word 'reform' – *kaikaku* – only 17 times; Junichiro Koizumi's first speech used it 37 times. Nor was he as fond of the ponderous elaboration 'structural reform', which Koizumi used 17 times and Abe only once.

But there is no doubt about the general direction of economic institutional change: Abe's chief cabinet secretary is a

dedicated neo-liberal, and the appointment of renowned market fundamentalists as academic members of his economic council is a clear sign of which way some of the longstanding controversial issues are likely to be resolved. Expect tax reforms to make it easier for foreign firms to take over Japanese firms, for example.

What have they all amounted to, these ten years of deregulation, privatisation, intensification of competition, rethinking welfare and flexibility in labour markets? 'Trying hard but could do better' – the standard patronising judgement of the *Wall Street Journal* and *The Economist* – greatly understates the degree to which the Japanese economy has in fact changed since 1990.

Not that deliberate 'reform' has been the major cause of change. Deregulation has brought greater competition and lower consumer prices in a few marginal areas like airlines and petrol distribution (thus, incidentally, contributing to the deflation that has stifled the Japanese economy over the last decade). But that has nothing to do with the big change, the 'shareholder revolution', the fundamental shift in what managers consider their job to be.

Back in the 1980s, when US business schools held up Japanese management as a model of long-termism and worker commitment, what managers saw as the best measure of their success, what puffed them with pride or made them despondent, was their market share – the

measure of how they were doing vis-à-vis their competitors at home and abroad.

They sought profits of course, but chiefly as free cash for investment. How far they would allow increases in pay to eat into potential profits was primarily a 'jam today or jam tomorrow' question. Shareholders were in fact treated as creditors, and dividends were a kind of fixed charge, a standard percentage of the face value of their shares. The enterprise was a quasi-community and top managers were its elders. Their pay increases kept pace with those of people on the shop floor.

Today's Japanese managers have been 'Anglo-Saxonised'. It is not market share, but the price of their shares in the stock market that has become their central measure of how well they are doing. Few top managers any longer bother attending meetings of the management-union consultation committee, which used to be a central enterprise institution. They are too busy preparing for their next visit to Wall Street or the City of London, or the next meeting with analysts. (The Security Analysts Association of Japan, which had a mere 1,000 members when it instituted its professional examination in 1981, now boasts 21,000 qualified members.)

Different objectives lead to different results, especially in terms of 'who gets what'. This is evident in data on company performance from the Japanese ministry of finance, which has a very detailed statistical series for non-financial corporations based on a 100% sample of corporations with paid-up capital of more than one billion yen. These numbered around 3,000 in

Table 1:

Comparing Japan's two most recent recoveries from recession

	Percentage change between 1986 and 1990	Percentage change between 2001 and 2005
Sales per firm	5.5%	4.9%
Value added per firm	6.8%	7.9%
Wages/fringe benefits per employee	19.1%	-5.8%
Salaries and bonuses of directors, per director	22.2%	97.3%
Profits per firm	28.4%	90.0%
Dividends per firm	1.6%	174.8%
Cumulated additions to reserves/cumulated dividends over five years	1.78	0.31

Source: Japanese ministry of finance

True believers in shareholder value have become the dominant voice in Japanese boardrooms and ministries

the mid-1980s, 5,600 now.

As Table 1 shows, the contrast between Japan's last two periods of recovery from recession – the late 1980s and the first years of this century – is stark. The Plaza agreement and a 60% yen revaluation plunged the Japanese economy into recession in 1986. In the five years of recovery that followed (what turned out to be the fatal five years of the asset price bubble),

these large corporations – employing about a tenth of the private sector work force – gave most of the proceeds from growth to their employees. Wages (plus fringe benefits) went up by 19% while dividends increased by just 2%.

During the recent, much slower, recovery, between 2001 and 2005, wages did not go up but down, by 6%, and dividends went up by 175%. (Mild inflation in the first period and mild deflation in the second period affect the



Realisation of the extent of Japan's shareholder revolution is slowly sinking in – and alarm bells are ringing

real wage implications of those figures, but not their ratios.)

As for 'orientation to the long term', in the first period, companies put into reserves for investment 80% more than they paid out in dividends; in the second period 70% less.

Perhaps even more striking is the erosion of the key assumption of the quasi-community – that managers and employees 'eat their rice out of the same pot'. In the first period, while wages rose by 19%, directors' salaries plus bonuses rose by 22%. In the last five years, while wages have gone down by 6%, directors' salaries and bonuses have gone up by 97% – and that does not count the stock options, which became legal a decade ago and have progressively increased since.

One is reminded of the 1980s in the United States, the decade of the demise of the Japanese-style community firms like Kodak and IBM. There too, shareholder activism and the spiralling of executive pay went hand in hand.

There are both rational and ideological elements in the explanation of these changes. In the 1980s, the expectation of everlasting capital gains kept shareholders so happy that stock prices bubbled, even with minimal dividends. Now they want income, and forcefully vocal foreign institutional investors now hold 26% of Japanese stock, compared with 5% in 1990. The network of mutual cross-shareholdings, the preponderance of 'stable shareholders' that used to provide a firm guarantee against hostile takeovers has been largely dismantled, partly because of bank distress, partly engineered by government regulation. Firms are no longer protected against hostile takeover.

But the ideological element is probably greater. The total loss of national self-confidence after the world's number one economic miracle entered its 'lost decade' coincided with two important changes.

First, seniority promotion has brought to positions of influence a cohort of people whom I rudely call 'the brain-washed generation'. These are the high-flyers sent by ministries and companies to the United States for MBAs and PhDs in the 1970s and 1980s. These true believers in agency theory and shareholder value have become the dominant voice in

ministries and boardrooms, backed up by the media and by the economists and corporation law experts who sit on government committees.

The second big change is the evaporation of the Socialist Party and the emasculation of the enterprise unions once affiliated to it. The organised left is now reduced to a tiny and dwindling Communist Party, dull, doctrinaire and excluded from mainstream politics.

Realisation of the extent of the shareholder revolution is slowly sinking in, and a few alarm bells are ringing. It is becoming a truism that recovery is painfully slow because the export boom and a modest recovery in investment are not being matched by increased consumer spending or consumer confidence. And that is because wages are not rising.

More striking is the new voice of what one might call a new communitarian left concerned with growing poverty. Books on income distribution, social mobility and the withering of aspiration pour off the press at the rate of one a week, all deploring the new 'divided society'. That 28% of children in Osaka and 24% in Tokyo qualify for free school meals and textbooks has become one of the most quoted statistics. Table 1 reports wage figures for the 'labour aristocracy', people working in the big firms. By contrast, in smaller firms, which employ half the labour force, wages fell by 10%, not 6%.

But as yet there is no effective political force to organise the backlash and mobilise sentiment among the electorate at large.

Until that happens, investors can relax. The Abe cabinet will continue to promote the conversion of Japan to Anglo-Saxon capitalism.

The different objectives of today's Japanese managers lead to very different results – especially in terms of 'who gets what'

Ronald Dore is a CEP research associate, former professor of political science at MIT and author of *Stock Market Capitalism: Welfare Capitalism: Japan and Germany versus the Anglo-Saxons* (Oxford University Press, 2000). A version of this article appeared in the *Japan Times* in November 2006.



in brief...

Fat city: does urban sprawl lead to human sprawl?

People who move from compact to sprawling neighbourhoods do not gain weight

As health spending on obesity-related illnesses continues to rise in the United States and parts of Europe including the UK, many suggest that urban planning geared towards active and healthy living could be an important tool to curb obesity.

But does urban sprawl really cause human sprawl? Not according to research by CEP's Henry Overman and colleagues at the University of Toronto and the Universitat Pompeu Fabra in Spain. Their recent study finds no evidence that urban sprawl affects people's weight.

What the research does confirm is the commonly reported view that people living in sprawling neighbourhoods tend to be heavier than those living in neighbourhoods where development is compact and there are plenty of shops and amenities within walking distance. But this is not because sprawling neighbourhoods cause people to gain weight. Populations in sprawling neighbourhoods are heavier because individuals with an innate propensity to be obese tend to live in such neighbourhoods. Thus someone with an idiosyncratic distaste for walking is both more likely to be obese and to prefer living where one can easily get around by car. If this is the case, the finding that people in sprawling neighbourhoods are heavier does not imply that sprawl causes obesity.

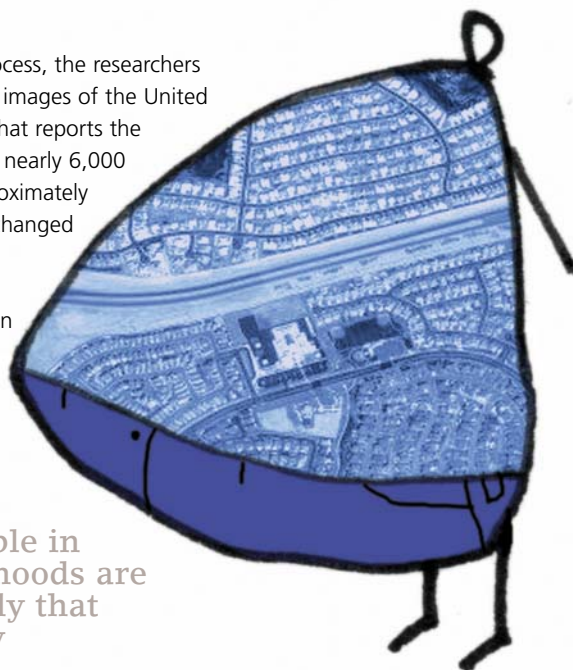
To study the role of this sorting process, the researchers matched recently available satellite images of the United States to confidential survey data that reports the weight and address of a sample of nearly 6,000 individuals for six years. Since approximately 80% of the people in the sample changed residences during that period, the researchers could check whether people actually gained weight when they moved to a more sprawling neighbourhood. If sprawl causes people to gain weight, then

people who move from compact to sprawling neighbourhoods should gain weight. They don't. This means that plans to redesign the environment will not lead to cities that cause people to be thin. Rather, they are likely to create cities to which thin people move.

The results provide a basis for thinking that 'smart growth' type designs will not cause people to be thinner, so that policy-makers who hope to combat the obesity epidemic with these designs are wasting tax dollars. The public health battle against obesity should be fought on other fronts.

Other experts have hailed the research as significant in fighting popular misconceptions about the causes of obesity. Matthew Kahn, economics professor at Tufts University and author of *Green Cities*, said the researchers employed statistics to challenge conventional wisdom:

'They used sophisticated econometrics to take a more careful look at whether suburbanisation does indeed make us fatter. Hopefully their methods will be adopted by public health researchers seeking to tease out causality based on raw correlation.'



The finding that people in sprawling neighbourhoods are heavier does not imply that sprawl causes obesity

This article summarises 'Fat City: The Relationship between Urban Sprawl and Obesity' by Jean Eid, Henry Overman, Diego Puga and Matthew Turner, CEP Discussion Paper No. 758 (<http://cep.lse.ac.uk/pubs/download/dp0758.pdf>).

Henry Overman is a reader in economic geography at LSE and deputy director of CEP's globalisation programme. **Jean Eid** and **Matthew Turner** are at the University of Toronto. **Diego Puga** is at the Universitat Pompeu Fabra.

Technologies to tackle global warming

The Stern Review of the economics of climate change proposes a dramatic increase in public spending on research into carbon-mitigating technologies as well as market-based schemes for trading and taxing pollution. **Ralf Martin** suggests how these two policy elements might be most effectively combined.

The Stern review is a milestone in efforts to tackle global warming. The basic message is clear: natural scientists have gathered strong evidence that human-induced climate change is happening. Looking at the economics, Stern finds that early and strong action makes sense from a cost-benefit perspective.

He has been criticised for reaching that conclusion by allowing lower discount rates for future costs and benefits as well as giving more weight to potential one-off catastrophic events than earlier studies. But as many of the critics also point out, coming up with any discount rate and weight involves a good deal of value judgement. What matters is that the orders of magnitude are such that changing these assumptions a little bit upwards leads to a range of results where action seems both desirable and quite affordable.

The more interesting question then becomes what Stern actually proposes to do. His suggestions focus first on market-based schemes to internalise the costs of greenhouse gas pollution. Implicitly

through a carbon trading scheme or explicitly through a carbon tax, polluters should price the costs of climate change into their decisions to conduct polluting activities.

While this is standard environmental economics, there is hope that the high profile of the Stern Review and the elaborate discussion on the concrete design of such schemes will provide a much-needed political boost.

The second major policy suggestion is for a dramatic increase in public spending on research into technologies and practices to mitigate pollution. This includes spending on the early deployment and piloting of new technologies, recognising that our eventual adjustment to mitigate climate change will involve the development of a series of such technologies.

As Stern stresses, it is important that there are measures in place to ensure that this extra money is spent wisely. This could involve, for example, an arm's length approach where money is allocated by expert panels to a portfolio of the most promising research projects.

Overall, Stern draws an optimistic

A doubling of public R&D funds could be easily achieved with a low carbon tax on US car owners

picture. Strong action is needed and it is costly, but not so costly that it would be a major obstacle to prosperity. The report itself will be an important source of reference in the discussion to come. But it also raises a number of immediate questions.

First, a key requirement for success will be strong, internationally agreed reduction

targets, which lead to significant increases in the price of polluting activities. The experience of climate change negotiations so far makes it doubtful that strong targets can be agreed on and complied with. The carbon price that will eventually emerge is likely to be below optimal levels. This creates the risk of a final scheme that is simply a revenue transfer from polluters to the government, or whomever holds the pollution rights, without inducing significant behavioural changes that would reduce pollution. Among other things, such a scheme would be very unpopular.

Second, while increased spending on research and development (R&D) is certainly an important avenue, the report leaves open where the extra spending will come from.

My research leads me to a suggestion that would address both issues: why not combine the two policy elements and design the internalisation scheme in a way that raises some revenue?

In the case of a carbon trading scheme, this can be achieved by

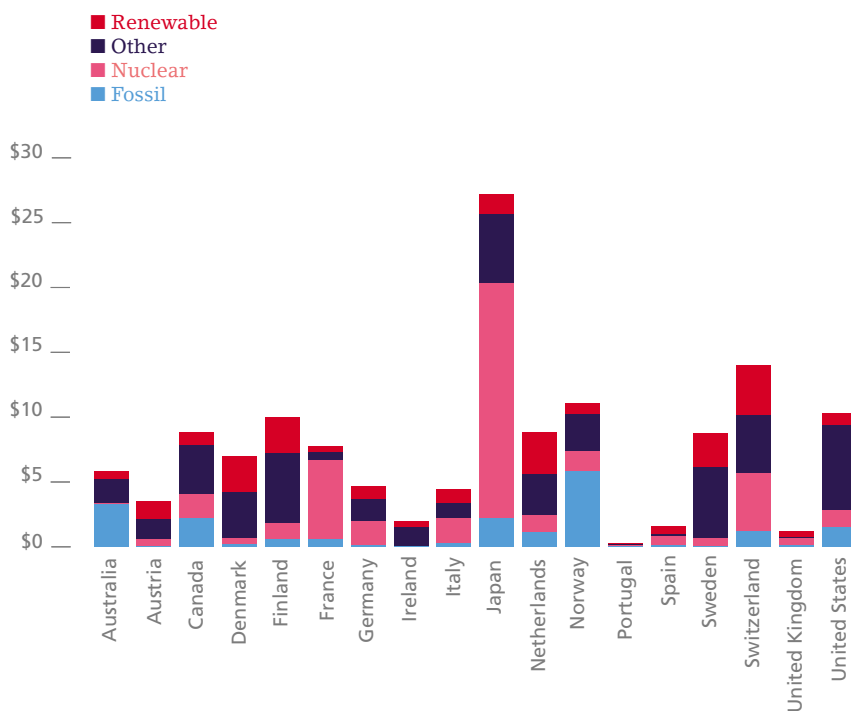


Climate change: economic sense and non-sense of carbon mitigation policies

- It is predicted that climate change caused by human activities will raise global average temperatures by between 1.5 and 5 degrees Celsius over the next 100 years. This could raise sea levels by one metre or more and lead to a number of other catastrophic climate changes and related phenomena. It could also have some benefits such as bigger harvests in some regions and longer and warmer summers.
- Humanity's main response to this problem is the United Nations' climate negotiation process. The most important milestone of that process so far is the 'Kyoto protocol' which has set targets for reductions in greenhouse gas emissions and which came into force in February 2005.
- Despite some attractive design elements, the Kyoto protocol alone is unlikely to make much impact on greenhouse gas emissions. This is mainly due to the failure of the agreement to include most of the world's current and future emissions, which will arise in China, India and the United States.
- If, as seems likely, this status quo continues, then R&D, which leads to innovations that can both reduce the intensity of carbon emissions and reduce costs, will become an even more important part of the strategy to fight climate change.
- While the Kyoto strategy of internationally agreed emission targets might create some incentives to develop these technologies, the incentives are probably insufficient. This suggests that some additional direct support from governments is required.
- Another problem with targets is that by their very nature, they have to be based on very unreliable forecasts of what can be achieved in the future at reasonable costs. Pressing ahead with ambitious targets – as is the current UK strategy – might therefore risk wasting large amounts of public and private money without having much impact on climate change.
- To avoid the danger of excessive costs or politically disastrous non-compliance, target schemes should include a 'safety valve' mechanism.
- We propose an innovative solution of a safety valve mechanism operating through a Global Environmental R&D Fund. Countries could convert excess carbon into contributions to a research fund that would be used to develop technologies to reduce climate change.
- Such a fund could also be used to construct a much needed enforcement mechanism for climate agreements if resulting innovations could be used freely by participating countries but licensed for a fee to non-participating countries.

Extract from CEP Policy Analysis – *Climate Change: Economic Sense and Non-sense of Carbon Mitigation Policies* – available at: http://cep.lse.ac.uk/briefings/pa_climate_change.pdf

Figure 1:
Public spending on energy R&D per capita
(average values between 2001 and 2005 in
US dollars at purchasing power parities)



Source: Author's calculations based on data from the International Energy Agency

Getting international agreement on R&D spending targets might be easier than on pollution targets

auctioning the permits rather than allocating them for free (as currently happens in the European Union's emission trading scheme introduced in January 2005). In the case of a tax, revenue accrues naturally.

But rather than entering the general tax revenue, this extra revenue should be earmarked to contribute to the suggested increase in public R&D spending. Because the tax levels required to raise a revenue stream that would make a difference in R&D spending are likely to be much lower than those that induce behavioural changes, even a much watered down internalisation scheme has the potential to have a significant long-term impact on climate change.

For example, a comparatively low carbon tax in the United States on emissions of carbon dioxide from transportation of only \$5 (which would increase the average annual cost of running a vehicle by \$40) could raise a budget equal to current world public spending on energy R&D (which is approximately \$9 billion). In other words, the suggested doubling of public R&D

funds could be easily achieved by US car owners alone at a price that would hardly induce them to stop driving. Earmarking will also strengthen popular support.

A further issue concerns international variations in R&D spending. Stern rightly stresses the need to coordinate carbon targets internationally. But international coordination might also be required to double R&D spending while avoiding some countries 'free riding' on other countries' spending.

This is underlined by the current huge variations in public energy-related R&D spending across industrialised countries (see Figure 1). According to my calculations, this ranges between \$27 per person in Japan, over \$10 in the United States and \$1.20 in the UK.

Agreeing and committing to R&D spending targets might also be easier than agreeing on pollution targets. With the former, governments know what they are bargaining for. With pollution targets, the uncertainty over future costs is very high.

Ralf Martin is a research fellow in CEP's productivity and innovation programme and author of the CEP Policy Analysis published in 2006, *Climate Change: Economic Sense and Non-sense of Carbon Mitigation Policies* (see box for a summary).

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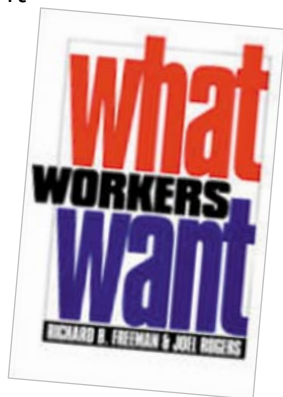
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Globalisation and Welfare

Professor Paul Krugman

Woodrow Wilson School, Princeton University

Date: 14 June 2007

Venue: Old Theatre, LSE Old Building, Houghton Street

Progressive free traders – people who believe both in domestic equity
and in the promise of globalisation – are feeling chastened these days.
What's left of the case for globalisation? How can we make it work?

Manpower Human Resources Laboratory Industry Forum

Skills and Earnings – Evidence from Around the World

Sir Tony Atkinson, Nuffield College, Oxford

Professor David Autor, Department of Economics, MIT

Professor Alan Manning, director of CEP's labour markets
research programme

Date: 5.30pm, 26 April 2007

Venue: CEP Conference Room, 4th floor, LSE Research Laboratory

What has happened to earnings across countries over time? Who has
experienced the greatest widening in the earnings distribution? Will recent
trends in the demand for skills continue and what are the implications?

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