

EUROPEAN ECONOMIC PERSPECTIVES

Home Alone?

European banks are consolidating rapidly. So far, most mergers have taken place within national boundaries. A new CEPR Report examines the challenges for national competition policy and whether we need a Europe-wide financial regulator.

Banking is in turmoil. The bank as an institution is changing; the industry is changing. Advances in information and financial technologies are transforming banking practices at the same time as regulatory changes have transformed banking markets. This is true in the United States, with the Riegle-Neal Act of 1994 and the gradual repeal of the 1933 Glass-Steagall Act. It is even more so in Europe, where the ultimate regulatory change has been the adoption of a single currency.

These changes have been accompanied by an unprecedented wave of mergers and acquisitions. A handful of huge global institutions seem prepared to dominate the scene. At the same time, the Asian crisis and its aftermath have left deep wounds. Banks, European banks in particular, appear to be vulnerable to economic accidents like Asia and Russia. In some respects, they are more fragile than ever before, as the near-collapse of Long Term Capital Management illustrates.

There seems little doubt that within the monetary union, European banks will continue to consolidate. But is this desirable, particularly if mergers happen predominantly within rather than across national borders? What are the implications for competition? And how should governments manage bank supervision as systemic risk grows? These are some of the key questions addressed in a new CEPR Report, *The Future of European Banking*

The evidence suggests that although the European banking industry has experienced a significant increase in competition, national markets remain segmented and there is certainly room for a further intensification of competitive pressures. In part because of the current lack of regulatory harmonization, but also due to past heritage, competitive conditions have not yet provided a powerful impetus for change. Non-regulatory barriers, taxation and corporate law in particular, are also likely to remain important for the foreseeable future in maintaining nationally segmented markets.

Consolidation within countries should be discouraged: it is time to favour European competitors not national champions

The existence of different currencies has been an important factor in European segmentation. Alone, however, the euro will not be enough to create a true single European financial market. This is because diversification possibilities in Europe are almost as good within countries as they are across countries. This contrasts with the United States, where states are more homogeneous and diversification benefits must be sought across state borders. In Europe, the benefits from consolidation that have driven US banks to merge across states can be obtained by merging within a country.

It is clear why a European bank's first bids for growth by acquisitions would naturally be made nationally. Mergers are easier within the same culture and regulatory environment and they may also bring local market power – a welcome relief from increasing global competitive pressures. But there will be losers from such increases in market power, notably small businesses, which will not be big enough to access the new euro financial markets directly and consumers, at least until direct banking becomes more widespread.

Reduced competition is not the only reason why this tendency for national consolidation is unhealthy. Because national banking market structures and lending practices differ widely across Europe, the same change in interest rates by the European Central Bank (ECB) will affect economies differently. This could be a serious hindrance to the operation of a single monetary policy.

National consolidations should be discouraged, the Report concludes, and regulatory and political barriers to cross-border mergers should be dismantled. Cross-border mergers permit the emergence of efficient producers without prejudice to competitive conditions. They also help homogenize banking practices, promoting the desirable convergence of the mechanisms by which a single monetary policy will be transmitted to the real side of European economies. It is time to favour the emergence of European competitors rather than national champions.

In this endeavour, the main players will be the national competition authorities. If they or the European Commission limit the domestic consolidation of the banking industry, national banks will learn to go against their natural tendencies and start consolidating internationally. At the same time, the role of European competition policy will remain important, particularly in checking that state aids do not derail the necessary restructuring of inefficient banks that are regarded as national champions.

Banking supervision is another delicate

and urgent issue. As banks take on more market risk, their ability to withstand sudden fluctuations in market prices depends in part on the readiness of the central bank to provide liquidity to the financial system and to banks in particular. In this respect, the ECB is a very different institution from the Fed – more concerned with and more constrained by the risks it may take onto its own books and thus likely to be less ready to provide liquidity to banks. The implication is that *ex ante* regulation and supervision are correspondingly more important in the European monetary union than they are in the United States.

There are a number of worrying risks associated with the current decentralized supervisory system for European banking, the Report argues. The advent of cross-border banking, the likely emergence of pan-European universal banks and, more generally, the new competitive climate of European banking, confront national supervisors with delicate coordination issues. In the face of these challenges, it is unlikely that the informal coordination among independent national authorities – as provided for by the Second Banking Directive – will be a safe arrangement.

Past European experience with national supervision has not always been satisfactory, with domestic supervisors sometimes being too close to the institutions that they regulate, thus risking being captured. The natural distance that a supra-national regulator keeps would thus appear to be particularly healthy. But it is ironic that while the international financial community is studying the possibility of setting up a 'world financial regulator', petty national jealousies appear to be preventing this from happening at the European level, putting the stability of European financial markets at risk.

Building a centralized supervisory body is a possibility already foreseen in the Maastricht Treaty, but it appears only to allow centralization of supervisory responsibilities within the ECB. While a clear improvement on decentralized supervision, this may not be the optimal arrangement as the ECB is already being perceived as accumulating too much power and issues of accountability have been raised. An independent European-wide regulatory agency, distinct from the ECB, may generate fewer concerns in this respect while at the same time facilitating accountability.

This article summarizes 'The Future of European Banking: Monitoring European Integration 9' by Jean-Pierre Danthine, Francesco Giavazzi, Xavier Vives and Ernst-Ludwig von Thadden (CEPR, 1999).

Cross-border mergers may simplify monetary policy but complicate bank supervision

Europe's financial markets need an independent supranational regulator

Inside Information

As new technology reduces transaction costs, what does the future hold for Europe's security markets? Thomas Gehrig explains how the nature of financial information will influence which national exchanges survive in an increasingly competitive industry.

The London Stock Exchange's 'Big Bang' in 1986 initiated a process of rapid change across the whole European securities industry. Formerly protected national equity markets have been forced to compete for internationally mobile investors and entrepreneurs. All the major financial exchanges have introduced an electronic trading system and implemented policies to reduce trading costs substantially. Protective regulations and transaction taxes have been abolished or reformed: for example, trading in financial futures has been legalized in Germany after a ban lasting almost a century. And since January of this year, the euro has eliminated currency risks for financial market participants within euroland.

Europe's security markets have become rapidly integrated as a result of these developments. It is now technologically and legally possible to trade UK stocks in Milan and bund futures in London at almost identical prices to those quoted in these assets' traditional markets. It is even possible to buy and sell securities via the internet. What do these developments imply for the structure of European security markets, particularly for the existing financial exchanges? Will they be completely replaced or consolidated? Will some exchanges survive? And if so, which ones are more likely to stay in business?

In a recent CEPR Discussion Paper, Thomas Gehrig attempts to answer some of these questions. He suggests that by analysing the 'centrifugal' and 'centripetal' forces that drive agglomeration and dispersion in financial markets, predictions can be made about which financial activities will ultimately become 'de-localized' – with trading no longer dependent on physical location and instead centralized in one electronic market – and which will remain fragmented – continuing to take place across a range of different centres.

It has been argued forcefully that geography will become increasingly irrelevant for financial

markets everywhere. Some evidence seems to support this claim: for example, trading in major currencies is already completely de-localized – it all happens across global computer networks. And international money markets are extremely footloose: euro-deposits can be made virtually anywhere in the world at very low cost. Hence, participants in these markets can avoid costly national regulations by shifting their activities to low cost locations.

On top of these changes in the currency and money markets, the number of stock exchanges has declined markedly: from 22 in 1935 to 10 in 1985 in the United States; from 8 in 1990 to 1 in 1997 in Switzerland; and from 21 under the Weimar Republic to 8 in 1998 in Germany. So the vision of a single completely integrated electronic market without geographical frontiers does not seem too unrealistic at the end of the second millennium.

But there is a counter-argument. Some studies find that banks that are active in one of the major financial centres have invested substantial resources to increase their networks of branches and subsidiaries across the other major centres. This suggests that a physical presence at specific locations has become more valuable for financial intermediaries despite advances in information and communication technology. Apparently, geography still matters – at least for the largest financial intermediaries. But why?

A study by Gehrig, Stahl and Vives, published in the 1994 CEPR volume *The Location of Economic Activity*, argues that it is the production and aggregation of local information that largely determines the attractiveness of financial centres to international intermediaries. When information on securities that is relevant to their valuations cannot be disseminated by widely available accounting statistics and newspaper columns but requires interaction with informed specialists and experts, financial centres benefit from the agglomeration economies generated by the

Despite technology, many financial firms find physical presence valuable

Geography does not matter for trading per se... but it may matter for the decision to trade

Geography matters more for trading stocks than bonds and currencies

Major national exchanges will co-exist in Europe as long as information is fragmented

physical presence of experts. This is especially true for 'informationally sensitive' securities, such as stocks and their derivatives, where any information – even rumours – about future returns are relevant to their valuations. In these cases, stock markets and derivatives markets are the natural places for information exchange and dissemination.

As this kind of information becomes more valuable to intermediaries, their presence in stock and derivatives markets will increase. But while a presence at an exchange can be valuable for the acquisition of information relevant to security valuation, it is not necessarily important for trading at the best price. Once someone has decided to buy or sell a security, he or she can place an order from anywhere. Geography does not matter for trading *per se*. But it may matter for the underlying decision to trade, which typically depends on sensitive information, or for customer advice.

The information requirements for valuing currencies, euro-deposits and even corporate bonds are substantially lower than for stocks and their derivatives. Pricing currencies depends for the most part on publicly available information and pricing bonds demands little more than calculating default probabilities. These activities require substantially less information than pricing the future income streams of ordinary stocks. Accordingly, the geography of trading is significantly less relevant in the case of bonds and particularly in the case of currencies.

As information and communication technologies advance, will the role of geography eventually fade for informationally sensitive securities too? Not necessarily, according to Gehrig (1998), who argues that the answer depends decisively on the nature of the relationship between complex sophisticated information and plain standardized information. Complex sophisticated information is difficult to communicate and typically requires the physical proximity of the person receiving it. Plain standardized information, which, in contrast, consists of readily understood accounting numbers and statistical measures, can be instantly disseminated by electronic media.

When complex and plain information are complementary, technological advances are likely to enhance the importance of geography. For example, as information about foreign companies becomes more readily available, investors' interest in foreign securities is stimulated and they increasingly demand detailed additional information about overseas firms. As a result, intermediaries find it worthwhile to specialize in information production about foreign companies. In this sense, the availability of public information may stimulate the demand for more complex and

specific information – the two variants of information are complements.

On the other hand, when complex and plain information behave like substitutes, the vision of one big electronic market may become reality. As plain information can be communicated more easily, complex information loses value and geography becomes irrelevant.

Based on these considerations, we might expect the survival of financial centres that are successful in attracting informationally sensitive activities. And when local information about local firms is concentrated in different regions or countries, we might expect several centres of information production to co-exist and the structure of securities markets to remain fragmented. So, the co-existence of several large European exchanges is likely as long as these exchanges remain the prime sites for information aggregation about national securities.

But within informationally homogenous regions, competitive pressure will increase for co-existing exchanges. One way for these exchanges to ease that pressure is to provide differentiated products and target different clienteles. The US experience, for example, suggests the possibility of vertical differentiation between several national exchanges: dominant exchanges specialize in listing the most attractive segment of nationally active and hence larger companies; while the smaller exchanges compete for the smaller regionally active firms by reducing listing standards and/or listing fees. But if listing requirements are regulated by national law, such niches for fragmentation may not exist, and, under competitive conditions, regional exchanges may be forced out of the market.

What does this analysis imply for Europe? To the extent that Europe remains informationally fragmented across countries, we might expect the co-existence of the major national exchanges, while the smaller regional exchanges might be driven out of existence (unless protected by national regulations). But as information differences vanish – with accounting standards harmonized and bigger companies becoming more and more active and well known across the whole European market – competitive pressures will grow and some national exchanges may find it difficult to survive. We are already seeing the first strategic alliances between formerly national exchanges as they seek to position themselves for that future.

This article draws on 'Cities and the Geography of Financial Centres' by Thomas Gehrig, CEPR Discussion Paper No. 1894 (June 1998), subsequently published in Thisse and Huriot (eds), *The Economics of Cities*, 1999. Gehrig is Professor of Economic Theory and Director of the Institut zur Erforschung der wirtschaftlichen Entwicklung at the University of Freiburg, and Research Fellow in CEPR's Financial Economics and Industrial

But as information differences vanish in the future, competitive pressures will grow

Taking advantage of 'local' information is the key to survival for many exchanges

The Full Monty

Is trade or technology responsible for widening wage inequality in many developed economies? New CEPR research considers the latest UK evidence.

Technology could not have caused the increase in wage inequality

UK workers in the bottom 10% of the income distribution have seen almost zero real growth in their wages over the last 20 years. In contrast, workers in the top 10% of the income distribution have had real wage increases of around 50%. Two potential causes have been cited for this widening wage inequality: international trade and technical change. Which really is to blame?

The view that trade is the culprit is based on the fact that developed countries have become increasingly open to trade with developing countries. The latter are rich in unskilled labour, it is argued: they can supply goods where production is 'unskilled-intensive', such as T-shirts from China, at a fraction of developed country costs. Hence, unskilled wages in developed countries must fall.

The 'technology' story is that there has been rapid technical change in recent decades, especially with the widespread introduction of computers. This technical change has been 'skill-biased', raising the relative productivity of skilled workers, but reducing demand for unskilled workers and therefore lowering their wage.

The main counter-argument to the trade view is that only a small fraction of goods in developed economies are internationally traded. The service sector makes up an increasingly significant part of production – from restaurants to haircuts to prison services – and although some services are traded, such as financial services, the bulk are not.

And even in traded sectors, a number of studies suggest that trade is not important. The usual estimate for the United States is that trade explains about 20% of the rise in inequality. For the UK, researchers have analysed changes in product prices across industries of different skill intensities. If there was a trade effect, they argue, one would expect the prices of unskilled-intensive goods to fall as less developed countries start trading on world markets. But these studies find no evidence that the relative prices of these goods fell during the 1980s.

Other studies have documented skill-biased technical change in a number of industries.

Plausibly, such advances seem to be related to computers: industries with faster computer adoption have had faster skill upgrading. And much of the economy-wide skill upgrading has been concentrated within particular industries along with increases in the relative wages of skilled workers. Since both the quantity and price of skilled labour has risen, it is argued that technical change must have been skill-biased.

To see why these arguments are flawed, recall *The Full Monty*, a film about a group of unskilled ex-steelworkers in northern England. At one point, the character Dave takes a job as a security guard in the local supermarket. Security seems a fine example of the services that a modern economy increasingly produces – surely a canonical case of a non-traded good. So one might suppose that security guard wages are unaffected by trade.

But the film shows why this reasoning is wrong. It is not explicit as to why Dave is unemployed, but it seems likely that the local steel industry has been forced to close because of increased competition from abroad. Such closures create a flow of 'Daves', unskilled workers potentially available as security guards, who drive down security guard wages. So even though supermarket output is non-traded, the wages of people who work there are still affected by trade.

The same reasoning is true for technology. The occupation of security guard is not subject to dramatic technical progress, so are security guard wages unaffected by it? Once again, it depends crucially on what is happening to comparable workers in other sectors. If technical progress is moving faster elsewhere and if it needs more skilled workers, that again creates a flow of 'Daves', reducing security guard wages in the non-traded sector.

These arguments, while informal, suggest a more effective way to examine the effects of trade and technology on wages. What matters for wages is the potential flow of workers between sectors so the question is whether technical change and the pressure of foreign competition – measured

Changes in output prices do explain the change in inequality

But what explains these price changes?

What matters for relative wages is the potential flow of workers between sectors

by output prices – are moving more in some sectors than in others. It is differences across sectors that potentially cause wage adjustments.

Put another way, the finding that technical change is happening within many sectors is not informative about changes in wages: it does not indicate whether it is happening faster in some sectors than in others – whether there is ‘sector bias’. The many studies that find technical change within many sectors, driven perhaps by computers, are simply uninformative about the effects on wages.

A number of more recent studies have therefore considered the ‘sector bias’ of trade and technology. To see the effects of sector bias on wages, consider a fall in the price of T-shirts due to imports from abroad. This would cause a fall in prices in the unskilled-intensive sectors relative to the skilled-intensive sectors. The former sectors then become unprofitable, releasing unskilled workers and/or reducing their wages in order to restore their relative profitability.

Changes in technology work in a similar way. Technical progress in a sector will potentially raise profitability. If technical change occurs in the skill-intensive sector, then skilled wages must rise so that relative profitability falls back to its original level. If it occurs in the unskilled-intensive sector, then unskilled wages must rise. Note that all technical change matters since any advances might raise sector profitability. This suggests that researchers should look at skilled, unskilled and neutral technical change – ‘total factor productivity’ (TFP) – to see if there is an impact on wages.

The impact of sector bias can be summarised: if prices or TFP grow faster in the skill-intensive sectors, then skilled wages tend to rise relative to unskilled wages. But if prices or TFP grow faster in the unskilled-intensive sectors, then skilled wages tend to fall relative to unskilled wages. Thus, the appropriate empirical strategy is to examine whether price or TFP change is more concentrated in the skill- or unskilled-intensive sectors. This approach contrasts with studies that seek to document whether price or technical changes are occurring within sectors but not to compare across sectors.

A recent CEPR Discussion Paper by Jonathan Haskel and Matthew Slaughter is one of a handful of studies using this new approach. According to their findings for the UK, changes in TFP in the 1980s were not concentrated in skill-intensive sectors. Indeed, TFP changes were more or less uniform across all sectors. So technical change could not have caused the increase in wage inequality since it would have had to be concentrated in skill-intensive sectors to change relative profitability and hence set off a rise in skilled wages.

What of prices? These researchers find that

price rises were concentrated in skill-intensive sectors and price falls in unskilled-intensive sectors. They conclude that it was price changes that led to the changes in wage inequality.

What does all this say about trade? Haskel and Slaughter explore the determinants of these price and technology changes and how they relate to trade. For example, they find that increased foreign price pressure has caused firms to introduce new technology. But it turns out that the sector bias of this induced technical change is concentrated in neither the skill- or unskilled-intensive sectors. So its effect on wage inequality is small.

The researchers also examine the extent to which price changes are due directly to foreign trade. In an open sector such as UK manufacturing, it is likely that domestic prices are closely related to foreign prices. Nevertheless, there is well-documented evidence of persistent price differentials between UK and foreign traded goods that probably reflects trade barriers. Haskel and Slaughter therefore consider the relationship between domestic industry price changes and industry changes in UK import prices from the OECD, non-OECD and newly industrialized countries (NICs). Perhaps due to the omission of trade barriers through lack of data, they find only a weak connection: the sector bias of NIC prices only weakly raises wage inequality.

Overall, these results cast considerable doubt on technology being the major cause of the rise in UK wage inequality in the 1980s. Indeed, they strongly support the proposition that it was changes in prices. How much such price changes are due to trade remains open to question. This article discusses research reported in ‘Trade, Technology and UK Wage Inequality’ by Jonathan Haskel and Matthew Slaughter, CEPR Discussion Paper No. 2091 (March 1999). Haskel is at Queen Mary and Westfield College, London; he is a Research Fellow in CEPR’s Labour Economics programme

Changes in total factor productivity were more or less uniform across all sectors

Price rises were concentrated in skill-intensive sectors, falls in unskilled sectors

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Go Dutch

Policy-makers in the Netherlands are using tax reforms to cut unemployment, stimulate labour supply and still maintain an equitable distribution of income. MIMIC, a model of the Dutch economy, helps them make the trade-offs between these objectives and evaluate which policies will be most effective.

High unemployment is widespread across Europe, especially among the unskilled. At the same time, an ageing population and the low labour force participation of women and the elderly in many European countries imply that the increasing burden of social insurance benefits must be financed by a shrinking pool of workers.

Many solutions have been proposed to these twin problems of high unskilled unemployment and low labour supply. The most drastic ones involve slashing social benefits and minimum wages, but there are others less damaging to the incomes of the low paid and people dependent on benefits. Proposals for fighting unemployment include cutting taxes on low-skilled work, introducing wage subsidies for the long-term unemployed and providing in-work tax benefits. Proposals for raising the quality and quantity of labour supply include cutting marginal tax rates, reducing tax benefits for households where one partner does not participate in the labour force and lowering early retirement benefits.

In a recent CEPR Discussion Paper, Lans Bovenberg, Johan Graafland and Ruud de Mooij use an applied general equilibrium model of the Dutch economy, known as MIMIC, to explore the likely impact of these policies. MIMIC has been developed at CPB Netherlands Bureau for Economic Policy Analysis to help policy-makers investigate the labour market implications of changes in the systems of taxation and social insurance. It combines a rich theoretical framework based on modern economic analysis of labour market imperfections with strong empirical foundations and an elaborate description of the actual tax and social insurance systems in the Netherlands. The institutional detail makes the model especially relevant for policy-making and MIMIC has been used extensively by the Dutch government in designing recent proposals for tax reform.

The simulations Bovenberg and his colleagues have conducted with MIMIC clarify the trade-offs between the various objectives of government policy: reducing unemployment, especially for the unskilled; encouraging the participation of women in the labour force; raising the quality and quantity of labour supply; and maintaining an equitable income distribution. For example, they find that raising the quantity and quality of labour supply calls for lower marginal tax rates, thereby widening the income differentials between low and high labour incomes. But lower marginal tax rates are less effective in reducing unemployment, raising unskilled employment and stimulating female labour supply.

One key to cutting unemployment lies in widening the gap between labour incomes and transfer incomes in unemployment. This may be accomplished through in-work tax benefits, which raise the reward to work compared with relying on social benefits. MIMIC reveals that these tax benefits can reduce unemployment significantly by moderating wage costs and encouraging the unemployed to search more intensively for jobs.

In-work benefits can become even more effective at reducing unemployment if they are targeted at unskilled workers, since the gap between labour income and transfer income is smallest for these workers. Targeting in-work benefits at those with low labour incomes also substantially reduces the tax burden on small part-time jobs, hence encouraging non-participating partners to find work and boosting the participation rate (measured in numbers of people).

But targeting also implies an increase in the marginal tax rate in the income range where in-work benefits are phased out. This adversely affects labour supply measured in hours. The costs and benefits of targeting can be illustrated with the effects of an Earned Income Tax Credit (EITC) simulated by MIMIC. This EITC amounts

One key to cutting unemployment lies in widening the gap between labour income and benefits

In-work tax benefits raise the relative reward to work, especially for the unskilled

Targeted in-work benefits reduce unemployment but increase marginal tax rates

Hiring subsidies are an effective policy for tackling long-term unemployment

to 4% of annual labour income phased in up to the statutory minimum wage and phased out between 120% and 180% of the minimum wage.

MIMIC indicates that this policy is effective in cutting unemployment, especially among the unskilled and in raising female participation in the labour force. But breadwinners and single people reduce their labour supply in the face of the EITC, in part due to the higher marginal tax rate in the phase-out range. On balance, the reduction in labour supply dominates the positive effect on the participation rate of partners. Hence, aggregate labour supply measured in hours drops.

Targeting the EITC reveals a trade-off between the goals of raising labour supply (measured in hours) and fighting unemployment. That trade-off can be mitigated by linking the EITC to hourly wages rather than annual incomes. In its white paper on tax reform, the Dutch government suggested just such a policy: workers who earn the hourly minimum wage and hold a full-time job are eligible for the full EITC, but the credit is reduced proportionally for workers who work less than a full-time job.

Comparing an EITC that depends on annual incomes and one that depends on hourly wages indicates another trade-off, that between increasing the participation rate of partners and reducing the rate of unskilled unemployment. The latter kind of EITC is more effective in cutting unskilled unemployment because, with the same budget for tax relief, more tax benefits can be provided to full-time workers with low hourly wages. As less benefits accrue to small part-time jobs with hourly wages above the minimum wage, the instrument is less effective in raising the labour force participation of women.

There is a further EITC-related trade-off between the quality and quantity of labour supply. Compared with an EITC that depends on annual incomes, an EITC that depends on hourly wages enhances the quantity of labour supply in hours because additional hours do not reduce the credit. But the latter also does more serious harm to the quality of labour (in terms of human capital) since the marginal tax rate on a higher hourly wage

increases more substantially, thus damaging the incentives for training.

An alternative instrument for fighting long-term unemployment is a marginal labour subsidy. MIMIC simulations indicate that hiring subsidies for the long-term unemployed are effective in fighting unskilled unemployment. Moreover, in contrast to the targeted EITC, such subsidies do not raise the marginal tax rate. Accordingly, they neither reduce labour supply nor harm the incentives to accumulate human capital. Instead, the long-term unemployed who find jobs are able to restore some of the human capital they lost during prolonged unemployment.

But despite the substantial decline in unskilled unemployment that these subsidies will bring, according to MIMIC, a hiring subsidy does not pay for itself. This is primarily because of the large dispersion in the productivity distribution of the long-term unemployed, which implies that only relatively small numbers of the long-term unemployed become employable through the subsidy. In addition, some of the long-term unemployed would have found jobs without the subsidy. They also crowd out some job opportunities for the short-term unemployed.

Bovenberg and his colleagues conclude that while the Dutch tax reforms are showing some success, there are no magic solutions: no single policy can combat unskilled unemployment, stimulate female labour force participation and raise the quality and quantity of labour supply. Governments must set priorities among their objectives when deciding whether to cut marginal tax rates, widen the income gap between after-tax unskilled wages and unemployment benefits and reduce the tax burden on small part-time jobs.

This article reviews research reported in 'Tax Reform and the Dutch Labour Market: An Applied General Equilibrium Approach' by Lans Bovenberg, Johan Graafland and Ruud de Mooij, CEPR Discussion Paper No. 1983 (September 1998).

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Despite substantially reducing unemployment, a hiring subsidy will not pay for itself

No single policy can combat unemployment and boost labour supply

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