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This issue of the *Bulletin* reports research on labour markets in transition economies, together with conference and workshop proceedings on growth and/or trade, and their linkages with labour markets, factor mobility, factor transfers and/or location. Other topics include relationships between business cycles and financial markets, issues in corporate finance and macroeconomic modelling.

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# CEPR NEWS

CEPR has formed a consortium with the Stockholm Institute of Transition Economies (SITE) and DELTA, which will manage and develop the Russian European Centre for Economic Policy (RECEP). RECEP is funded by the European Commission's TACIS programme.

CEPR will carry out seven studies for DGII of the European Commission: 'Cyclical Adjustment of Government Budget Balances: Evaluation of Alternative Trend Estimation Methods and of the Cyclical Sensitivity of Budgetary Components'; 'Financial Market Structures and Monetary Transmission in EMU'; 'Monetary Policy in Stage 3: Implications of Different Debt Structures Across Member States'; 'The Factors Hindering the Efficiency of the Transmission Mechanism of Monetary Policy in the Associated Countries of CEE'; 'Equilibrium and Adjustment Dynamics of the Exchange Rates in the Associated Countries of CEE'; 'Impact of EMU on Global Interest Rate

Linkages and Consequences for Exchange Rate Policy of the Euro'; 'A Cost-Benefit Analysis of Exchange Rate Arrangements Between the Euro and Non-Community Currencies'.

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# RESEARCH

## Transition Economies

### Understanding the Labour Markets

The demise of the communist systems in Central and Eastern European countries (CEECs) signalled the beginning of the process of reintegration of the CEECs into Europe, with many consequent actual and potential political and economic benefits. But this 'return to Europe' has also had a dark side for the CEECs, in the form of a spectacular rise in unemployment. For all its faults and inefficiencies – which were many and costly – state socialism did provide a regime of full employment through a conscious process of labour hoarding and a remuneration system largely unrelated to individual productivity. Full employment – especially of such dubious character – was not sustainable, however, as a market equilibrium, and within three years of the fall of the Iron Curtain, unemployment rates of around 10% of the labour force had emerged, thus creating a veritable 'reserve army' of the jobless. Moreover, more than half of those without jobs typically are in long-term unemployment.

The reasons for and the analytical and policy challenges created by, the transformation processes in CEEC labour markets have been one of the key preoccupations of researchers involved in the Central European Economic Policy Forum, established as part of CEPR's Economic Policy Initiative, launched jointly in 1995 with the Institute for EastWest Studies. The fourth report compiled by the Forum, and published in February 1998, reflects the findings of this research.

The rise in unemployment is attributable in part to the collapse of aggregate supply and the consequent sharp fall in the derived demand for labour. The most striking common aspect of CEEC labour-market transformations, however, has been the dramatic decline in employment rates, measured as the proportion of the working-age population in work. Since this decline has been as significant in countries where unemployment has risen most sharply as in those in which it has not, it is clear that analysis of labour supply changes is also a necessary element in explaining cross-country differences in the emerging patterns of unemployment.

Falling labour supply has been the result of various policies – including, for example, increases in the effective cost of childcare – that have increased the incentive to stay at home and resort to production for own consumption. Thus outflows from unemployment tend to be dominated by exits from the labour force. This trend has been accelerated by large cuts in benefits, which have failed to lead to significant job creation. In a number of countries, labour supply has

declined so precipitously that participation rates have fallen below those in Western Europe. Significantly, however, this overshooting has affected males more severely than females, leading to higher relative participation rates for females in comparison to OECD countries.

These reductions in labour-force participation have been costly. Retirement ages – already low by OECD standards – have plummeted, and systemic dependency ratios have risen sharply, with serious fiscal ramifications: bloated social security budgets, rising tax burdens on employees, and increasing tax evasion which merely aggravates the problem. Indeed, the emergence of a 'fiscal trap' is now recognized as a serious risk in CEECs. Moreover, higher labour taxes have helped make labour more expensive than warranted by local living standards and productivity levels.

Although CEEC labour markets are becoming more market-driven, thus increasing the salience of standard analytical tools, they nonetheless will continue to behave differently from OECD markets for at least three reasons. First, a series of exogenous factors – ranging from the collapse of the Soviet Union to inherited fiscal and balance-of-payments problems and wars in the Balkan and Gulf regions – has contributed to the 'transformation recession', with continuing adverse consequences for the recovery of labour demand.

Second, job destruction and creation are linked by fiscal policy and the wider policy regime. Endogeneity of the feedback from job destruction to job creation is particularly evident in fiscal interactions, which can induce a 'high-unemployment trap' with slow recovery from the initial shock. A rapid rise in unemployment is helpful in that it moderates wage demands, but it also reduces net tax revenues. While slowing down the job-destruction rate puts less strain on the government budget, it also reduces job creation because the wage effects of higher unemployment are mitigated. More aggressive plant closures might bring more new jobs, but would also worsen the budget balance, thereby raising the spectre of the aforementioned 'fiscal trap'. There is thus an optimal speed of job destruction to be determined.

Third, newly emerging institutions and behavioural patterns will have an important influence on the dynamics of labour demand. This is true not only because of factors inherent in the state-socialist legacy or the nature of the transition process, but also because the increasing importation of Western institutions will expose CEEC labour markets to the consequences of the persistent shocks which now characterize the business-cycle effects on labour markets in market economies.

It is clear, therefore, that the incentive structures in CEEC labour markets do not favour a resolution of the unemployment problem. There is also a risk that, as economic growth picks up, the recovery will prove to be 'jobless', with consequent political dangers as

expectations prove to be unfulfilled. More generally, the success of the transition will be determined by the outcomes of the accompanying tax-collection and rule-of-law problems. With regard to the taxation issue, the proposed entry of CEEC countries into the EU, with its associated requirement for adoption of similar standards of social security provision, will increase even further the fiscal burden on the active population, unless the ratio of employment to population – and hence the tax base for social policies – increases. The interactions between labour taxes, the underground economy and the social support system, and the resultant possibilities of multiple equilibria, with different outcomes in similar economies, thus place a premium both on understanding the functioning of CEEC labour markets and determining appropriate policies to address the problems.

Against this background, mobilization of this labour supply would appear to be one of the key requirements for ensuring the sustainability of economic recovery in the CEECs and, ultimately, their successful integration into the European Union. A major outcome of the research, therefore, has been the identification of a range of policy measures which, it is hoped, will enhance labour supply in the region. Six broad policy recommendations are put forward.

First, there is need for better integration between unemployment benefits and social assistance provisions and enforcement of work tests throughout the period of benefit receipt. Short duration of unemployment benefits, compared with currently long unemployment durations, has pushed many individuals onto means-tested social assistance, with negative effects on work incentives. Second, there is need for the development of active labour-market programmes. While not a panacea, such policies can serve important flanking functions, in that they force unemployed people to reveal their willingness to work, and either push the inactive into other categories or motivate more search. The Public Employment Services in CEECs should extend their brokerage functions and proactive staffing policies to help monitor workers and provide an efficient flow of job information to credit- (or otherwise-) constrained individuals.

The third recommendation is that any future savings in social policy spending – for example, as a result of future declines in unemployment – should be translated directly into reductions of statutory contribution rates. Rather than letting extra-budgetary funds run surpluses and thereby relieve fiscal pressure elsewhere, policy-makers should strive to reduce the state's contribution to labour costs wherever possible. Fourth, non-negotiated restrictions on job and labour turnover, via severance benefits or firing costs, must be abolished or, talents and ideas. Since employment security costs generally have significant fixed-cost elements, small firms should be exempted from some of these regulations, such as those creating procedural obstacles to layoffs.

The last two recommendations relate to public investment policies in education and infrastructural development. Education policy is an excellent example of a public good with large externalities, as well as an investment with high returns which is often difficult to finance. Despite a widespread view to the contrary, enrolment rates in secondary education – notably, general secondary education – are low, because the previous regimes over-invested in narrowly based – and dead-end – curricula, such as those offered under vocational training. Increased spending on general secondary education is therefore strongly indicated. Finally, by improving the transportation network, for example, governments could significantly contribute to enhancing regional labour mobility. Given the small size of most CEECs, it should be possible to achieve significant labour mobility, in response to regional mismatches in the allocation of posts and jobseekers, via commuting without requiring changes in residence.

*Forum Report of the Economic Policy Initiative No. 4, 'Mediating the Transition: Labour Markets in Central and Eastern Europe', is compiled by Tito Boeri, Michael C Burda, and János Köll, and edited by Lorand Ambrus-Lakatos and Mark E Schaffer.*

#### **CEPR Economic Policy Roundtable**

Around 60 participants gathered at the European Investment Bank, Luxembourg, on 16 November 1997 for the seventh meeting of the CEPR Economic Policy Roundtable. The Centre's major corporate members were well represented; also present were CEPR Research Fellows and senior representatives of the European Commission, national governments and national central banks. Informal and off-the-record discussions were divided into three main subject areas: European Monetary Union and its implementation; Eastern enlargement; and changing economic policy in France, Spain and the United Kingdom.

# CONFERENCES

## Foreign Exchange

### Speculative Attacks on Reserves

After years of calm, the international financial system recently has been hit by a succession of speculative attacks. Among the consequences were the abandonment in August 1993 of the narrow fluctuation bands of the European Monetary System, and the 1994 Mexican peso crisis, which prompted the International Monetary Fund, the United States and other G-7 countries to provide \$50 billion of assistance for fear of serious repercussions on other countries. These events brought the issue of speculatively engendered crises to the forefront of academic and policy discussions. On 18/19 April 1997, a joint CEPR conference with the Banco de Portugal, held in Sesimbra, Portugal, on Speculative Attacks on Foreign Exchange Reserves, brought together leading researchers in the field. The conference was organised by **Axel Weber** (Universität Bonn and CEPR), with financial support from the European Commission. Seven papers were given, followed by a policy panel on how to deal with speculative attacks.

**Nancy Marion** (Dartmouth College) presented 'Speculative Attacks: Fundamentals and Self-Fulfilling Prophecies', a joint work with **Robert Flood** (International Monetary Fund). The authors developed a modified 'first-generation model' in which the monetary authorities fully sterilize the effect of reserve changes on the monetary base and price-setting behaviour is sticky. The introduction of a time-varying stochastic risk-premium dampens the interest-rate response to an impending attack and gives rise to self-fulfilling multiple equilibria. Flood and Marion showed that both inconsistent macroeconomic policies and large shifts in speculative opinion can trigger a crisis. Contrary to previous 'first-generation models', the post-attack growth rate of the monetary base is not required to change – a feature more in line with the Mexican crisis of 1994.

**Hélène Rey** (London School of Economics) suggested that the behaviour of the monetary authorities after the attack be endogenized and the robustness of the results with respect to an alternative modelling of the stochastic shocks be examined. **Giancarlo Corsetti** (Yale University) pointed out that, because agents' anticipations are

unobservable, a signal-extraction problem arises which prevents empirical verification. **Peter Garber** (Brown University) stressed the discretionary nature of the first Mexican devaluation and the importance of reserves for the second and final devaluation.

In 'The Leading Indicators of Currency Crises', **Graciela Kaminsky** (Federal Reserve Board, Washington), **Saul Lizondo** (The World Bank) and **Carmen Reinhart** (University of Maryland) examined the 'symptoms' of currency crises and their potential as 'early warning signals'. They began by identifying a series of potential indicators suggested by the theoretical and empirical literature. By applying the leading-indicators technique from the business-cycle literature to speculative crises, the authors derived a warning system that involves monitoring a number of variables. Indicators judged particularly useful in predicting speculative crises included the behaviour of international reserves, the real exchange rate, domestic credit, credit to the public sector and domestic inflation.

**Axel Weber** (Universität Bonn and CEPR) emphasized the problems involved in using a panel, like the one considered by the authors, which mixes developing and industrialized countries. He noted that crises in the ERM succeeded one another at very short intervals, which made it difficult to attribute the behaviour of an indicator to a particular crisis. **Paolo Pesenti** (Princeton University) stressed the role of policy variables in the explanation of the 1992/3 ERM crises. **Maurice Obstfeld** (University of California, Berkeley, and CEPR) wondered about the influence of policy on the generation of false signals. Can differences in policy response to a speculative attack explain why, in some countries, no crisis occurred, despite strong signals from the indicators? **Pierre-Richard Agénor** (International Monetary Fund) remarked that controls on exchange rates and interest rates in some countries could distort the value of these variables as indicators.

In 'Borrowing Risk and the Tequila Effect', **Pierre-Richard Agénor** (International Monetary Fund) investigated contagion effects in an inter-temporal optimizing model of a small open economy. The Tequila effect was modelled as a temporary increase in the exogenous risk premium faced by domestic agents on imperfect world capital markets. The author then analysed the real and monetary effects of a shock on the risk premium by modelling portfolio decisions, real-wage rigidity and the link between bank credit and the supply side of the economy through firms' demand for working capital. The model was able to reproduce the main characteristics of Argentina's downturn immediately after the Mexican peso crisis. These effects included the sharp increase in interest rate spreads relative to the United States; the reduction in net capital inflows; the drop in official reserves; the reduction in bank deposits and

credit supply; the fall in private consumption; the contraction in output; and the increase in unemployment.

**Bernard Bensaid** (Université de Lille) asked why Agénor did not consider the level and structure of public debt, which had played a major role in triggering the crisis. He then noted that currency boards are not necessarily fully credible, as the model assumed. **Graciela Kaminsky** pointed to some empirical facts about Argentina, namely the real exchange rate appreciation and the loss in bank competitiveness prior to the crisis. **Giancarlo Corsetti** remarked that the default risk could be calculated using Brady Bonds.

**Alan Sutherland** (University of York and CEPR) presented 'Currency Crisis and the Term Structure of Interest Rates'. He suggested using historical term-structure data to distinguish between crises based on fundamentals and those generated by self-fulfilling expectations, since the two types generated different term-structure behaviour in the periods preceding a crisis. Determining the nature of a crisis may be of great practical importance given that the appropriate policy response depends largely on the type of crisis. **Paolo Pesenti** (Princeton University) noted that the shape of the term structure depends crucially on the particular theoretical modelling and parameterization of the crisis type. **Maurice Obstfeld** emphasized the term-structure effects of a monetary policy aimed at fighting speculation, which could blur the outcomes described in the paper. **Graciela Kaminsky** enquired about the implications of an endogenous trigger for the results, while **Axel Weber** suggested the trigger could be inferred from the distribution of exchange rates.

'Contagious Currency Crises' was the title of the paper presented by **Andrew Rose** (University of Berkeley, California) – a joint work with **Barry Eichengreen** (Center for Advanced Study in the Behavioral Sciences and CEPR) and **Charles Wyplosz** (Institut Universitaire des Hautes Études Internationales, Genève, and CEPR). The authors explored the observation that speculative attacks tend to be temporally correlated, in that an attack elsewhere increases the likelihood of an attack at home. Having confirmed empirically the existence of contagion effects, the authors examined two potential transmission channels for speculative attacks: first, trade links – the hypothesis being that attacks spill over more easily the more intensive the countries' trade links; and second, similarities in macroeconomic policies and conditions. Empirically, the first channel seemed more important.

**Mark Salmon** (European University Institute) stressed the importance of the market microstructure. Contagion effects could be desirable if they represent agents' optimal portfolio rebalancing responses to exogenous shocks. Salmon also wondered about the

sample sensitivity of the results and the difficulties in defining a crisis in empirical applications. **Graciela Kaminsky** objected to treating all crises and countries identically and suggested replacing the binary crisis variable by a more refined index. **Peter Garber** argued that the breakdown of an exchange rate system – such as Bretton-Woods or the ERM – affects all participating countries without constituting a contagion effect. Consequently, the sensitivity of the results to the exclusion of those periods should be examined. **William Allen** (Bank of England) was concerned about the choice of the centre currency. He suggested replacing the Deutsche mark with the dollar. **Helmut Fritsch** (Deutsche Bundesbank) remarked that currencies of countries that exhibit strong trade links tend also to appreciate together owing to the intervention behaviour of monetary authorities. In this case contagion effects are beneficial. **Nick Vidalis** (European Monetary Institute) added that contagion effects should depend on the degree of financial liberalization.

The extent to which speculation against the French franc in 1992/3 was driven by fundamentals was investigated by **Olivier Jeanne** (University of California, Berkeley) and **Paul Masson** (International Monetary Fund). In 'Was the French Franc Crisis a Sunspot Equilibrium?', Jeanne and Masson developed a model of currency crises that encompassed both hypotheses about the origin of speculation. They found that the model provided a better description of the crisis when it gave a role to sunspots. In this case, the model not only tracked speculative episodes better, by interpreting them as self-fulfilling jumps in the beliefs of foreign-exchange market participants, but also provided a better account of the empirical relationship between fundamentals and devaluation expectations.

**Berthold Herrendorf** (University of Warwick) observed that the ERM crisis should not be viewed as the collapse of a bundle of unilateral pegs, but as the collapse of an exchange rate system. This systemic view may foster better understanding of some important features of the French franc crisis. A further – and so far neglected – cost of a devaluation consists in the implied reduction in the likelihood that the country will achieve membership of the first-stage EMU. This factor could have played an important role in the crisis. **Peter Garber** enquired whether the augmented degrees of freedom in the sunspot model could account for the better performance of this model. He noted that, generally, the two models are observationally equivalent. **Axel Weber** pointed to the potential empirical relevance of non-stationarities in the fundamentals.

'Interpreting the ERM Crisis: Country-Specific and Systemic Issues', was written by **Willem Buiter** (University of Cambridge and CEPR), **Giancarlo Corsetti** (Yale University) and **Paolo Pesenti** (Princeton University). In a multi country monetary

and exchange rate game, in which they combined country-specific and systemic factors, they argued that the role of strategic interactions among national policy-makers hitherto had been overlooked. In contrast to a single-country analysis, they were able to explain the 'puzzles' of the ERM crisis. **Peter Garber** stressed the importance of the very short-term financing facilities and the 'microcosmos' of exchange rate defence for the course of the 1992/3 EMS crisis. **Helmut Fritsch** remarked that an early realignment could have smoothed the ERM crisis.

The conference closed with a policy panel on 'Dealing with Speculative Attacks'. **Maurice Obstfeld** discussed the transition to EMU and highlighted some potential dangers associated with the choice of the conversion rate. Market-based schemes perpetuate the exchange rates on the last day, which may not be desirable. A superior solution consists in fixing the conversion rates early on and then letting exchange rates float until the last day. **José Viñals** (Banco de España and CEPR) discussed the policy responses to speculative attacks and their relation to the type of crisis. In this context he stressed the role of the widened bands in restoring two-sided risk in financial markets. **Hervé Carré** (European Commission) noted that the move towards EMU represented the only definitive means for preventing speculative attacks. There was a need for credible and consistent policies and for collective surveillance and cooperation. **Helmut Fritsch** argued that the selection of first-stage participants would be of the utmost importance for the success of EMU and suggested that central rates should be chosen as conversion rates. With regard to the 1992/3 EMS crises, the Bundesbank had no alternative to the restrictive policy it conducted. Fritsch emphasized the huge interventions of the Bundesbank in the exchange rate markets, and added that the introduction of the euro could be expected to stabilize the international monetary system.

**William Allen** identified the most important features of the second-generation models of speculative attacks and concluded that the feasibility of a fixed exchange rate regime depends on several factors, including the real constraints imposed by fixing the exchange rate, the development and liberalization of markets, and the behaviour and credibility of the central bank. He noted that a credible central bank is essential for preventing attacks. **Vitor Gaspar** (Banco de Portugal) stressed that the policy rules of the 'game' are part of the fundamentals. He then discussed the instruments available to deal with speculative pressures, such as raising interest rates, introducing two-sided risk and interventions. He considered interventions to be the least important.

## CEP Conference

### Growth, Trade and Labour Markets

A two day conference on Growth, Trade and the Labour Market, organised by the Centre for Economic Performance (CEP) and CEPR, took place at CEP on 11/12 July 1997. Financial support was provided by the Centre for Economic Performance. Twelve papers were presented, covering a broad range of issues, from mechanisms to encourage innovation to empirical evidence on the effects of international trade on employment and wages. The conference organizers were **Christopher Pissarides** (CEP, LSE and CEPR) and **Danny Quah** (LSE and CEPR).

In 'Agglomeration and Economic Development: Import Substitution versus Trade Liberalisation', **Diego Puga** (LSE) and **Anthony Venables** (LSE and CEPR) analysed a model of development in which international inequality in the location of industry and income levels is supported by agglomeration of industry in a subset of countries. A model of economic geography was used to investigate the equilibrium conditions for agglomeration. Focusing on this equilibrium, Puga and Venables then argued that development may not be a continuous process of convergence by each country, but instead may involve countries moving in turn from a poor group to a rich group of countries. On the role of trade policy in promoting industrialization, they showed that, while both import substitution and trade liberalization may successfully attract industry, welfare levels are higher under trade liberalization.

In 'A Mechanism for Encouraging Innovation', **Michael Kremer** (MIT) argued that patents create monopoly-price distortions and generate insufficient incentives for original invention. This is because inventors cannot fully capture the consumer surplus or the spillovers of their ideas to other researchers. Also, socially wasteful expenditures are incurred on 'inventing around' patents. Theoretically, these distortions could be eliminated if governments purchased patents from inventors at their social value and transferred them to the public domain. In practice, though, it is difficult to determine the social value of inventions. Kremer proposed a mechanism under which the private value of patents would be determined in an auction. Governments would then offer to buy out patents at this value, plus a fixed mark-up that would roughly cover the difference between the private and social costs of inventions. Inventors could decide whether to sell or retain their patents, with those purchased by the government typically being placed in the public domain. However, to provide auction participants with an incentive to truthfully reveal their valuations, government

occasionally sell patents to the highest bidder. The pharmaceuticals industry was seen as an example well suited to the proposed mechanism.

The relationship between the import-export behaviour of French firms and their labour market outcomes was examined by **Francois Kramarz** (ENSAE-CREST) in 'International Competition, Employment and Wages: The Microeconometrics of International Trade'. Basing his analysis on matched multiple firm-level sources as well as matched worker-firm data, Kramarz looked at the effects of trade on employment, skill structure, wages, wage structure, within-firm inequality and the propensity to separate from workers. The basic components of the dataset were the customs forms submitted by firms during the period 1986–90. Kramarz found first, that employment decreased as the imported share of firms' purchases rose, but the effect was small. Second, the firm-level skill structure changed as trade theory would predict, i.e. an increase in imports from, or exports to, high-skill countries induced an increase in the proportion of low-skilled workers (and conversely). Again, however, the effects were small. Third, no relationship was found between wage evolution and trade behaviour. Finally, the individual-level probability of changing firms or people losing their jobs, controlling for all individual characteristics, was found to be related, not to increases in the firm's own trade activity, but to the behaviour of the firm's competitors. **Steve Nickell** (Institute of Economics and Statistics, Oxford, and CEPR) questioned some of the variables in the analysis, more particularly the combinations of variables used in some of the regressions.

An alternative explanation of inequality was offered in 'Obsolescence of Capital' by **Boyan Jovanovic** (New York University). Previous explanations have used differences either in initial conditions or in government policies. In this paper, inequality arises because of finite capacity in the capital goods sector. Jovanovic combined a vintage capital model with an assignment model to demonstrate the mechanism. He based his analysis on four assumptions: capital quality and labour skill are complements; new technology is embodied in new machines; capital and labour are used in fixed proportions; and assignment is frictionless. The balanced-growth path was found to be accompanied by a non-degenerate distribution of skill and machine quality around the trend. The reason for this is that society cannot give everyone a frontier machine all the time because of the fixed-proportions assumption and because it is too costly. The complementarity assumption means that those who do get the best machines will want to get more skill. Consequently, inequality in machines promotes inequalities in skills, incomes and wealth. Jovanovic suggested that, applied to the whole world, the model can help explain the non-convergence puzzle. In particular, the flatter the marginal cost of improving machines, the greater is the inequality.

**Daron Acemoglu** (MIT and CEPR) provided an alternative view of the link between skill-biased technical change and wage inequality. In 'Why do

New Technologies Complement Skills? Directed Technical Change and Wage Inequality', Acemoglu built on the models of Aghion and Howitt and Grossman and Helpman by allowing technical change to be directed to different groups, skilled and unskilled. He argued that when the proportion of skilled workers in the labour force is larger, the market for skill-complementary technologies is also larger and more effort will be spent in upgrading the productivity of skilled workers. The reason is that, once invented, most technologies are non-rival goods: they can be used by many firms and workers at some low marginal cost. The larger market means inventors will be able to get higher returns. The argument could also be used to explain trends in the college premium in recent decades: an increase in the relative supply of skilled workers reduces the skill premium in the short run, but also leads to creation of new skill-complementary technologies. This 'skill-biased' technical change may lead to a higher skill premium in the long-run. Thus the rapid increase in the proportion of college graduates in the US labour force may have been the cause of both the decline in the college premium in the 1970s and the very large increase in inequality during the 1980s.

Whether skill-biased technology shocks can also explain both the rise in unemployment in Europe and the rise in wage dispersion in the US in the 1980s was the question posed in 'Unemployment Responses to "Skill-Biased" Technology Shocks: The Role of Labour Market Policy' by **Dale T Mortensen** (Northwestern University) and **Christopher Pissarides** (CEP, LSE and CEPR). Specifically, the paper asked whether more income support and less labour-market flexibility in Europe was preventing the downward wage adjustment needed to maintain employment levels among lower-skilled workers in response to technology changes favouring those with more skills. Using their own (1994) search-theoretic model of the labour market, the authors concluded that these arguments were formally valid. Skill-biased shocks were embedded in the model, which was then calibrated for the United States and Europe. The results, taking account of the known policy differences, were found to be quantitatively consistent with the US and European experiences.

Similar conclusions were reached in 'Unemployment Versus Mismatch of Talents: Reconsidering Unemployment Benefits', a paper by **Ramon Marimon** (EUI, Universitat Pompeu Fabra, NBER and CEPR) and **Fabrizio Zilibotti** (Universitat Pompeu Fabra and CEPR). They developed an equilibrium search-matching model with risk-neutral agents and *ex-ante* firm and worker heterogeneity. Unemployment insurance has the standard effect of reducing employment, but also helps workers to a suitable job in this model. Its predictions were consistent with the contrasting performances of the European and the US labour markets in terms of unemployment, productivity growth and wage



inequality. To show this, Marimon and Zilibotti constructed two fictitious economies with calibrated parameters which differed only in the degree of unemployment insurance. The economies were then assumed to have been hit by a common technological shock which enhanced the importance of mismatch. The shock reduced the proportion of jobs which workers regarded as acceptable in the economy with unemployment insurance (Europe), thus doubling unemployment. In the *laissez-faire* (US) economy, unemployment remained constant, but wage inequality increased more and productivity grew less owing to the larger mismatch.

The links between fertility choice, the dynamics of income distribution and economic growth were investigated in 'Demographic Transition, Income Distribution and Economic Growth' by **Momi Dahan** (Bank of Israel) and **Daniel Tsiddon** (Tel Aviv University and CEPR). The authors used a simple model of fertility choice, in conjunction with the well documented differences in returns to human capital across rich and poor, to model the co-determination of family size and investment in human capital. They concluded that fertility choice, income distribution and economic growth affected each other in a way that produced inverted U-shaped dynamics. The first stage was characterized by an increase in the average rate of fertility and by widening income inequality, while income growth was uncertain. Only in the second stage did average fertility fall and income become more equally distributed. At this later stage, too, the economy became more human capital-abundant and growth of income per capita took off. The model thus explained some of the documented facts about epochs of demographic transition without relying on 'near rationality' arguments or non-economic objectives.

In 'Just Can't Get Enough: More On Skill-Biased Change and Unemployment', **Marco Manacorda** (LSE and University College, London) and **Alan Manning** (LSE and CEPR) re-examined the importance of a fall in the (relative) demand for the less skilled in explaining the problems of labour-market performance in the OECD countries. They proposed a new measure of skill mismatch and, using data from France, Germany, Italy, the Netherlands, the United Kingdom and the United States, they demonstrated how the measure can be used to assess the importance of skill-biased change in understanding labour-market changes in recent years. Their findings suggested that increased skill mismatch was by no means a universal phenomenon, though it did seem to have occurred in the United States, the United Kingdom and Germany. There was much discussion about the definition of neutrality used by Manacorda and Manning, with **Daron Acemoglu** and **Steve Nickell**, in particular, unconvinced by their approach to the problem.

The macroeconomic role of financial intermediation was the focus of 'Agency Costs in Models of Economic Growth' by **Costas Azariadis** and **Shankha Chakraborty** (both University of California, Los Angeles). Their paper incorporated a credit market with asymmetrically informed borrowers and lenders into a two-period overlapping-generations model. The agency cost upon which they focused was the cost of state verification. There were two types of good – a capital good and a consumption good. Final goods were produced from labour and capital using a standard neoclassical production function, but capital formation was credit-financed. Capital was produced from bank loans using a constant-returns technology subject to idiosyncratic shocks, the realized values of the shocks only being verified at a cost by the financial intermediaries. The latter dealt with the moral hazard problem associated with asymmetric information and diversified idiosyncratic project risks. As a result, depositors were paid a sure deposit rate while borrowers received debt contracts which verified project outcome in some states. The authors found that, with non-convex verification costs depending on future economic activity, i.e. with expectations playing a non-trivial role, up to three steady states might exist, with the intermediate one not necessarily unstable. Furthermore, the equilibrium capital stock correspondence could propagate and amplify technological shocks. Numerical calculations showed that the scale of such costs for dynamics of this nature was consistent with existing evidence on the cyclical behaviour of the interest-rate spread between loan and deposit rates.

'Human Capital, Investment and Innovation: What are the Connections?', was written by **Stephen Nickell** (Institute of Economics and Statistics, Oxford, and CEPR) and **Daphne Nicolitsas** (Institute of Economics and Statistics, Oxford). They investigated the links between firms' investments in R&D and workers' investments in human capital. Their paper concentrated on the firms' side of the story, notably whether their investments in fixed capital and R&D were influenced by the availability of human capital. Human capital was captured by using information on the relative wages of the relevant occupational categories, or on skilled-labour shortages. The results indicated that a 10% increase in the number of companies in an industry reporting skilled-labour shortages led to a permanent 10% reduction in an individual firm's fixed capital investment and a temporary 4% reduction in its R&D expenditure.

## Migration

### Trade and Factor Mobility

Venice played host to a CEPR conference on 'Trade and Factor Mobility' on 24/25 January 1997. The meeting, held under the auspices of the Centre's research programme on 'European Migration: From Economic Analysis to Policy Response', received financial support from Centro Studi Luca d'Agliano, with additional funding provided by the Dipartimento di Scienze Economiche, Università degli Studi di Venezia. The organizers were **Riccardo Faini** (Università degli Studi di Brescia and CEPR), **Jaime de Melo** (Université de Genève and CEPR) and **Klaus Zimmermann** (Universität München and CEPR). Nine papers were presented.

**Anthony Venables** (LSE and CEPR) presented 'Trade Liberalization and Factor Mobility: An Overview', which illustrated how liberalization can alter factor prices and thereby change the incentives for factor mobility. Venables started with the familiar Heckscher-Ohlin result that trade liberalization reduces the incentives for factor mobility, but went on to show that this need not be the case in a specific-factors model (which allows for a wider range of factor substitution and complementarity relationships), or in an imperfectly-competitive model that allows for increasing returns to scale.

**André Sapir** (Université Libre de Bruxelles and CEPR) suggested that separating the issue of substitutability and complementarity of factors from the experiment of trade liberalization might help enhance the clarity of exposition. He also noted that the choice among models should depend on the identities of the countries involved: for example, the Heckscher-Ohlin model (in which differences in endowments drive trade) makes more sense for thinking about trade between rich and poor countries than between similarly wealthy nations. **Jeffrey Williamson** (Harvard University) elaborated on Sapir's suggestion by recommending a distinction between models which are more relevant for understanding transitional events (e.g. German reunification) and those best suited for understanding non-transitional states. **James Markusen** (University of Colorado) pointed out the limitations of the Helpman-Krugman framework of imperfect competition (in particular, the underlying assumption of symmetric substitutability) as the basis for analysing the complementarity or substitutability of trade and factor flows.

In 'The King Never Emigrates', **Arye Hillman** (Bar-Ilan University), **Gil Epstein** (Bar-Ilan University), and **Heinrich Ursprung** (Universität Konstanz) offered a provocative theoretical contribution on the importance of the political-economic institutions in countries of potential emigration. Government policies can change the economic incentive to

migrate by affecting the income distribution, and if highly productive workers are sufficiently disadvantaged by 'the king's' redistributive system, they will emigrate (to the disadvantage of those left behind). In general, citizens can be ranked according to their 'closeness' to the king, those furthest away being taxed the most. When citizens optimize over productive and privilege-seeking activities, the most productive end up furthest from the king, are heavily taxed, and might have a strong incentive to emigrate. An alternative model allows privilege-seeking to be a 'difficult activity', with the result that the least productive workers end up furthest from the king.

**Francesco Daveri** (Università degli Studi di Brescia) suggested building an explicit link between the skill composition of the migration patterns described in the paper and a potential shift in the country's comparative advantage that could accompany such migration. He also questioned the nature of the king's objective function and suggested the possibility of insurrection in exploitative political-economic systems such as those described in the paper. **Giorgio Basevi** (Università degli Studi di Bologna) also recommended consulting the literature on the economics of insurrection and pointed out that 'brain drain' emigrants often value public goods which are not being provided at home. **Pasquale Sgro** (Università degli Studi di Venezia) noted that the efficient level of taxation appeared to be zero and questioned the implications for public goods provision. **William Collins** (Harvard University) recommended closer integration of the paper's model with the traditional Roy model which relates income distribution to the selection of migrants on the basis of ability. **James Markusen** criticised the lack of justification in the paper for the king's desire to maintain such a wasteful redistributive process.

**Panos Hatzipanayotou** (University of Thessaloniki) presented 'Trade Liberalization and Public Good Provision: Migration Promoting or Migration Demoting?', written jointly with **Konstantine Gatsios** (Athens University of Economics and Business and CEPR) and **Michael Michael** (University of Cyprus). The authors constructed a general equilibrium trade model of a small country producing two private tradable goods and one public consumption good. The model allowed perfect international labour mobility, but assumed that trade is restricted. The authors identified conditions under which trade liberalization leads to a reduction in the supply of the public good and promotes emigration. **Ignazio Muso** (Università Ca' Foscari di Venezia) noted that the results of the paper depend on assumptions concerning a number of partial cross-derivatives. He also suggested that an assessment of the welfare impact of trade liberalization and its consequences would be useful. **Riccardo Faini** noted an odd feature of the model: the temporary nature of the migration implies that citizens abroad continue to consume domestic public goods. **Anthony Venables**

suggested using a more sophisticated supply-side analysis of public goods provision in which the government is allowed to alter tax rates rather than simply adjust expenditure to reach the budget constraint.

The paper given by **Ian Wooton** (University of Glasgow and CEPR), entitled 'Regional Integration, Trade and Migration: Are Demand Linkages Relevant in Europe?', was co-authored with **Rodney Ludema** (Georgetown University). The authors employed Krugman's economic-geography model, in which demand linkages can promote the geographic agglomeration of manufacturing activity, and they allowed for imperfectly mobile manufacturing labour to make the model more representative of the European economy. They showed that, if some workers are reluctant to migrate, then the forces of agglomeration may be constrained and complete agglomeration may be avoided. Another interesting conclusion concerned the timing of different elements of liberalization: it may be advisable to complete trade liberalization before lifting restrictions on international labour movements.

**Giorgio Basevi** suggested the authors consider an alternative shape to the labour supply curve which could yield stable equilibria with complete agglomeration. **James Markusen** remarked that more fully developed, micro-foundations to the model's labour supply side would be useful. **André Sapir** argued the need for comparisons of the US and European potential for agglomeration and interregional migration to confront the issue of interregional differences in social security systems. **Riccardo Faini** inquired about the determinants of preferences for mobility: for example, will labourers' reluctance to move away from home increase or decrease as income rises?

In the first of a series of more empirical papers, **Jeffrey Williamson** (Harvard University) presented his joint work with **William Collins** (Harvard University) and **Kevin O'Rourke** (University College Dublin), entitled 'Were Trade and Factor Mobility Substitutes in History?'. After a brief review of the theoretical ambiguities concerning the relationship between trade and factor mobility, the paper attempted to resolve the issue empirically, using data for the Atlantic Economies from 1870 to 1940. The authors examined the data in annual time-series form within each country, and in decade-averaged panel data form by pooling all of the available evidence. They concluded that the notion that trade and factor mobility substitute for one another definitely was not supported by historical experience, but they were unable to make any definitive claims concerning potential complementarity. They found no evidence of a 'regime switch' from complementarity to substitutability as New World frontiers closed, and concluded that New World policy-makers did not

behave as if they viewed trade and migration as substitutes for one another.

**Gianni Toniolo** (Il Università di Roma and CEPR) recommended that the authors attempt to discuss and explain individual country experiences rather than generalize on the basis of the overall regression results. **Anthony Venables** suggested paying more attention to the commodity composition, as opposed to just the volume, of trade flows. **Riccardo Faini** suggested incorporating a measure of transport costs. **Arye Hillman** referred the authors to Australia's Bridgen Report for more insight as to how policy-makers thought about trade and migration earlier this century.

**James Markusen** (University of Colorado) presented a paper jointly authored with **Stephen Zahniser** (University of Colorado) entitled 'Liberalization and Incentives for Labour Migration: Theory with Applications to NAFTA'. The authors suggested that one of the motivations for NAFTA (from the US perspective) was to reduce incentives for Mexicans to migrate to the United States. Basic Heckscher-Ohlin trade theory suggested that Mexico's abundant factor (unskilled labour) should be made better off by liberalization, thus reducing the incentive to migrate. However, by drawing on the Feenstra-Hanson and Markusen-Venables models (in both of which the demand for skilled relative to unskilled labour rises in both Mexico and the United States), and by examining the nature of Mexican maize production, Markusen and Zahniser showed that liberalization need not reduce the incentive.

**Pasquale Sgro** noted that, since NAFTA has only been in place for a few years (during which Mexico suffered a major macroeconomic crisis), it is difficult to make medium- or long-term predictions about its consequences for labour mobility. **Alessandra Venturini** (Università degli Studi di Bergamo) inquired about the propensity of Mexicans to migrate after acquiring experience in border-area manufacturing establishments. **Jeffrey Williamson** suggested confronting the possibility that migration had been income-constrained and that rising Mexican incomes could lead to more migration, or, alternatively, focusing exclusively on wage patterns and leaving aside explicit discussion of migration. **Riccardo Faini** noted that if wages rise for the rich (whose migration decisions are not income-constrained), then they may be less likely to migrate; and, if wages simultaneously fall for the poor (who are income-constrained), then they too may be less likely to migrate. Thus, migration can fall for both groups as wage inequality widens.

'Trade and Migration: A Production-Theory Approach', in which imports and foreign labour services are both treated as inputs to the production function, was delivered by **Ulrich Kohli** (Université de Genève). By estimating a four-factor cost function

(imports, non-resident labour, resident labour and capital) using Swiss national accounts data, Kohli tried to identify the substitutability and complementarity relationships among the various factors. He found that, in Swiss experience, imports and non-resident labour were complements from 1950 to 1986.

**Marzio Galeotti** (Università degli Studi di Bergamo) praised the flexibility of the production theory approach, but suggested some alternative means of implementing it. These included: distinguishing labour by education and experience; estimating a GNP – as opposed to a cost – function for the sake of identifying the relevant elasticities; and, in contrast to the cost-function approach, recognizing that the supply of inputs (especially capital and labour) may not be perfectly elastic. Galeotti further recommended using instrumental variables to circumvent the econometric problems posed by endogeneity of the right-hand side variables. **André Sapir** suggested an interpretation of the complementarity result based on immigrant employment in a non-traded sector (e.g. services). **Klaus Zimmermann** questioned the modeling of technological advance, suggesting that it is endogenous, and wondered if capacity utilization data could be used to refine the story.

The impact of the opening of the eastern borders on the Austrian and German labour markets was investigated by **Rudolph Winter-Ebmer** (Universität Linz) and **Klaus Zimmermann** (Universität München) in 'East-West Trade and Migration: The Austro-German Case'. Owing to their geographical proximity, Austria and Germany are heavily affected by increased immigration and trade with Eastern Europe. After detailing the impact in specific regions and industries, the paper analysed the employment and wage effects of immigration econometrically using industrial panel data. Overall, the results were mixed: more negative employment and wage effects were found in Austria than in Germany, but rising trade relations with Eastern Europe do not seem to have substantially influenced employment and wages in either case.

Several issues were raised by **Maria Schenkel** (Università degli Studi di Venezia) for consideration: whether instrumental variables should be used to deal with endogeneity of the 'independent' variables; whether the period of dramatic macroeconomic change (in Germany in particular) makes it difficult to identify the effects of immigration and trade; whether it would be useful to disaggregate labour by skill level; and whether internal German migration (from east to west) serves as a substitute for immigration from other countries. **Riccardo Faini** expressed concern about the specification of the regression equations, in particular about the endogeneity of output growth (a right-hand side variable). **Jaime de Melo** noted that the different relative sizes of

Germany and Austria could have important implications for the observed responses to rising trade and migration.

The final paper, by **Jean-Marie Grether** (Université de Genève), **Jaime de Melo** (Université de Genève) and **Riccardo Faini** (Università degli Studi di Brescia), was entitled 'Globalization and Migratory Pressures from Developing Countries: A Simulation Analysis'. The authors used a Ricardo-Viner model to study the determinants of the supply of emigrants from developing countries. Their model incorporated migration costs and risk-spreading behaviour by households in the sending countries. The paper showed that, if exports respond strongly to trade liberalization, then a real appreciation may be accompanied by lower migration levels. If exports are slow to respond to liberalization, however, then a depreciation may occur along with more migration. The composition of consumption may also be an important consideration: if exports are a large part of household consumption, then liberalization might lower real wages and promote migration. The paper emphasized that trade and migration policies should not be assessed separately.

**Alessandra Venturini** emphasized the significance of the authors' sensitivity analysis in which additional (and, for some circumstances, perhaps more appropriate) hypotheses were adopted, providing a wider range of results. **Jeffrey Williamson** questioned the time dimension of the model and suggested allowing for capital accumulation as a response to liberalization and migration. He also stressed the potential importance of demographic structures in the trade/migration relationship. **Arye Hillman** asked about the receiving country government's objective function. He also invoked the Coase theorem in suggesting that, in theory, potential migrants could either be paid by the receiving country to stay at home, or be forced to pay to immigrate. **Ulrich Kohli** pointed out, however, that it is unlikely that the Coase theorem can operate in practice when countries cannot effectively enforce property rights regarding who crosses the border. **James Markusen** argued that, in the US/Mexico case, it is clear why the United States wants to limit Mexican immigration: Mexicans consume more public goods than they contribute in taxes.

The conference succeeded in its objective of bringing together the theory and empirics of the 'trade and factor mobility' issue, with the papers approaching the topic from a variety of viewpoints. It is clear that theory remains somewhat ambivalent about the nature of the relationship and that there is a wide variety of models from which to choose. Care must be taken, therefore, in selecting a framework appropriate to the setting in mind. Furthermore, empirical work on the topic is still quite young, with the result that clear conclusions concerning the trade

and factor mobility nexus must await additional research.

## Growth

### Technology and Factor Transfers

A joint conference on 'Growth: Transfer of Technology, Capital and Skills' was held in Alghero on 19/20 September 1997. The conference was organised by CEPR and by the Centre for North-South Economic Research (CRENoS) of the University of Cagliari, with additional support provided by CNR (Consiglio Nazionale delle Ricerche, Roma) and CREI (Centro de Recerca in Economia International). The workshop formed part of CEPR's research programme on International Trade. The organisers were **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR) and **Giorgia Giovannetti** (European University Institute, Firenze), with assistance from **Francesco Pigliaru** (Università di Cagliari and CRENoS) and **Marco Vannini** (Università di Sassari, and CRENoS).

The focus of the conference was on the influence exercised by transfers of technology and transfers of factors of production on the growth process. In particular, the ten papers presented tried to go beyond the traditional closed-economy growth framework to examine the implications of globalization for the development process in different countries. For example, do movements of capital and labour necessarily produce convergence among economies, as in the traditional neoclassical growth model, or is there, instead, the possibility that some economies will lose from these transfers? And how does technology spread across economies? Questions such as these were investigated from both the theoretical and the empirical points of view.

In her paper on 'Labour Market Institutions, International Capital Mobility, and the Persistence of Underdevelopment', **Graziella Bertocchi** (Università di Modena and CEPR) explored the growth implications of different institutional structures of the labour market in an integrated world. The focus was on a small open developing economy where labour is unionized, and the wage rate is therefore determined through bargaining, but in a context where capital is internationally mobile and labour is not. Bertocchi showed that the impact of globalization on this economy depends crucially on the characteristics of the labour market in the larger economy with which it interacts. Convergence of wages and income was shown to occur only when the large economy is subject to decentralized bargaining. When either centralized bargaining or perfect competition prevail, the small economy may reach a 'poverty trap' characterized by lower wages and permanent capital inflows.

**Rikard Forslid** (Lunds Universitet and CEPR) noted that some clarification of the inter-temporal trade balance and of whether total output is exhausted in all cases would have been helpful. A possible extension would be incorporation of the oft-cited empirical finding that the relationship between the level of centralization and the labour share of output is U-shaped. **Raquel Fernandez** (New York University and CEPR) suggested analysing the dynamic relationship between two 'large' economies, and between one large unionized economy and one small economy with perfect competition in the labour market – both of these being models that seem to fit well with the empirical evidence.

**Stephen L Parente** (University of Pennsylvania) presented 'Homework in Development Economics: Household Production and the Wealth of Nations', written with **Richard Rogerson** (University of Minnesota) and **Randall Wright** (University of Pennsylvania). The authors pointed out that, aside from income, a notable difference between the rich and the poor countries is the fraction of economic activity that takes place in formal markets. In their paper, they introduced home production into the neoclassical growth model, and examined its consequences for international income differences. Because policies which affect capital accumulation change the mix of market and non-market activities, differences in policies can generate much larger differences in steady-state levels. The authors' numerical explorations suggest that a version of the neoclassical growth model that does not abstract from home production, and which allows for the accumulation of a second type of capital, may prove a useful starting point for a theory of international income differences.

**Gianmarco Ottaviano** (Università di Bologna and CEPR) acknowledged the importance of non-market activities for an understanding of economic development. Some empirical doubts remain, however. First, the practicality of measuring non-market activities is questionable. Second, could also the same calibration of the model be valid for both the short and the long run?

In a paper entitled 'Poverty Trap Equilibria Under International Trade: A Dynamic Specific Factor Model', **Andrew Mountford** (University of Southampton) showed that, in contrast to a dynamic Heckscher-Ohlin model, a dynamic specific-factors model may exhibit multiple steady-state equilibria, even for a small open economy under diversification. The paper thus showed that there was no necessary reason to expect economic integration or free trade to cause conditional convergence. Moreover, it provided a justification for growth strategies based on temporary government measures to boost the value of a relevant state variable in an economy, such as the level of the capital-labour ratio.

**Christian Upper** (European University Institute, Firenze) stressed that more work was required on the policy implications. It was important to know how to identify the exact state of the system at any point in time, and to define policy measures which relied on less restrictive assumptions than a tax on land, as had been done in the paper.

Using a new dataset on European regions, **Raffaele Paci** (Università di Cagliari and CRENoS) and **Francesco Pigliaru** (Università di Cagliari and CRENoS) undertook an in-depth empirical analysis of the stylized facts about European productivity growth. Two main points emerged from their paper on 'The Empirics of Regional Growth in Europe'. The first was that, although incomes per capita in European regions did not converge in the 1980s, despite large differences in inter-regional unemployment and participation rates, there was convergence in labour productivity, a variable more directly linked to the standard growth model. The second point derived from the authors' consideration of industrial composition and the sources of productivity growth – structural change turned out to be of great relevance as a source of convergence.

**Teresa Garcia-Milà** (Universitat Pompeu Fabra, Barcelona) argued that the authors might consider an alternative procedure: first, estimating convergence rates for labour productivity, allowing for different steady states; second comparing the distribution of these steady states with those estimated for income per capita in previous works; and, finally, looking for variables that may explain the distribution of steady states. Moreover, she suggested introducing an additional dimension to the split of productivity growth by differentiating between a truly sectoral growth component and a more regionally differentiated component within each sector.

**Gianmarco Ottaviano** (Università di Bologna, Università Bocconi and CEPR) presented 'The Geography of Take-offs: A Model of Growth and Catastrophic Agglomeration', written with **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR) and **Philippe Martin** (Graduate Institute of International Studies, Geneva, and CEPR). Their paper presented a parsimonious model that merged the insights of the so-called 'new economic geography' with those of endogenous growth theory. It showed that, after a certain threshold, gradual improvements in trade connections can lead to 'catastrophic' agglomerations and growth accelerations, reflecting a 'stages' approach to economic development.

**Giorgia Giovannetti** (European University Institute, Firenze, and CEPR) welcomed the authors' attempt to link economic geography, endogenous growth and trade. She pointed out, however, that the model has relevance only if the facts provide clear evidence that a process of take-off occurs only in countries where industries agglomerate. She noted further that, while

two steady states are fully characterized in the model, the transition phase is not analytically derived, and she suggested the authors might use computational methods to achieve this goal.

'Empirical Perspectives on Long-Term External Debt' was the title of the paper given by **Philip R Lane** (Trinity College, Dublin). Lane attempted to paint a statistical portrait of the determination of external debt for a set of low- and middle-income countries. His goal was to facilitate thinking about the role played by international capital flows in the development process. Empirically, he found that external debt was strongly increasing in the level of initial output, even controlling for variations in steady-state positions and credit risk. In addition, he found a positive association between trade openness and the level of external debt. Lane argued that these results may lend some support to theories of constrained access to international credit markets.

According to **Raquel Fernandez** (New York University and CEPR), it might have been preferable to exploit the time-series properties of the data in an attempt to distinguish among different sovereign-debt models (e.g. trade-sanctions versus reputation versus moral-hazard models). Alternatively, a pooled cross-section panel could have been constructed by using smaller time intervals, which would have allowed the author to avoid relying solely on the ratio of total debt to initial (1971) income level as the dependent variable.

Does trade with LDCs, abundant in low-skilled workers, affect developed-country labour markets? In 'Quality Differentiation in Production and the Labour Market Effects of International Trade in Europe', **Alasdair Smith** (University of Sussex and CEPR) outlined a model in which intra-industry trade reflected differences in skill endowments between countries, and therefore did have effects on relative wages. The model was consistent with those phenomena – rising skill intensities of production in the North, and rising skill premia in Southern as well as Northern labour markets – which have been used to cast doubt on trade as an explanation of labour-market changes. Preliminary calibration of the model, using very desegregated trade data, suggested that the labour-market effects of trade may be twice as large as those estimated by the standard trade model.

**Ramon Marimon** (European University Institute, Firenze, and CEPR) argued that an alternative

## Rethinking the Welfare Society

A CEPR conference on the future of the welfare society was held jointly with the Instituto de Estudios Económicos de Galicia, Pedro Barrié de la Maza at La Coruña on 20/21 June 1997. The conference organizers were **Guillermo de la Dehesa** (Banco Pastor and CEPR) and **Dennis Snower** (Birkbeck College, London, and CEPR). The background to the conference was the growing tendency around the globe to question the continued viability of the welfare state. With many policy-makers now believing that the state is only one possible provider of the services associated with the welfare society, the conference set out to focus on the trade-off between providing for the poor and insuring the middle classes against uncertainties, and to discuss the socially desirable institutional mix between public and private provision and finance of welfare services. A further objective was to evaluate the consequences of the policy choices for poverty, inequality and growth. The following papers were presented:

'Removing Inequality-Increasing Distortions: An Empirical Test of the Theory of Eurosclerosis', **Thornton Matheson** (University of Maryland) and **Mancur Olson** (University of Maryland and the IRIS Centre)

'A Strategy for Employment and Growth: and the Failure of Statism, Welfarism and Free Markets', **Edmund Phelps** (Columbia University)

'Long-term Unemployment in Europe: Social Safety Nets in Times of Economic Turbulence', **Lars Ljungqvist** (Stockholm School of Economics and Federal Reserve Bank of Chicago) and **Thomas J Sargent** (Hoover Institution, Stanford, and University of Chicago)

'The Minimum Wage and the Welfare State', **Juan José Dolado** (Universidad Carlos III, Madrid, and CEPR), **Florentino Felgueroso** (Universidad Oviedo) and **Juan Francisco Jimeno** (FEDEA, Madrid)

'From Unemployment Benefits to Unemployment Accounts', **J Michael Orszag** (Birkbeck College, London) and **Dennis Snower** (Birkbeck College, London, and CEPR)

'Political Economy of a Consensus Society: Experience from Behind the Dykes', **Frederick van der Ploeg** (Universiteit van Amsterdam and CEPR)

'Income Mobility and Income Redistribution in the Welfare State', **Frans Spinnewyn** (Katholieke Universiteit Leuven)

'Cutting the Gordian Knot: Replacing Welfare Grants with Loans', **Patrick Minford** (University of Liverpool, Cardiff Business School and CEPR)

'The Economist Faced with the Contradictions of Modern Welfare Society', **Edmond Malinvaud** (CREST-INSEE, Paris)

'Employment and Retirement: Conflicting Aims Within the Welfare Society', **Barry Friedman** (Brandeis University) and **Martin Rein** (MIT)

'Investing in Health or in Education', **Pierre-Yves Geoffard** (DELTA, Paris, and CNRS, Paris) and **Thierry Verdier** (DELTA, Paris, CERAS, Paris, and CEPR)

'Would Shifting the Burden of Taxation from Labour to Capital Reduce Unemployment?', **Gilles Saint-Paul** (DELTA, Paris, and CEPR)

explanation for the increase in demand for high-skill workers in developed countries is the reduction in the price of capital, which is unrelated to trade and consistent with Smith's model of product varieties.

Moreover, despite Smith's finding of some effects at the eight-digit (as opposed to three-digit) sectoral decomposition level, other evidence suggests that it may not be possible properly to account for effects on labour markets through the use of finer and finer

disaggregations.

**Henrik Braconier** (Lunds Universitet) and **Johan Torstensson** (Lunds Universitet and CEPR) presented their paper on 'Institutions and Economic Growth'. They examined a simple model in which institutions affect growth both directly through productivity, and indirectly through investment in human and physical capital. Confiscation of property has a direct negative effect, and bureaucratic efficiency a direct positive effect, on growth. Rent-

seeking activities affect investment in human capital negatively, while bureaucratic efficiency affects it positively. The effects of rent-seeking activities and bureaucratic efficiency on physical capital investment are less clear. The authors also carried out an extensive sensitivity analysis of their model.

In discussion, it was noted that one of the main problems faced by the empirical literature on the relationship between institutions and growth relates to the possible endogeneity of the variables introduced. In this paper, it seemed that the causation between growth and some of the institutional proxies ran in both directions, so the estimated reduced form may not have captured the mechanisms it claimed to have identified. Moreover, **Raquel Fernandez** argued that a proxy for taxation, as well as a proxy for 'confiscation of income', should have been included in the empirical work, while **Ramon Marimon** criticized the proxy introduced for capturing 'DUP' activities.

What is the role of trade in spreading the benefits of innovation among countries? **Jonathan Eaton** (Boston University) addressed this question in his paper on 'Technology and Bilateral Trade'. Eaton developed a model that delivered an equation for bilateral trade that, on the surface, resembled a gravity specification, but identified the underlying parameters of technology. He estimated the equation using data on intra-OECD trade in manufactures. The parameters he estimated allowed him to simulate the model to investigate the role of trade in spreading the benefits of innovation and to examine the effects of lower trade barriers. Typically, foreigners benefited by only a tenth as much as the innovating country, but in some cases the benefits to close neighbours approached those of the innovator.

The methodology developed by Eaton can be applied to answer a much wider range of questions. In particular, one of the most interesting applications of this framework could be to look at intersectoral trade, and then try to examine how R&D crosses into different sectors. Eaton pointed out that adding a sectoral dimension was analytically straightforward. The potential payoff was in identifying the role of research in carving out comparative advantage.

The final paper, by **Marina Murat** (Università di Pavia), was 'Composition of the Productive Structure and Output Dynamics: Exogenous and Endogenous Growth'. Murat examined the relations between the composition of the productive structure and the output growth rate under two assumptions – that growth rates are exogenously and endogenously determined. In each case, she analysed the dynamic effects of policy interventions. Her results suggested that industrial policies may be useful when intersectoral links dominate productive processes, while more generalized interventions, aimed at increasing administrative efficiency or developing infrastructures,

would be more appropriate in economies where the effects of generalized externalities are strong.

**Akos Valentinyi** (University of Southampton) noted in conclusion that, given the interest of policy-makers in knowing how industrial policy may affect growth, it is important to look at the policy effects under various specifications of the technology. He claimed, however, that the paper did not identify the policy instruments it analysed and that it was difficult to give economic interpretations to some of the spillover specifications.

## **International Business Cycles**

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### **Links with Financial Markets**

The Clausen Center for International Business and Policy of the Haas School of Business at Berkeley, the Weiss Center for International Financial Research of the Wharton School at Penn, and CEPR held a joint conference on 'International Financial Markets and Business Cycles' in Santiago, Spain on 8/9 June 1997. The conference was organized by **Bernard Dumas** (Hautes Études Commerciales, Jouy-en-Josas, LBS and CEPR), **Richard Marston** (Wharton School, University of Pennsylvania) and **Andrew K Rose** (University of California, Berkeley, and CEPR), with support from the European Commission.

Recent research on the links between international financial markets and business cycles has followed two strands. In one strand, international macroeconomists, studying the synchronization and transmission of business cycles between countries, have examined the sources – real or monetary, internal or external – of business cycles, and the degree to which international capital markets allow for the sharing of risks world-wide, or are impeded in this function by the existence of non-traded assets, non-traded goods and other market imperfections. Much of this work has been cast in terms of inter-temporal utility-optimizing models that could be easily extended to examine the behaviour of the stock market as it relates to the business cycle. If this were done, a wealth of financial data – in addition to currently used macroeconomic data on production and consumption – could be used in empirical work validating the models.

In the second strand, empirical and theoretical work by some financial economists has sought to explain the variations of expected returns and risks in international financial markets. The empirical work mostly has made use of indicators of future rates of returns, such as term or default spread, provided by the financial markets themselves. At the same time, it is well known that movements in those spreads are linked to business cycles. Other work explicitly uses business-cycle indicators. This literature, however, suffers from a lack of a well-developed underlying equilibrium model.



The conference therefore designed to increase interactions between these two research strands, perhaps leading to more use of stock-market data to test macro models, and more use of macro variables to define the 'state of the economy' and to explain conditionally expected stock returns. One topic for the research agenda might be to identify models with sound microeconomic foundations that can account for important empirical regularities, e.g. that stock returns (in the aggregate) lead economic activity by six to twelve months.

Another topic might include investigation, at a disaggregated level, of other relationships, such as the recent claim that rates of return in a given stock market are more strongly related to world output than to domestic or regional output. If true, this link might be explained by the fact that one country's cycle leads the other cycles, or that stock-market discount factors are common to the world and fluctuate in unison with the world cycle. Similar questions could be raised about the relationship between stock returns for a given industrial sector in one country and either sectoral or aggregate output, domestically, regionally and globally. Finally, there are questions as to which indicators of business cycles can best serve to track the probability distribution of rates of return ahead of the investment period.

Nine papers were presented across three themes. The first theme was the link between international business cycles and financial contracting. In 'Financial Flows and Business Cycles', **Mario Crucini** (Ohio State University) studied the implications of financial- and goods-market frictions for the international business cycle. Friction in the financial market reduces the set of traded assets, thus introducing an idiosyncratic component to national wealth and consumption. Friction in the goods market involves transactions costs; this was built by Crucini into a static complete-market model to isolate the impact of deviations from the law of one price from those of asset-market incompleteness.

The results from the investigation of asset-market restrictions in isolation from goods-market integration seemed difficult to reconcile with existing dynamic models. There are models that generate about the right amount of consumption and income co-movement if agents specialize in production and consume a disproportionate amount of their own good. Asset-market restrictions seemed to provide part of the answer, but Crucini argued that we do not yet have adequate measurements of the relevant risks faced by individuals, regions or countries to be able to arrive at a full explanation for the joint behaviour of consumption and income.

**Fernando Alvarez** (University of Pennsylvania) noted that the approach taken in the paper amounted to an investigation of the joint time-series properties of output in several countries. In a model where

productivity shocks are the driving variable, however, Solow residuals should be used as the basic piece of information on which a vector autoregression would then be run. Furthermore, the stylized facts about the cross-country correlations in consumption and employment could then be properly decomposed into cross-country correlations in productivity shocks and correlations between productivity shocks and employment. The issue of the persistence of the shocks plays a crucial role both in business-cycle models and in models of the capital market. Financial market returns could be used to infer some information concerning that persistence.

**Kenneth Rogoff** (Princeton University) remarked that a key insight of earlier work by both Baxter and Crucini on the sources of business cycles was that the differences between complete- and incomplete-market models depended critically on the time-series properties of productivity shocks. Related work by Glick and Rogoff had shown the importance of distinguishing empirically between global and country-specific shocks. The present paper extended these advances by considering the effects of introducing goods-market frictions. Rogoff queried, however, the validity of assuming a stationary consumption-output ratio in an open-economy model, and asserted the importance of considering demand shocks in addition to productivity shocks.

'International Business Cycles with Endogenous Incomplete Markets' was written by **Patrick Kehoe** and **Fabrizio Perri** (both University of Pennsylvania). Earlier work using standard models with complete markets had generated cross-country correlations of consumption that were much higher than those observed in the data, and cross-correlations of output and factor inputs that were much lower. This had led the authors to introduce a particular type of friction in to the international credit market, and to assess whether it could help to account quantitatively for these anomalies. The friction is that international loans are not perfectly enforceable. In this set-up, the allocations are constrained relative to the complete-markets setting. Solving for the equilibrium, the authors found that, in contrast to exogenous restrictions on asset markets, this type of friction did indeed go a long way towards resolving some of the data anomalies.

For **Thomas Gehrig** (Universität Basel, Universität Freiburg and CEPR), this paper had the potential to explain a number of asset-pricing phenomena: the home equity preference puzzle; contagion phenomena between markets; and, the high turnover in financial markets. But the imperfection considered by Kehoe and Perri was not the only one with this potential. The assumption of asymmetric information between traders would also have these properties, and Bayesian learning that takes time likewise could explain a number of investment puzzles. Gehrig's

reservations about the paper included the failure to consider the possibility of renegotiating the debt pursuant to a default, and the assumption of some degree of fiscal discrimination between a country's residents and the non-residents – discrimination which real-world tax treaties sought to prevent.

**Rafael Repullo** (CEMFI, Madrid, and CEPR) constructed a static version of the model which could be solved analytically for a particular specification of consumer preferences and production technologies. He found that the enforcement constraints bind whenever the ratio of productivity shocks in the two countries lies above or below certain critical values. Numerical simulations showed that these constraints significantly reduced the cross-country correlation of consumption relative to the complete-markets case.

In 'A General Equilibrium Model of Pricing to Market', **Michael Devereux** (University of British Columbia) documented a set of empirical findings concerning the international effects of monetary policy, and developed a dynamic general-equilibrium model whose properties could be compared to the empirical findings. Two important features of the model were the presence of nominal rigidities (in the sense of sluggish adjustment of goods-market prices), and the ability of some firms to price-discriminate between national markets – the 'pricing-to-market' phenomenon. Using post-1973 data for Germany, Japan, the United Kingdom, and the United States Devereux showed that a US monetary expansion generated four effects: a persistent US real depreciation; a (slight) rise in US, relative to foreign country, output; a significant relative drop in the US short-term interest rate (a liquidity effect); and a J-curve effect in the US trade balance. Devereux used his calibrated model to examine the impact of a monetary shock on these variables, and found their responses strikingly consistent with his empirical findings about the workings of the international monetary transmission mechanism.

**Gregor Smith** (Queens University, Ontario) praised Devereux's model for its stress on realistic deviations from the law of one price; its derivation of analytical impulse-response functions; and its analysis of the degree of pricing-to-market. Smith also noted that the model performed better than the competitor two-country model with slow adjustment of portfolios. But he called into question several other features. First, other recent research had found relatively small roles for monetary policy shocks on output in G-7 countries. Second, what really matters is a shock to relative monetary policy across countries. Grilli and Roubini had provided some quantitative measures of such shocks, and their VAR identification could be used as a benchmark here. Smith also suggested graphing the theoretical impulse-response functions with the historical confidence intervals, to see whether the theory produced effects of a realistic scale.

Finally, given the success of Devereux's paper, some research puzzles remained to be resolved: it seemed an odd dichotomy that monetary shocks could explain international price movements, while productivity shocks could explain quantity movements; historical sample paths could tell us the relative importance of the two types of shocks in specific time periods; and in the study, real exchange rates remained closely linked to international relative consumption, yet there was little evidence of such a link.

**Robert Kollmann** (Université de Grenoble) also praised the paper for extending – in several interesting directions – the growing literature on international business-cycle models with explicit microfoundations. He focused particularly on the role played by allowing pricing-to-market behaviour to be a variable parameter – in contrast to the previous literature, which assumed either that all firms or no firms engaged in such behaviour – and on the role of the speed of adjustment of the aggregate price level in explaining the empirical effects which Devereux had identified.

The second theme of the conference papers was recent developments in analyses of the equity premium puzzle and asset prices in general equilibrium. **Fernando Alvarez** and **Urban Jermann** (both University of Pennsylvania) presented their paper on 'Asset Pricing when Risk Sharing is Limited by Default'. They studied the asset-pricing implications of an endowment economy when agents can default on contracts that would leave them otherwise worse off. They specialized and extended the environment defined by Kocherlakota (1995) and Kehoe and Levine (1993) to make it comparable to standard studies of asset pricing and they characterized efficient allocations for several special cases. By introducing a competitive equilibrium with complete markets and endogenous solvency constraints that prevent default at the cost of reduced risk-sharing, they derived a version of the classical welfare theorems for this equilibrium definition. They characterized the pricing kernel, and compared it with the one for economies without participation constraints: interest rates are lower and risk premia can be bigger depending on the covariance of the idiosyncratic and aggregate shocks. Quantitative evaluation showed that, for reasonable parameter values, the relevant marginal rates of substitution fall within the Hansen-Jagannathan bounds. The paper argued that the results for risk-free rates and equity premia were very encouraging.

**Michele Boldrin** (Universidad Carlos III, Madrid, and CEPR) commented that the authors' contribution had been three-fold, first, it had rendered Kehoe and Levine's work operational for asset-pricing purposes; second, it had characterized the equivalence between participation and short-sale constraints; and third, it had drawn out the asset-pricing implications of aggregate versus individual income volatility. But the

model's 'black box' also concealed several features. For example, the equilibrium allocations were very near the autarkic outcome; riskless bonds were priced entirely by agents who expected to be in trouble next period; and individual and aggregate risk were (strongly) correlated. Thus, clearer pictures were needed of the amounts of trading and of consumption variability, especially for shareholders.

**Harris Dellas** (Université de Louvain) explored some of the implications of the authors' introduction of the possibility of default, and suggested that, in equilibrium, both the level of debt and the real interest rate must remain low enough to prevent default. He also proposed several extensions to the model that might improve its encouraging, but still incomplete, contribution to resolution of the price-anomaly puzzles.

'Asset Prices and Business Cycles: Successes and Pitfalls of the General Equilibrium Approach' was the title of the paper by **Martin Lettau** (Humboldt Universität zu Berlin and CEPR) and **Harald Uhlig** (CentER, Tilburg University, and CEPR). Noting that risk premia in the consumption capital asset pricing model depend on preferences and dividend, Lettau and Uhlig developed a decomposition method allowing separate treatment of both components. They showed that preferences alone determine the risk-return trade-off measured by the Sharpe ratio. In general, this trade-off depends on the elasticity of a preference-based stochastic discount factor for pricing assets with respect to the consumption innovation. Depending on the particular specification of preferences, the absolute value of this elasticity can coincide with the inverse of the elasticity of the inter-temporal preference substitution. The authors demonstrated that preferences based on a small elasticity of substitution, such as habit formation, produce small risk premia once agents are allowed to save. Their paper further investigated the properties of asset prices in a real business-cycle (RBC) model, in which the Sharpe ratio was used as a benchmark for the implied risk-return trade-off. Computing in a log-linear framework, they found that the model's Sharpe ratio and risk premia for equity and bonds were far too small. Furthermore, in sharp contrast to the data, the long-bond premium tended to be larger than the equity premium. Future research challenges thus lay in finding preferences which implied a higher Sharpe ratio and in driving a larger wedge between the risk premia of equity and bonds via more reasonable dividend processes.

**Morten Ravn** (University of Southampton) argued that Lettau and Uhlig had produced a pedagogical piece nicely illustrating the problems with accounting for the behaviour of asset prices in dynamic stochastic general-equilibrium models. Their focus on the Sharpe ratio also seemed helpful. Yet, by utilizing a 'stripped-down' version, well known to be unable to

account for asset-price moments, they had not really given their RBC model a fair chance of doing the required job. Ravn surmised that basic extensions – such as the inclusion of more than one exogenous shock to the economy, capital adjustment costs, truly permanent shocks, and time non-separable preferences – would not help significantly. More fundamental changes, incorporating various types of market imperfections, were probably needed. But the question was not only whether such models could account for (say) observed values of the mean equity premium or of the Sharpe ratio. Time-series data suggest that the Sharpe ratio itself deviated from its expected relationship with the inter-temporal marginal rate of substitution in the late 1930s, and this behaviour also remained to be explained.

**David Webb** (LSE) questioned the relevance of the equilibrium concept in finance, given the advances generated by the 'no arbitrage' requirement, for example, in the theory of option pricing. Nonetheless, he suggested the paper could be improved by disentangling risk aversion and the elasticity of inter-temporal substitution, smoothing out labour income, cutting out smoothing channels on the production side, and limiting leverage in such a way that bonds, which are assumed riskless, remain riskless.

'Junior Can't Borrow: A Resolution of the Equity Premium Puzzle', was written by **George Constantinides** (University of Chicago), **J B Donaldson** (Columbia University) and **Rajnish Mehra** (University of Chicago and University of California, Santa Barbara). They presented an overlapping-generations model incorporating heterogeneous agents, idiosyncratic income risk and borrowing constraints. Wages are exogenously low in youth, high in middle age and zero in old age. Thus unconstrained agents will borrow to consume when young, hold stocks and bonds when middle-aged, and dissave when old. On the other hand, agents constrained not to borrow do not hold any assets when young. The main result, obtained by calibrating the model to US data, is that two factors are necessary to generate a significant risk premium: borrowing constraints and high variability of dividends. In particular, imposing a borrowing constraint on the young significantly increased the risk premium, relative to an unconstrained economy.

**Andrew Abel** (University of Pennsylvania) acknowledged that the paper's finding helped shed light on the equity premium puzzle, but he also noted five shortcomings: 1) The borrowing constraint was simply imposed. 2) The model used an indexed perpetuity, rather than nominal long-term government debt subject to inflation risk. 3) There was an apparent inconsistency in the national income accounting treatment of interest on government debt. 4) In the borrowing-constrained equilibrium, young

consumers do not have a direct role in asset markets.  
5) The model's empirical successes were limited.

**Raman Uppal** (University of British Columbia) noted that, since representative-agent models have not been very successful at explaining the magnitude of the equity risk premium, the innovation of this paper was to introduce heterogeneous agents who face borrowing constraints. He suggested that the authors examine the robustness of their results with respect to their choices about the number of cohorts and the intercohort income ratios. They might also consider adding a bequest function, and making the labour-leisure choice endogenous.

The final conference theme dealt with the stylized facts and empirical findings about the relationships between financial markets and business cycles.

**J Ignacio Peña** (Universidad Carlos III, Madrid), **Fernando Restoy** (European Monetary Institute and CEPR) and **Rosa Rodríguez** (Universidad Carlos III, Madrid) presented a paper on 'Real Activity and Stock Returns: A General Equilibrium Approach'. The authors brought together the separate and important topics of the predictability of aggregated stock returns and models of inter-temporal asset pricing. Their general-equilibrium framework allows them to formalize the extensively documented empirical relationship between asset returns and real activity. They then tested their model with a sample of OECD economies.

In the view of **Robert Hodrick** (Columbia University), the paper indicated that stock returns are predictable in some countries but not in others. While there must be some fundamental reason why dividend yields predict stock returns – since that turns out to be true in many countries – high dividend yields are open to two interpretations: either expected returns are high, or dividend growth is going to slow down. It is crucial, therefore, properly to identify the dividend process and the two components. The authors' argument, however, was that industrial production is observed in lieu of dividends, whereas it would have been preferable to use a dividend series directly. Hodrick also made a number of suggestions: first, that the variability of expected returns be determined; second, that time aggregation should be a concern; third, that efficiency would be improved by imposing a requirement that some coefficients which, in principle, should be same across countries, should also be equal empirically; fourth, that the empirical analysis be extended to stock returns in excess of the riskless rate; and fifth, that the stationarity of dividend yields – untrue of Japan, for example – be checked before conducting the econometric analysis.

**Lucrezia Reichlin** (ECARE, Université Libre de Bruxelles and CEPR) believed that the key empirical implication of the model was that the predictability of return on wealth stems from the predictability of

consumption, and that the innovations in returns are related to innovations in consumption in an explicit way. The model also implied a volatility constraint on returns. On the authors' econometric strategy, Reichlin had three concerns: that output and stock returns were used as proxies for consumption and returns on wealth; that the volatility of the results depended on the assumption that the agents and the econometrician had the same information set; and that the authors had fitted a univariate model while the theory implied a bivariate framework for money and output.

The empirical interdependencies among asset returns, real activity and inflation, from a multicountry and international point of view, were the subject of 'Stock Returns, Term Structure, Inflation and Real Activity: An International Perspective', written by **Fabio Canova** (Universitat Pompeu Fabra, Università degli Studi di Modena and CEPR) and **Gianni de Nicoló** (Brandeis University). Canova and de Nicoló reached three main findings: that nominal stock returns were significantly related to inflation only in the United States; that the US term-structure of interest rates predicted both domestic and foreign inflation rates, while foreign term-structures lacked this predictive power; and, that innovations in inflation and exchange rates induced insignificant responses in real and financial variables. They also provided an interpretation of the dynamics and some policy implications of these results.

In discussion, **Enrique Sentana** (CEMFI, Madrid, and CEPR) claimed that the monthly stock returns used in the paper, and computed using averages of daily prices, induced spurious serial correlation and affected the dynamic interrelationships. There was also an issue of compatibility between dividend and stock prices, as well as the combination of seasonally adjusted and unadjusted data. The authors' use of semi-automatic identification schemes was also controversial. An example based on US and UK stock returns showed that the results were difficult to interpret and very sensitive to the ordering of the variables.

**Richard Lyons** (University of California, Berkeley) thought that the paper's two objectives – namely, to assess the robustness of certain empirical results for the United States, and to examine the propagation of various shocks through the world economy – were difficult to realize given the unrestricted VAR approach adopted. Consequently, the paper could usefully use an organising theme. He suggested three (admittedly provocative) possibilities. The first was whether exchange rates 'mattered', at least within the context of the paper's VAR approach. This suggestion derived from the authors' striking finding that exchange rate innovations did not affect either real or financial variables. While the answer to the question was clearly 'no', the argument could be developed by drawing on recent papers – for example, by Paul

Krugman and by Charles Engel – that argue that exchange rates have little effect on agents' decisions.

Lyons's second suggested theme was that the United States is big and all other countries are small. This corresponded to the finding by Canova and de Nicoló that propagation is largely one-way – from the United States to other countries. Lyons wondered whether this characteristic had diminished over time with the integration of markets and the reduced US weight in world goods and financial markets. The third possible theme was that asset markets appeared more integrated than goods markets. This corresponded to the authors' conclusion that innovations to US stock returns were instantaneously transmitted across the world, whereas innovations to industrial production tended to be propagated with a lag. The authors' evidence on this proposition was thin, but their approach represented an interesting vehicle for investigating it further.

'Some International Evidence on Stock Prices as Leading Indicators of Economic Activity' was written by **Anthony Aylward** (George Washington University) and **Jack Glen** (International Finance Corporation, Washington). They noted that most asset-pricing theories suggest that asset prices are forward-looking and reflect market expectations of future earnings. This suggested that, by aggregating across companies, aggregate market prices might be used as leading indicators of future growth in aggregate income, as well as its constituent components. They compiled data from 23 countries, including 15 developing countries, to examine the ability of stock-market prices to predict future growth in income, consumption and investment. They found that stock prices generally did have predictive ability, but with substantial variation across countries. Moreover, stocks were substantially better leading indicators of investment than of GDP or consumption. Despite this, however, stock prices did not generally increase forecasting ability as measured by root mean squared error in out-of-sample forecasting equations.

For **Gordon Bodnar** (University of Pennsylvania), the paper's contribution was that it took a question hitherto looked at only with US data and considered it across a large cross-section of countries. The results suggested a generally consistent pattern between lagged stock prices and future income changes, as well as its components. While further results suggested that lagged stock prices did not improve the predictive power of simple AR1 models for national income and its components, they did reveal that, directionally, stock returns outperformed a random guess as to the direction of future income changes. Referring to the possible strength of the relation between stock prices and future real economic activity, Bodnar commented that a stock-price change can be decomposed into three components: revisions in the future risk-free rate;

revisions in future dividends; and revisions in the excess-return premium.

In this framework, the potential predictive power of stock returns for real activity comes from the fact that national income and dividends are likely to be positively correlated. However, decomposition studies had suggested that changes in dividends account for only about 15% of total stock variation, with changes in the excess-return premium accounting for the majority of the variation. While some ability to predict future income through dividends was possible, it seemed unlikely that changes in excess-return premiums would be correlated with future income. Thus, as suggested by the evidence presented, any link between stock returns and future income changes was likely to be small, and rather noisy.

Bodnar added that the relation of consumption and investment to lagged stock returns may be stronger than the authors' data suggested, because the large cross-section of countries required the use of broad definitions of consumption and investment, and it was likely that some components of these measures would not be very sensitive to stock returns. It would be interesting to see the analysis extended to predictions of government spending and net exports. Finally, a model was needed to explain the cross-sectional differences in the link between stock returns and future income changes. Variables such as market volume, market capitalization to GDP and export ratios could be used to see if the relationship varied systematically across countries.

In conclusion, **Gabriel Perez-Quiros** (Federal Reserve Bank of New York) offered the authors some suggestions for improving the exercises undertaken in the paper. These were, first, including other variables in the estimation in order to reduce specification error, and considering the reverse causation between stock prices and macrovariables; second, using out-of sample tests; third, testing for structural breaks in the data; and, finally, refining the test statistics by using Monte Carlo methods to determine appropriate success ratios for the observed patterns of autocorrelation.

## Empirical Macroeconomics

### Modelling Issues

A CEPR conference on 'Model Specification, Identification and Estimation in Empirical Macroeconomics' was held in Perugia on 10/11 January 1997. The aim of the conference was to bring together academics and central bankers from both sides of the Atlantic to discuss a variety of econometric analyses of the monetary transmission mechanism. While the issues are of obvious policy relevance for central bankers and macroeconomists in general, they remain controversial both at the theoretical level and at the level of measurement. In recent years, there has emerged a body of empirical research relating to the US experience. This has generated debate both about methodological issues – for example, about the appropriate analytical tools – and about establishment of the 'stylized facts'. The conference organizer was **Lucrezia Reichlin** (ECARE, Université Libre de Bruxelles and CEPR), and the conference hosts were Banca d'Italia.

The first paper was 'Modelling Money' by **Lawrence Christiano** (Northwestern University), **Martin Eichenbaum** (Northwestern University) and **Charles Evans** (Federal Reserve Bank of Chicago). Much of the literature on monetary shocks assumes that monetary policy is endogenous in that such shocks induce policy reactions. Quantitative general equilibrium monetary models, however, assume that this is exogenous. This paper set out to reconcile the two views. The authors showed that there is observational equivalence between the endogenous and exogenous policy rules. On the basis of this result – which does not depend on the uniqueness of the equilibrium – the paper proposed a methodology for estimating an exogenous monetary policy rule which does not induce mis-specification, and in which a comparison is made of the economy's response to monetary policy shocks under both an endogenous and an exogenous policy rule.

The procedure involved estimating a VAR model with endogenous policy, computing the impulse response function to monetary shocks, and then estimating statistically admissible univariate exogenous representations of monetary policy rules. Finally, an exogenous policy rule is chosen which is able to reproduce the estimated responses to monetary shocks under an endogenous rule. The authors applied this procedure to the United States for the period 1965–85. They found that a contractionary shock induced a rapid hump-shaped output response, a delayed price response, and a reduction of money. The results were sensitive to the monetary aggregate chosen.

In view of the observational equivalence result, the authors argued that economic models should take into account both representations of monetary policy.

They suggested this could be done by incorporating differential short-term elasticities for narrow and broad monetary aggregates, and they constructed a limited-participation model of credit-market imperfections which reproduced the result.

**Charles Bean** (LSE and CEPR) suggested that, since only a small fraction of the variation of the money stock appeared to be caused by monetary policy shocks, the procedure should also be used to confront the effects of non-monetary shocks. But he also questioned whether the approach would always lead to reliable, statistically 'consistent' inference, since it was unclear what the monetary 'shocks' corresponded to in reality. While they might reflect random optimization errors, or 'trembles' by policy-makers, the model did not allow for similar errors by private agents. But the shocks could also plausibly be interpreted as reflecting private knowledge about the state of the economy that is not available to the econometrician, in which case they would no longer be exogenous. **Lucrezia Reichlin** (ECARE, Université Libre de Bruxelles and CEPR) suggested the need for a better sensitivity analysis with respect to the identification scheme, and **Helmut Lütkepohl** (Humboldt-Universität zu Berlin) noted that co-integration issues, which were not considered, may alter the results.

Since much of the literature on measuring monetary policy using identified VARs focuses on the United States, it in effect considers only closed-economy models. By contrast, policy discussions on monetary stances in open economies often use monetary conditions indices (MCIs), which include exchange rates. In 'Measuring Monetary Policy in the G-7 Countries: Interest Rates Versus Exchange Rates', **Frank Smets** (Bank for International Settlements and CEPR) sought to reconcile the two approaches. In considering the measurement of monetary policy shocks in an open-economy framework for the G-7 countries in the post-Bretton Woods and EMS-ERM periods, Smets showed that the exchange rate played a significant role.

In a simple model, the paper argued that targeting a weighted average of the real interest rate and the real exchange rate in response to excess demand shocks is an optimal monetary policy reaction function. The optimal weights are based on the elasticities of aggregate demand with respect to the real interest and exchange rates, which may depend in turn on the openness of the country. The model also suggests a number of identification restrictions. In particular, within a four-variable VAR, which includes output, prices, a three-month interest rate and the exchange rate, Smets showed how knowledge about the weight applied in the MCI can be used as an identification restriction to distinguish unilateral monetary policy shocks from policy responses to exogenous

## Joint CEPR/NBER ISIT Economic Geography Seminar

The biannual meeting of ISIT (the International Seminar in International Trade), organized jointly by CEPR and NBER, was held in Paris on 23/25 May 1997. The conference focused on economic geography. It was organized by **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR), **Robert Baldwin** (University of Wisconsin) and **Jacques Thisse** (CORE, Université Catholique de Louvain, CERAS-ENPC, Paris, and CEPR). The papers presented were as follows:

'Economic Structure and Local Growth: An Econometric Study on France, 1984–93', **Pierre-Philippe Combes** (CREST-INSEE, Paris)

'Decentralization, Democracy and Economic Development', **Gilles Duranton** (LSE)

'Growing Locations: Industry Location in a Model of Endogenous Growth', **Philippe Martin** (Graduate Institute of International Studies, Geneva, CEPR and CEPR) and **Gianmarco Ottaviano** (Università di Bologna, Università Bocconi, Milano, and CEPR)

'The Rise and Fall of Regional Inequalities', **Diego Puga** (LSE)

'Economic Geography and Comparative Advantage', **Luca Antonio Ricci** (International Monetary Fund)

'Economic Geography, Comparative Advantage and Trade within Industries: Evidence from the OECD', **David Greenaway** (University of Nottingham) and **Johan Torstensson** (Lunds Universitet, and CEPR)

'Skilled Labour, Migration and Regional Growth', **Riccardo Faini** (Università degli Studi di Brescia and CEPR)

'Agglomeration and Endogenous Capital', **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR)

'Firm Heterogeneity, Labour Marketing Pooling, and the Formation of Local Labour Markets', **Konrad Stahl** (Universität Mannheim and CEPR) and **Uwe Walz** (University of Bochum)

'Determinants and Effects of Direct Investment: Theory and Applications to Eastern Europe', **James Markusen** (Universität Pompeu Fabra, and CEPR) and **Anthony Venables** (LSE and CEPR)

'High Tech Spatial Evolution', **Mark Beardsell** (Brown University) and **Vernon Henderson** (Brown University)

'Economic Geography and Regional Production Structure: An Empirical Investigation', **Donald Davis** (Harvard University) and **David Weinstein** (University of Michigan)

'The Rise, Decline, and Return of Geographical Concentration', **Paul Krugman** (MIT and CEPR)

exchange rate shocks. His identification scheme encompassed the extreme cases of targeting often used in the VAR literature, and also allowed for a sensitivity analysis of the estimated effects of monetary policy to the assumed weight.

Several results emerged for the G-7 countries, excluding the United States: 1) For all countries, except the United Kingdom, the case of pure interest-rate targeting was generally rejected. In the UK case, there were signs of a more general mis-specification of the model. 2) For almost all countries, the case of pure exchange rate targeting was also rejected. 3) The weight attached to the exchange rate differed across countries, being larger for those – Germany, France and, to a lesser extent, Italy – in the ERM than for the others. 4) Although the role of the exchange

rate differed across countries, the estimated effects were generally consistent with theory. A contractionary monetary policy shock leads to an increase in the real interest rate, an appreciation of the real exchange rate, and a fall in output and prices. 5) The sensitivity of the estimated impulse-response functions to the weight is low in Germany and Japan, but larger in other countries.

**Daniele Terlizzese** (Banca d'Italia) raised questions about identification issues. First, while Smets had assumed a vertical long-run Philips curve, the specification of the paper implied that persistent demand and/or supply shocks would have long-run output effects. Since this did not rule out a long-run output-inflation relationship was there not a contradiction? Second, Smets measured a monetary

policy shock as a shock to the inflation target. Again, this appeared contradictory in that the inflation target is a time-series process yet, given the theoretical objective function of the monetary authority, the target should be constant. **Jérôme Henry** (European Monetary Institute) suggested introducing commodity prices to capture the linkages between exchange rates and prices and, eventually, resolving some strange results. He also asked whether changes in the ERM might have introduced time instability over the period analysed.

'Measuring Monetary Policy with VAR Models: An Evaluation. Does Germany Differ From the US?', by **Fabio C Bagliano** (Università di Torino) and **Carlo A Favero** (IGIER, Università Bocconi and CEPR), also investigated monetary policy shock issues. These included model specification, particularly the choice of sample period; the measurement of shocks, through comparing those identified in a VAR with 'computed' shocks based on observable financial-market variables; and the role of the long-term interest rate in transmitting shocks. The authors examined these questions in a structural VAR for the United States over the period 1965–88. Their identification assumptions were (a) no contemporaneous reaction of macroeconomic to monetary policy variables; (b) recursive contemporaneous relations among the macro variables; either full adjustment of non-borrowed reserves to shocks on the demand for total reserves and for borrowed reserves, or adjustment only in respect of demand for total reserves, or adjustment to neither shock.

On the specification issue, the authors concluded that the model is stable over a period which covers a single monetary regime. Specification and parameter stability tests, however, revealed that the estimated VAR model was mis-specified and unstable over the whole sample period 1965–88, but was stable for 1988–96. On the measurement issue, they compared four measures, one relying on the structural VAR they adopted, one given by the difference between the 30 days' Fed interest rate and the 30 days' Fed funds futures contract, a third based on the changes in the three months' interest rate at the dates of monetary policy announcement, and the fourth being the difference between observed and expected overnight rates at the dates of monetary policy meetings. The first three measures had low correlations, but including them in the VAR yielded similar results in terms of responses to the shocks. The last measure had a very low correlation with the others and yielded very different results. Finally, the authors showed that the long-term interest rate is a significant determinant of the monetary policy reaction function.

**Frederic Mishkin** (Federal Reserve Bank of New York and NBER) questioned the usefulness of VAR analysis for understanding monetary policy. VAR analysis provides information about the responses to shocks, not about the transmission of monetary

policy. Furthermore, monetary policy shocks which may be interpreted as surprises may not correspond to any real policy. The many arguments in favour of a transparent monetary policy also favour no monetary policy surprise: a transparent monetary policy may solve the time-inconsistency problem, reduce political pressure and decrease uncertainty. Mishkin also noted a surprising result of the paper, namely the low correlation among alternative measures of shocks which nonetheless yield similar impulse response functions. He suggested these outcomes may have stemmed from measurement errors, but he also queried the value of the impulse response functions.

**Francis Y Kumah** (CentER, Tilburg University) presented a paper on 'The Effect of Monetary Policy on Exchange Rates: How to Solve the Puzzles'. Empirical analyses of monetary policy shocks have generated two theoretical puzzles, namely the forward discount bias and exchange rate puzzles. First, there has been a failure to find, after a negative monetary policy shock, an initial appreciation followed by a gradual depreciation, as would be the case if uncovered interest rate parity held; second, there is the tendency of the domestic currencies (of non-US G-7 countries) to depreciate against the US dollar following domestic monetary tightening.

Kumah investigated whether these puzzles resulted from the measurement of monetary policy shocks based on particular identification schemes. He compared the results of a fully recursive model, a semi-recursive model based on the actual procedure of the Federal reserve system, and a structural VAR model which explicitly modelled international monetary policy interdependence. He found that the latter model yielded results most consistent with theory, while a fully recursive identification scheme generated both the forward discount bias and exchange rate puzzles. Other results were that the structural VAR model revealed significant monetary policy interdependence; and that exchange rate fluctuations were owing to exchange rate shocks and to both domestic and, to a lesser extent, foreign monetary policy shocks.

**Fabio Canova** (Universitat Pompeu Fabra and CEPR) raised questions about the specification and identification of the structural VAR model. He also drew attention to a high degree of short-run variability in the results. Concerning the choice of variables, he suggested first that measurement errors would be avoided by using foreign prices or inflation, rather than the real exchange rate, and second, that unemployment rates are poor indicators of labour-market characteristics in Europe. On the identification issue, he noted that the foreign interest rate in the model had been related to shocks to non-borrowed reserves and the exchange rate, but not to shocks to total reserves and the Fed Funds rate – a strong assumption. In addition, the exchange rate had been assumed to depend contemporaneously on all



variables in the system, possibly contradicting the fact that exchange rate markets are forward-looking. Canova further argued that, since the monetary policy reaction function depends on all variables in the system, the identification of the real sector should be considered more carefully.

**Frank Smets** also questioned the identification scheme, arguing that it was legitimate to omit one transmission channel for foreign output shocks, since such shocks contemporaneously affect domestic output but not the domestic interest rate. Furthermore, there is no restriction on the contemporaneous relation between the exchange rate and the foreign and domestic interest rates.

In 'Are the Effects of Monetary Policy Asymmetric?', **René Garcia** (Université de Montréal) and **Huntley Schaller** (Carleton University) analysed the effects of monetary policy on the growth rate of real output according to the state of the business cycle and the probability of a regime-switch. Asymmetries between expansions and recessions may result from a liquidity trap, an L-shaped curve, or finance constraints. The authors found evidence that asymmetries did exist. They also found support for the view that interest rates affect the probability of a regime-switch. Garcia and Schaller argued that VAR models are not appropriate for studying asymmetries. Consequently, they opted instead for Markov switching models which relate the dynamics of output growth to monetary policy shocks according to the state of the economy, and in which the probability of a regime-switch may depend on monetary policy shocks.

The paper's findings were that: a contractionary monetary policy shock lowered output growth; this effect was stronger in a recession than during expansion; such a policy shock increased the probabilities of moving from expansion to recession and of staying in recession; and successive expansionary monetary policy shocks substantially increased the probability of moving out of recession. These results were robust with respect to a wide variety of alternative assumptions, data classifications and variables.

**Helmut Lütkepohl** (Humboldt Universität zu Berlin) commented that the results raised serious questions for analyses that do not take into account the possibility of asymmetries. In particular, the impulse response functions derived from linear models may be misleading. He enquired why the authors had not used multivariate Markov switching models, but also raised the possibility of using other types of non-linear models, such as smooth-transition models, in order better to capture the differences between recession episodes and between expansion episodes. He also noted the need to pay more attention to the order of integration and cointegration of the variables. In response, Garcia argued that multivariate models would render interpretation of the states of recession

and expansion more difficult. He agreed that smooth-transition models might be a good option in multivariate systems, not least for incorporating unobserved variables such as thresholds, but noted that such models raise serious estimation difficulties.

**Lawrence Christiano**, who was impressed by the very large increase in the goodness of fit between the VAR models and the Markov switching model, noted that the effect of a positive monetary shock was a fall in interest rates followed by an increase in output. This held in expansions and in recessions. However, the paper showed that the magnitude of this effect differed between recessions and expansions. **Ignazio Visco** (Banca d'Italia) found the results of the paper counter-intuitive. In particular, the effect of monetary policy on the probability of moving out of recession was larger than that suggested by central bankers. There was also a need to pay more attention to the interaction between output and prices, especially in recession.

'Money and Output: A Reliable Predictor or an Intermittent Signal?' was the title of a paper written by **Anthony Garratt** (Department of Applied Economics, Cambridge) and **Andrew Scott** (LBS and CEPR). They analysed the links between monetary variables and output in the United Kingdom over the period 1969–95 by investigating several questions: whether money was an important source of output fluctuations; whether money predicted output; which monetary aggregate was the most important source of output fluctuations; whether the money-output relationship varied over time; and whether the relationship was asymmetric, differing in recessions as compared to expansions.

Using a structural VAR identifying nominal (monetary) shocks as having no permanent impact on output, the authors claimed first, that real rather than nominal shocks explained the largest part of output fluctuations. Since money changes may move the aggregate demand curve, and hence alter prices, they also considered the link between prices and output. However, they found no correlation between the cyclical components of output and of prices with different leads and lags. Second, correlations and spectral analysis of the cyclical components of the variables revealed that, in contrast to long-term interest rates, monetary aggregates did not lead output over the business cycle. This result was robust with respect to different detrending techniques, although Granger causality tests indicated that M0 predicted output over the whole sample, and that personal credit did likewise after 1992.

Third, using a methodology that considered each expansionary and contractionary episode separately, Garratt and Scott found that the relationship between money and output was very unstable across monetary aggregates. Fourth, the relationship between each monetary aggregate and output was very unstable

across business-cycle episodes. Furthermore, the results of stability tests suggested that the transmission mechanisms of monetary policy shocks had changed over time. Some regularities were identified, however: M0 and the short- and long-term interest rates have a stable correlation structure and relationship with output, especially in expansions. Finally, while the relationship between money and output was very unstable across expansions and recessions, there was no evidence of asymmetry.

In view of these results, the authors suggested that monetary aggregates were only one source of relevant information for setting interest rates, and that the importance of supply shocks made it significant to assess a wide range of non-monetary variables as well. They also argued that the differential behaviour of monetary aggregates across different business cycles suggested that, in any given business cycle episode, different shocks and different monetary transmission mechanisms might be at work. Consequently, while monetary aggregates might provide some useful information about the current setting of interest rates, extracting this information was an extremely complex business.

**Harald Uhlig** suggested the paper's findings be compared with other VAR results and with the empirical evidence for the United States. On the finding of differences from cycle to cycle, he wondered about the possible causes of such changes. Candidates included oil prices, exchange rate regimes, policy regime changes, and developments in payment methods. Uhlig also questioned whether the paper's purely empirical analysis could support the policy implications drawn by the authors, particularly with regard to the superiority of nominal GDP targeting over monetary targets. He stressed that the fact monetary aggregates behave differently across business cycles does not imply that policy also needs to be different across cycles. **Frederic Mishkin** argued that monetary aggregates may be useful as a simple signal to the public. The result of this paper (and other papers at the conference), however, revealed that monetary aggregates are not used in this way.

**Lawrence Christiano** also pondered the meaning of differences between cycles. In particular, should this finding be used to criticize existing monetary models? To the list of potential causes suggested by Uhlig, Christiano added taxation schemes. He disagreed with a suggestion from Scott that, for the operation of monetary policy, central bankers should be interested in elements of a VAR analysis other than the impulse response function of output to monetary shocks. VARs and estimated impulse response functions were an excellent means of trying to discriminate between different monetary models, and research on them could contribute to the design of monetary policy rather than merely provide input into day-to-day monetary policy decisions.

**Eugenio Gaiotti, Andrea Gavosto and Giuseppe Grande** (all Banca d'Italia) were the authors of 'Monetary Policy and Inflation in Italy in the 1990s: Interpretations and Evidence'. Their paper investigated the relative importance for inflation of various transmission mechanisms that have featured in the recent debate about Italian monetary policy strategy over different periods. These included the impact on inflation of aggregate demand fluctuations, inflation expectations, the 1992 lira depreciation, the 1995 lira appreciation and expectations of the sustainability of the public debt. The paper compared the results of studies based on the Bank of Italy's econometric model with those of a recursive VAR estimated over the period 1985–95.

The authors measured monetary policy shocks as the interest shocks in a recursive VAR for the following variables: output gap, wages, inflation, short-term interest rate, import price (or government default premium), exchange rate and inflation expectations (measured by survey observations). They found that inflation reacted positively to shocks on the output gap, wages, import prices and inflation expectations, but negatively to exchange rate appreciations and interest rate shocks. The effect of inflation expectations was statistically significant. Although shocks to fiscal expectations had a temporary impact on the exchange rate (but no significant effect on inflation), no evidence was found in favour of an hypothesis of fiscal dominance.

The authors used the VAR to focus on the determinants of inflation in 1992–5, following the lira's exit from the ERM. Inflation fluctuations were ascribed to demand shocks, inflation expectations shocks, and exchange rate shocks. From 1992 to mid-1994, the decrease in inflation – despite the adverse effect of the 1992 exchange rate shock – was mostly owing to a fall in demand. The subsequent resurgence in inflation was the result of both positive demand shocks and adverse shocks to inflation expectations. In late-1995, the appreciation of the lira, together with a restrictive monetary policy, slowed down inflation. Thus exchange rate shocks were an important, but by no means the only determinant of inflation.

**Guido Tabellini** (IGIER, Università Bocconi, and CEPR) remarked first that the relative price adjustment phenomenon, which implies that inflation depends on the real exchange rate, was not considered in the paper. He suggested as well that foreign commodity prices, which are exogenous, be used in place of endogenous import prices. With reference to the identification assumptions, he called for more discussion of the sensitivity of the results to alternative schemes. In his view, the paper also placed too little emphasis on the role of costs and wages, which were the main focus of public debate on the causes of accelerated inflation after 1992, and he wondered about the effects of the break in the wages

equation on inflation. **Etsuro Shioji** (Universitat Pompeu Fabra) also questioned the identification scheme for the exchange rate. The assumption that the exchange rate does not affect prices contemporaneously may be valid for Japan, because most Japanese imports are raw materials, but it is a questionable assumption for countries that import mainly finished products. He urged more precise analysis of the import structure before choosing identification assumptions.

**Flavio Padrini** (Minister of Treasury, Italy) had doubts about using inflation expectations in a VAR which already contains an endogenous inflation variable. An interest-rate shock might suffice instead to represent an inflation-expectation shock. On this point, **Charles Bean** argued that an inflation-expectation shock may actually represent another shock which is itself an important determinant of inflation. For **Carlo Favero**, the long-term interest rate or a spread may be such a determinant. He agreed with Padrini that inclusion of both a variable and its expectation raises impossible identification issues, or is redundant. **Lucrezia Reichlin** wondered what the relationship was between the conditional expectation of inflation, as given by the VAR, and expected inflation, while **Ignazio Visco** argued that there should be at least long-run consistency between both.

In responding to Tabellini's comments, Gavosto explained that import prices were used in preference to commodity prices in order to verify the role of foreign producers' pricing policies in transmitting exchange rate shocks to inflation. On the wages issue, wage moderation had been observed after 1992, but it was unclear whether this resulted from a structural break in the labour market or from the effect of demand and unemployment. In the VAR, wage moderation is endogenously determined by adverse demand shocks. In any event, he argued, the strong effect of the output gap on inflation in the VAR is partly transmitted through wages.

In 'The Liquidity Effect and Long-Run Neutrality: Identification by Inequality Constraints', **Ben Bernanke** (Princeton University) and **Ilian Mihov** (INSEAD, Fontainebleau) analysed two issues on which empirical research has reached no consensus: first, the liquidity effect, i.e. the interest rate reduction occasioned by an expansionary monetary-policy shock; and second, the long-run neutrality of money, which implies that monetary-policy shocks have no permanent effect on output.

The authors ascribed the failure to reconcile these phenomena with empirical evidence to the identification assumptions. As an illustration, they showed that, in a bivariate recursive VAR, there is no long-run neutrality of money – a result which is robust with respect to alternative orderings and monetary aggregates. If prices are introduced long-run neutrality may be achieved, but only at the price of

other implausible results. This suggests that the results, and particularly the long-run phenomena, are sensitive to the short-run identification assumptions.

Bernanke and Mihov also addressed the issues of parameter instability, endogeneity of money and robustness with respect to identification schemes. Tests for structural shifts showed little evidence of parameter instability. Switching regression models, however, suggested some instability in the second half of the 1980s. Parameter instability in a bivariate VAR of output and money disappeared when commodity prices were introduced.

The paper relied on an identification scheme which modelled monetary policy as endogenous. It considered two sets of variables – macroeconomic variables (real GDP, GDP deflator, commodity prices) and policy variables (total and non-borrowed reserves, Federal Funds rate) – together with a set of relationship assumptions which yielded a significant liquidity effect and long-run neutrality at intermediate horizons, but not at horizons longer than seven years. A robustness analysis was performed via inequality identification constraints. Following the approach of King and Watson (1993), it specified a range of admissible short-run identification restrictions which imply a liquidity effect, then analysed the long-run responses of the system over this range of identification schemes.

The authors assumed three inequality restrictions covering a set of identification assumptions used in the literature: a downward-sloping demand curve for total reserves; an upward-sloping borrowing function; and Fed smoothing of interest rates (or, at least, non-amplification of demand and borrowing shocks). These constraints implied a range of admissible parameters that produce a liquidity effect. The results indicated first, that the size of the liquidity effect depended on the identification scheme; second, that the response of output to a monetary-policy shock was a monotonically increasing function of the liquidity effect; third, that long-run neutrality of money was rejected for horizons larger than ten years, even where accepted for shorter horizons; and fourth, the size of the liquidity effect was reduced after 1982 and subsequently may have become insignificant.

**Lucrezia Reichlin** questioned the comparison strategy and suggested both other identification schemes and other reasons for the failure to find long-run neutrality of money. In her view, the conference generally had highlighted the need for selection criteria for a general framework in which just-identified models could be compared. Other possible identification strategies included long-run constraints, short-run constraints, shape constraints and constraints that minimized some criterion. She was puzzled by the finding of long-run neutrality at intermediate, but not longer horizons. A possible explanation was the low precision of the long-run

estimates. On the long-run neutrality problem itself, Reichlin proposed an alternative identification scheme which consists in imposing the shape constraint of long-run neutrality at some horizons (around six or seven years) which would give more scope for modelling the Fed's operating procedure.

Overall, the papers presented at the meeting showed that the results of VAR analysis of monetary-policy shocks are sensitive to several factors: the sample periods, and particularly the policy regimes; the business-cycle episodes, where there may be large differences between expansions and recessions; different business-cycle episodes; the identification assumptions; and the monetary aggregate considered. There is thus a need to develop comparison and selection criteria between alternative models, specifications and identification schemes.

The conference also brought forth many different proposals for ways to model and measure monetary policy. One recurrent question was the interpretation of monetary-policy shocks, given the identification assumptions. Further modelling challenges identified were consideration of exchange rate and monetary interdependence issues in open economies and the need to pay more attention to the private and financial sectors. Finally, more attention also should be paid to cointegration issues, first because the omission of cointegration relations may cause inference problems, and second, because cointegration relations may be helpful in the design of long-run identification restrictions.

# WORKSHOPS

## International Trade

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### ERWIT 1997

The annual European Research Workshop in International Trade (ERWIT) was held in Helsinki on 10–14 September 1997, with the Yrjö Jahnsson Foundation acting as hosts. The organizers were **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR), **Anthony Venables** (LSE and CEPR) and **Mika Widgrén** (Yrjö Jahnsson Foundation, Helsinki, and CEPR). Thirteen papers were presented.

The post-war period has been marked by significant trade liberalization between industrialized countries, and there is some evidence that long-term growth rates have increased. In 'Knowledge Dissemination, Capital Accumulation, Trade, and Endogenous Growth', **Dan Ben-David** (Tel Aviv University and CEPR), in a joint work with **Michael B Loewy** (University of Houston), presented a Solow-inspired model which helps to explain the possible positive correlation between trade liberalization and growth. The Solow framework was used because it has long been recognized that it fits well with major empirical facts, but the authors extended it to an open-economy endogenous growth model with knowledge accumulation. They assumed that trade gives a country costless access to knowledge accumulated in other countries, and that this spillover is an increasing function of the trade volume. They showed that even unilateral trade liberalization speeds up the long-term growth rate for all countries, but that the liberalizing country experiences a more positive stimulus than the other countries do.

**Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR) agreed that there may be a positive link between openness, knowledge spillover, and growth, and appreciated the empirical background for the model. He did, however, question the assumption that countries are able to acquire knowledge costlessly from their trading partners, and further found it troubling that the model allows no trade in intermediate goods or capital. This point was also taken up by **Rikard Forslid** (Lunds Universitet and CEPR), who claimed that the growth rate may be more positively affected by trade in capital than by trade in goods.

In 'The Geometry of Specialization', **Joseph Francois** (Erasmus Universiteit, Rotterdam,

Tinbergen Institute and CEPR) and **Douglas Nelson** (Tulane University) stated that division-of-labour/specialization models have become a standard analytical tool, along with competitive general-equilibrium models, in public finance, trade, growth, development and macroeconomics. Yet unlike more traditional models, the specialization models lack canonical graphical representation. This is because they are both new and complex, characterized by multiple equilibria, instability and emergent structural properties under parameter transformation. Given their prominence, the authors argued, the value of a simple graphical representation seems considerable. They developed such a framework, illustrating results from current research on specialization models and explaining why one sub-class of these models was particularly difficult to illustrate easily. **Jan I Haaland** (Norwegian School of Economics and Business Administration and CEPR) praised the authors for having developed a common, simplifying framework for geometric analysis of various models. Yet he also raised the question of how these illustration techniques might be used in practice.

In a joint work with **Philippe Martin** (Graduate Institute of International Studies, Geneva, and CEPR) and **Gianmarco Ottaviano** (Università di Bologna, CORE, Université Catholique de Louvain and CEPR), **Richard Baldwin** presented 'The Geography of Take-Offs: A Model of Growth and Catastrophic Agglomeration', which was a mathematical formalization of some of Rostow's ideas of a development and growth process. There are two initially identical countries in the model, and the society can be described as primitive and traditional when trade costs are high. Moderate trade liberalization may lead to a certain agglomeration of the R&D sector to one of the countries if there are imperfect international knowledge spillovers, and it is during this phase that growth starts to take off. Further trade liberalization leads us to the third stage, which the authors described as the age of mass consumption. The growth rate is now even higher, because the R&D sector becomes completely localized in one nation.

The authors also discussed an extension of the model, with vertical linkages in the innovative sector. This is likely to increase the positive growth effects of trade liberalization in early stages, and to strengthen the agglomeration forces. **Johan Torstensson** (Lunds Universitet and CEPR) argued that the model may have important implications for welfare and policy analysis, since the country which ends up without any R&D sector may well be negatively affected by trade liberalization.

With reference to some empirical work, **Gilles Duranton** (LSE) argued that the role of agricultural productivity in a country's industrialization process is unclear. In 'Agricultural Productivity, Trade and

Industrialization', Duranton built a model which helps to explain this ambiguity, and where the level of trade costs in industrial goods plays a decisive role. When trade is expensive, a take-off requires a high agricultural productivity both to make it profitable to manufacture non-traded intermediate goods and to release labour to this activity. On the other hand, when international trade is inexpensive, low agricultural productivity may be beneficial because it gives the country a comparative advantage in industrial production (basically a Ricardian view). Though high agricultural productivity is harmful in this case, there exist multiple equilibria for some medium level of agricultural productivity. The model's predictions are consistent with historical observations in several Western countries (high international transport costs) and recent experiences in some Asian countries (low international transport costs).

**Kari Ahlo** (Research Institute of the Finnish Economy) pointed out that productivity growth in agriculture and industrial production has been of about the same magnitude, and asked how this fact affected the model's predictions. **Arye Hillman** (Bar-Ilan University) found it troubling that there were no institutions in the model, and emphasized that government interventions in the agricultural sector have been important empirically. He asked whether the model could explain why African countries typically tax agricultural production, while it is subsidized in Western industrialized countries.

**Mika Widgrén** (Yrjö Jahnsson Foundation, Helsinki, and CEPR) presented a paper entitled 'Non-cooperative Bargaining of National and Supranational Interests under Asymmetric Information'. Widgrén proposed a formal model that gave some insight into the bargaining processes that take place between the central (supranational) and local (national) governments in the EU. National governments are assumed to be better informed about national preferences than the supranational government, and this gives rise to asymmetric information. The main purpose of the paper was to analyse the relationship between the supranational player – who has the right to propose – and the national player – who has the right to accept, reject or amend – a proposition. Cases where the amendment opportunities are both known and unknown are discussed, and, in an extension, the informed player is also allowed to give signals to the uninformed player. **Arye Hillman** thought that the institutional structure should be combined with an economic structure. He further argued that an extension to a multiagent model would be desirable, since it is otherwise difficult to see how it is relevant for the EU. Also, **Richard Baldwin** emphasized that the relevance of the model for the EU should be made more clear.

In 'Lobbying and the Structure of Protection', **Olivier Cadot** (INSEAD), **Jaime de Melo** (Université de Genève and CEPR) and **Marcelo Olarreaga** (WTO

and CEPR) extended the influence-driven model of trade-policy determination to include general-equilibrium effects on the supply side resulting from labour-market interaction and intermediate goods. The model's predictions for the structure of protection were related to underlying taste and technology parameters, and the authors derived several analytical propositions that are consistent with the stylized results of the empirical literature. Finally, numerical simulations were carried out for archetypal 'rich' and 'poor' economies. It turned out that the endogenously determined structure of protection was broadly consistent with the observed pattern of protection in rich and poor countries, suggesting the usefulness of the approach. **Akiko Suwa-Eisenmann** (INRA, DELTA and CEPR) made the point that intermediate goods industries are less protected than final goods sectors. She also addressed questions that remained to be answered, such as how labour mobility, labour unions, unemployment benefits and increased concentration may affect the choice of structure and level of protection.

**Sigbjørn Sødal** (Agder College) presented a dynamic general-equilibrium model and used it to show how the combination of growth, firm-specific demand and irreversibility can be related to agglomeration of an industry. In 'Irreversible Investments and Economic Geography', Sødal's results were analogous to those arising from static models based on product differentiation and internal economies of scale. A criterion for stability of agglomeration was developed, depending on trade costs, relative size of the industry and demand parameters. Agglomeration became a more stable equilibrium the larger the uncertainty and the slower the exogenous technological growth. Agglomeration also became more stable the larger the expected endogenous growth of demand at the firm level. In general, agglomeration was more likely the higher the overall degree of irreversibility in the economy. It was also most likely for intermediate trade costs.

**Gianmarco Ottaviano** (Università di Bologna, CORE, Université Catholique de Louvain, Università Bocconi and CEPR) questioned whether the technological growth rate necessarily should equal consumers' discount rate. He also addressed the issue of how a possible geographic separation between entry and activation might affect the sustainability of agglomeration. **Richard Baldwin** noted that firms are assumed to be forward-looking while workers are not.

Examining the accuracy of the predictions of the theory of monopolistic competition regarding import volumes, **Wolfgang Keller** (University of Wisconsin and NBER) and **Simon J Evenett** (University of Michigan and the Brookings Institution) presented their joint work entitled 'On Theories Explaining the Success of the Gravity Equation'. They assessed whether this theory accounted for the empirical

success of the gravity equation. Arguing that certain factor endowment-based theories made the same prediction for import volumes, Keller and Evenett employed resampling techniques to address this model-identification problem. Extraneous information on the allocation of factor endowments in a given sample was used to identify which model was driving trade flows. It was found that the accuracy of the prediction of monopolistic competition theory improved in samples where the factor-endowment allocations generate a higher share of trade in differentiated goods. By an analogous criterion, Heckscher-Ohlin models make much less accurate predictions. The authors concluded that monopolistic competition theory is more likely to account for the success of the gravity equation, especially in explaining trade among industrial nations. **Rikard Forslid** discussed the merits of testing theories of trade in the kind of indirect manner employed in the paper.

**Johan Torstensson** (Lunds Universitet and CEPR), presented 'Demand, Comparative Advantage and Economic Geography in International Trade: Evidence from the OECD', written jointly with **Erik Lundbäck** (Lunds Universitet). The paper provided an empirical analysis of whether Heckscher-Ohlin or economic geography models best seemed to explain intra-OECD trade. Although the study was not conclusive, the results seemed more favourable to geography models than to factor-proportion theories. In particular, it was found that a demand bias in favour of domestic varieties (national preferences) seemed to lead to a net export of the product. There were indications, moreover, that country size affects net trade patterns. These results are consistent with economic geography, but not with Heckscher-Ohlin. Contrary to typical geography-model predictions, however, inter-industry demand biases do not always have a positive impact on net trade. Several seminar participants argued that relative factor endowments could not be expected to play a decisive role in trade between OECD countries. **Pertti Haaparanta** (Helsinki School of Economics) pointed out that there might be general-equilibrium restrictions to this kind of modelling, with consequences for the choice of right-hand-side variables. He also addressed the measurement problems related to the variables denoting demand bias and national preferences.

Reporting on joint work undertaken with **David Greenaway**, **Robert Hine** and **Amanda Greenwood**, **Peter Wright** (all University of Nottingham) addressed the question of how international trade affects wages. The prediction of the simplest Heckscher-Ohlin-Samuelson model is clear: when trade expands, rewards to a country's relatively abundant factor will increase while those to its scarce factor will decline. Predictions from models with imperfect competition are more ambiguous. Earlier empirical research, primarily focusing on the effect of north-south trade on North American wages,

indicated that trade had increased the wage gap between low- and high-skill workers in industrial countries. The magnitude of the skill premium was controversial, however. In 'Does Trade Affect Wages? An Empirical Analysis of the UK', Wright presented an empirical study, based on a specially constructed UK panel data set consisting of 167 industries. The results suggested that, on average, increases in trade – whether emanating from imports or exports – serve to decrease UK wages. On the other hand, no evidence was found to suggest that workers at the bottom end of the income scale were disproportionately affected by trade liberalization.

**Håkan Nordström** (World Trade Organization and CEPR) warned that there may be a specification problem in the model, since the econometric equation was not derived from any particular theory. He also noted that it would have been desirable to distinguish between high- and low-skill workers, rather than the top and bottom of the income scale, if the point of departure was the Stolper-Samuelson effect of trade. **Riccardo Faini** (Università degli Studi di Brescia and CEPR) suspected that the finding of a negative wage effect for exports might be rooted in an endogeneity problem in the estimated equation. **Johan Torstensson** pointed out that there may not be any reason to expect UK wages for low-skill workers to be negatively affected by trade, since a large share of the country's trade takes place with advanced industrialized countries.

In 'Trade under Uncertainty, Multinationals and Incomplete Insurance', **Gerda Dewitt** (University of Glasgow) presented a partial-equilibrium model used to examine the international production allocation of a two-plant risk-averse multinational firm which is confronted with uncertainty with respect to foreign sales. The firm has price-discriminating monopoly power in both markets and faces increasing marginal costs of production in both plants, while producing an identical good. Dewitt focused on the question of how unequal insurance facilities in the firm's home and host markets would influence its international production decision and its level of intra-firm trade. **Heinrich Ursprung** (Universität Konstanz) raised the question of why firms in this model have to set up production abroad. **Johan Torstensson** pointed out that the welfare analysis and conclusions were incomplete.

**Andrea Fosfuri** (Universitat Pompeu Fabra)

presented a paper on 'Intellectual Property Protection, Imitation and the Mode of Technology Transfer', which discussed some of the factors that determine whether a firm chooses to export to a foreign market, set up a subsidiary or license out the production. The empirical literature indicated that technologies transferred to subsidiaries generally were of a newer vintage than technologies transferred through licensing. One reason for this may be fear that the licensee might imitate the transferred technology. Fosfuri's two-period model predicted that, unless imitation was costly or the market size was shrinking, the newest technology would not be transferred via a licence agreement. Moreover, foreign direct investment might be preferred if imitation was relatively inexpensive and fixed start-up costs in the foreign country small, while low transport costs favoured the export opportunity.

**Dermot Leahy** (University College Dublin and CEPR) pointed to some nice paradoxes, such as that lower imitation costs are not always good for the foreign country, and higher imitation costs are not necessarily advantageous for the home country. Leahy also suggested some extensions, such as the inclusion of incomplete information or the assumption that the licensee is unable perfectly to absorb the transferred technology.

Trade theories typically predict that a reduction in trade barriers will lead to an increase in specialization, and **Mary Amiti** (LSE and Universitat Pompeu Fabra) presented an empirical analysis of whether this had been true in the EU between 1968 and 1990. Furthermore, Amiti tested whether specialization patterns were consistent with trade theories. In 'Specialization Patterns in Europe', Amiti discussed several specialization indicators, their advantages and shortcomings, and proposed a new index. She found evidence of increased specialization for early joiners of the EU, and sought to explain why this had happened. Given that the EU countries have different relative factor endowments, Heckscher-Ohlin theory predicts that those industries with 'high' factor intensities should be the most geographically concentrated. This prediction was not supported by the evidence. There was some evidence, however, that industries with high economies of scale, and industries with significant vertical linkages, had become more concentrated. Both these findings were consistent with economic geography literature, and the former was also consistent with the so-called new trade theory.

**Riccardo Faini** (Università delgi Studi di Brescia and CEPR) did not find the lack of support for Heckscher-Ohlin theory surprising. First, there is reason to believe that relative factor endowments in the EU are quite similar at any given moment of time, and, second, the differences presumably have decreased over time. This also suggested that an explicit dynamic model was needed. **Richard Baldwin**

stressed that the decline in trade costs had not been continuous, and that it had affected the old industries very differently. He proposed an analysis also of countries that had not liberalized their trade. **Karen Helene Midelfart Knarvik** emphasized that Amiti's study did not distinguish between intra- and inter-industrial linkages. With the latter kind of linkages, it was not necessarily true that economic geography models would predict that trade liberalization would lead to more concentration.

## EMU

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### North vs South?

A joint CEPR/ESRC workshop on 'North versus South? The Political Economy of EMU' was held in London on 15 September 1997. The workshop, which received financial support from HM Treasury and fell within the ambit of the International Macroeconomics programme, was organized by **Marcus Miller** (University of Warwick and CEPR) and **Michael Wickens** (University of York and CEPR). A major objective of the workshop was to reconsider earlier views that the blocking power of those excluded from a narrowly defined EMU would be sufficient to ensure either a broad EMU or no EMU at all.

**Paul De Grauwe** (Katholieke Universiteit Leuven and CEPR) opened the proceedings with a paper on 'Prospects of a Mini Currency Union in 1999', an updated version of his earlier CEPR Discussion Paper. De Grauwe argued that the countries excluded from European Monetary Union (EMU) will use their negative voting power to bar the entry of some core countries. Over the past year, as the fundamentals defined by the Maastricht Treaty had converged, at least for countries willing to participate in EMU, the distinction between 'core' and 'periphery' had become quite fuzzy. This had now effectively ruled out the German game plan whereby the Maastricht convergence criteria would enable some (core) countries to form a mini currency union. Indeed, looking at the criteria – and with a flexible interpretation of the Maastricht Treaty – a maxi monetary union (with the possible exception of Greece) now appeared feasible. Paradoxically, however, this good news had led to public disenchantment with EMU in Germany because of mistrust of south European countries' economic policies.

De Grauwe argued that Germany's investment in EMU was unique. It had to pay up front the irreversible cost of abandoning an extremely valuable brand – the Deutsche mark – and of forgoing the use of monetary policy, knowing that the (uncertain) returns to EMU would accrue only in the future. The increased likelihood of a broad currency union, including countries believed to be less inflation



## On the Economics of Illegal Migration

A CEPR workshop on the economics of illegal migration was held in Athens on 14/15 February 1997. The organizers were **Louka T Katseli** (University of Athens and CEPR), **Thomas Straubhaar** (Universität der Bundeswehr Hamburg and CEPR) and **Klaus F Zimmermann** (SELAPO, Universität München and CEPR). The workshop was intended to address two themes: case studies assessing the economic impact of illegal migration on various countries and regions; and evaluation of different policy instruments for controlling illegal migration. The following papers were presented:

'On the Political Economy of Immigration Control', **Andreas Jahn** (Europa Kolleg Hamburg) and **Thomas Straubhaar** (Universität der Bundeswehr Hamburg and CEPR)

'Mobility Where Mobility is Illegal: Internal Migration and City Growth in the Soviet Union', **Ira N Gang** (Rutgers University) and **Robert C Stuart** (Rutgers University)

'Creating Illegal Immigrants', **Gil Epstein** (Bar-Ilan University), **Arye Hillman** (Bar-Ilan University) and **Avi Weiss** (Bar-Ilan University)

'Border Control for Illegal Immigration: At Source or at Destination?', **Helena Gaytan-Fregoso** (University of Essex) and **Sajal Lahiri** (University of Essex)

'Dynamics of Immigration Control', **Slobodan Djajic** (Graduate Institute of International Studies, Geneva)

'Processes and Measurements of Illegal Migration', **Georges Tapinos** (IEP, Paris, and New York University)

'Lessons from Regularization Programmes and Measures Taken to Combat Employment of Foreigners in Irregular Situations', **Jean-Pierre Garson** (OECD, Paris) and **Cécile Thoreau** (OECD, Paris)

'A Computable General Equilibrium Assessment of the Impact of Illegal Immigration on the Greek Economy', **Alexander Sarris** (University of Athens) and **Stavros Zografakis** (University of Athens)

'The Costs and Benefits of Educating Illegal Immigrant Children', **Francisco L Rivera-Batiz** (Columbia University)

'Competition and Complementarity of Illegal Immigrants: The Italian Case', **Alessandra Venturini** (Università degli Studi di Bergamo)

'The Impacts of Illegal Immigrants on Regional Level: Evidence from Kavala Region in Greece', **Michaelo Chletsos** (Centre of Planning and Economic Research, Athens) and **Anastasios Karasawoglou** (Technological Educational Institution of Kavala)

'Immigrant Insertion in the Informal Economy: The Portuguese Case', **Maria Baganha** (Universidade de Coimbra)

averse, and the growing fear that the prospective benefits might have declined, had increased the attraction for Germany of a wait-and-see approach. In response to **Richard Portes** (LBS and CEPR), who asked about current perceptions of the euro's external value, De Grauwe said it was perceived to be weak. **George Tavlas** (Bank of Greece and IMF) believed that Germany's problems in meeting the budget-deficit ratio meant the Maastricht criteria were backfiring on the country. On the value of the euro, however, Tavlas noted that in the previous few months, as it had become more probable that EMU would occur, the Deutsche mark had appreciated by roughly 15% against the US dollar. This reflected market sentiment that if there was to be a euro it could not be a soft currency. **Peter Bofinger** (Universität Würzburg and CEPR) was unsure

whether De Grauwe's model, with only one agent and one utility function, fully captured the German situation in which different agents with different interests were interacting. Those who really favoured EMU wanted it immediately, while opponents used the postponement strategy to disguise their opposition. Bofinger also doubted whether the still very high Italian and Belgian debt-GDP ratios could be said to be consistent with the convergence criteria. **Luigi Spaventa** (Università degli Studi di Roma, 'La Sapienza' and CEPR) regarded the date of the German elections as an important and relevant element. He also questioned the underlying assumption in De Grauwe's paper that the game between Germany and Italy was a zero-sum game. A different viewpoint was offered by **Marcus Miller** (University of Warwick and CEPR). In 'Eurosclerosis,

Eurochicken and the Outlook for EMU', Miller claimed there was fundamental mistrust between northern and southern EU member states. The mistrust was reflected in the various Maastricht convergence criteria, in the increased restrictions on the use of fiscal policy (the 'stability pact') and in the likelihood that the European Central Bank (ECB) would adopt a fairly conservative monetary policy in order to build up a reputation. Miller saw the omission from the Maastricht Treaty of any mention of a lender-of-last-resort role for the ECB as striking and, given the recent surge of banking and exchange rate crises, as worrying. He was also sceptical of the separation of monetary sovereignty from fiscal authority, which could lead not only to solvency problems but also to liquidity crises.

In his paper, therefore, using a game-theoretic approach, Miller had modelled the incentives for two groups of countries: those favouring a mini EMU (Germany in particular), and those favouring a maxi EMU (e.g. Italy). He had found that, with persistent unemployment and assuming that EMU postponement would have severe costs, a mini currency union was the most likely outcome. Furthermore, analysis of the delegation of monetary policy under persistent unemployment revealed that EMU might be characterized by an inflexible labour market along with an inflexible monetary policy. Miller thus concluded that willingness to initiate labour-market reforms would be a far more effective criterion for membership than the current Maastricht conditions. Switching to such a criterion would imply postponing the Maastricht timetable for EMU, but would be far more likely to lead to a well-functioning currency area.

The ensuing discussion focused mainly on the future ECB's lender-of-last-resort function, or lack of it. **Willem Buiter** (University of Cambridge and CEPR) felt this was not a problem since the ECB would deal with banking crises in a discrete way, should this be necessary to avoid moral hazard problems. **Richard Portes** thought the ECB would shoulder its responsibilities if needed, and alluded to the track record of the Bundesbank in the case of, for instance, the Herstatt Bank. **Peter Bofinger** agreed, noting that the Bundesbank's statutes do not mention any role of lender of last resort. Bofinger took issue with two other views. First, that the ECB will suffer from mistrust among member states; historically low long-term bond yields show this is not the case. Second, Miller's classification of the ECB as more rigid than the Bundesbank was questionable. The Bundesbank had proved quite flexible *vis-à-vis* its announced monetary targets, but very inflexible in lowering interest rates. Finally, Bofinger argued that, with the Maastricht Treaty in place, treating government bonds as zero risk would be problematic. Given that national central banks could no longer finance government debt, there would be a solvency risk for the state.

**Luigi Spaventa** reported that one major ratings agency had started to incorporate solvency risk into government bond debt. **Berthold Herrendorf** (University of Warwick and CEPR) pointed out that it is extremely difficult to change the statutes of the ECB. These had been defined in the Maastricht Treaty, and Treaty changes required agreement from member states. **George Tavlas** noted that, once the euro is in place, the possible occurrence of banking crises will pose several political and jurisdictional problems. For instance, if there were a banking crisis in Italy, would we expect to see (say) German and French representatives on the board, and would they be in favour of bailing out the banking sector in question?

**Luigi Spaventa** (Università degli Studi di Roma, 'La Sapienza', and CEPR) presented 'Italy: From Outsiders to Insiders?'. In his view, the probability of a mini EMU was nil. Since the summer of 1996, several events had rendered it impossible to continue speaking about 'core' and 'peripheral' countries. The first was insiders' arrogance – as seen, for instance, in assertions that countries inside EMU would have greater voting powers and that outsiders would remain outside for some time. Peripheral countries had responded with drastic economic measures so successful that it was no longer possible to speak of a 'Club Med'. These measures had been facilitated by the marked appreciation of the US dollar. The second event had been the unexpected election of a socialist Prime Minister, Lionel Jospin, in France, who favoured Italy's inclusion in EMU.

Furthermore, Spaventa concluded that there were now no realistic scenarios which might still lead to Italy's exclusion. There was no question of Italy voluntarily agreeing to stay out. Nor could failure to meet the fiscal criteria be invoked, since Italy would merely point out that both Belgium and Germany also did not fulfil them. And, while inventing new criteria – for instance, taking debt as a percentage of EU, rather than national, GDP – might enable Belgium to pass the test, Italy could argue that other criteria – such as debt maturity – would also need to be taken into account. Thus, said Spaventa, as far as Italy was concerned, if the decision regarding which countries will participate in EMU is to be based on the existing Treaty of Maastricht, then Italy would definitely be in. If there was a problem about who would participate, that problem was purely German and purely political.

In 'The Evolving Debate in Germany and its Implications for 1999', **Peter Bofinger** (Universität Würzburg and CEPR) argued for a recognition of the different actors and interests present in Germany regarding EMU, and tried to offer a better understanding of Germany's alleged mistrust of southern EU states. The first notable actor was the German public which, according to opinion polls, was currently against EMU by 55% with only 45% in favour. Second was the Bundesbank, whose regional

central bankers would find themselves left with no real power should EMU occur. Third was the banking industry, which was divided: large banks favoured the euro because it raised possibilities of expansion into other European markets; the small banks (*Volksbanken*), however, were anti-euro. Fourth were the German industry federations, all of which were in favour of EMU. The press, which was mainly opposed to the euro, and currently displayed strong mistrust of France and its politicians, was a fifth actor. Finally, there were Germany's own politicians, among whom Chancellor Kohl was perceived as wanting EMU at any cost. Yet, Bofinger claimed, since Kohl was already near the end of his political career, he most probably would not have to face any of the potential negative implications of EMU. Edmund Stoiber, the influential Land President of Bavaria, and the CSU, by contrast, were opposed to the euro.

Bofinger went on to list a few German risk factors that could yet prevent EMU from starting in 1999. These included: the resignation of Chancellor Kohl (e.g. owing to health problems, or a Bundesrat vote against EMU); a formal German request for a delay; and a German constitutional court decision that the European Council technically had not respected the Maastricht criteria. A negative assessment of EMU by the Bundesbank also could present a major potential obstacle to the start of the euro.

In joint discussion of Spaventa's and Bofinger's presentations, **Marcus Miller** asked whether there was a real risk that Germany, backed by its constitutional court, might vote against participation. **Richard Portes** replied that the Treaty did not allow for unilateral withdrawal, while **Willem Buiter** added that, if the European Council decided a country had satisfied the criteria, that country was required to enter EMU unless it had an 'opt-out' – which Germany did not. **Rolf Günther Thumann** (Salomon Brothers International Ltd) disagreed. He considered that Germany effectively had an opt-out option – it could simply let its budget deficit exceed the critical 3.0% of GDP ratio and then point out that it no longer qualified.

On the high-indebtedness criterion, **Paul De Grauwe** considered the duration of the maturity of the debt a very important issue. Furthermore, he disagreed with the conventional view that short-term duration was dangerous and should preclude countries from joining EMU. In fact, short-term duration of debt gave less incentive to inflate the economy and monetize the debt. **William Allen** (Bank of England) wondered why only government debt should be taken into account, rather than – as he favoured – looking at all forms of debt. Finally, referring to Bundesbank intervention on the foreign-exchange market, **Paul De Grauwe** remarked that, given the existing 30% margins of fluctuation within the ERM, once final parities had been announced, there would be no need to intervene. **Richard Portes** added that it was

necessary to maintain the external value up to 1 January 1999 but that this could be done without any risk through unlimited central bank intervention at the very last minute.

In a paper entitled 'Economic and Non-Economic Aspects of EMU: The UK's Economic Policy Choices', **Martin Wolf** (*Financial Times*) based his argument on two assumptions: first, that EMU would happen (i.e. Germany would not block it); and second, that it would be a broad monetary union. The main points bearing on the UK's EMU-membership decision were: UK prospects were no worse than those of other EU countries; The United Kingdom and other European economies were in different cyclical positions, with the result that sterling was overvalued and no UK government would want to join in these circumstances; and unlike in Continental Europe, UK borrowers were highly exposed to short-term rates. Hence, within EMU, variations in short-term ECB rates would affect the UK economy disproportionately.

The UK's options were to join at the start; to join in later, for instance, when the euro is circulating as cash; to wait and see; or never to join. According to Wolf, the first option was out of the question, both for cyclical reasons and because the UK public were not prepared for it politically. The second option – which Wolf believed Prime Minister Blair would prefer – was more likely, but by 2002 the UK economy might be in recession and Continental Europe in a boom. The last two solutions – which were virtually indistinguishable – were slightly less plausible. For the United Kingdom to join EMU, the government needed to take three steps: first, raise taxes to reduce its structural deficit, which was currently in good shape, but relied too much on very tight government expenditures; second, take early steps to encourage long-term borrowing; and third, bring sterling back to a more reasonable value. In Wolf's opinion, these requirements pointed to 'wait and see' as the best strategy.

**William Allen** questioned Wolf's sentiment that short-term borrowing was a problem. Indeed, borrowing on short maturities avoided the uncertainties associated with long-term borrowing. On the issue of whether a monetary union was sustainable without a political union, **Peter Bofinger** was rather sceptical. Those who criticise EMU for its lack of political union often do so only because they do not want EMU at all. **Paul De Grauwe** questioned Wolf's assertion that EMU would be unsustainable together with different national fiscal authorities. Wolf's response was that this was due to the inherent conflict of interest among member states' fiscal policies. On whether a late UK entry would involve important costs – because, for instance, the UK's influence on the EU's monetary policy would be small – Wolf thought that any such costs would be transitional.

'Monetary Union, Entry Conditions and Economic Reform' was the title of a paper presented by **Alan**

**Sutherland** (University of York and CEPR) and written jointly with **Gulcin Ozkan** (Brunel University, Uxbridge) and **Anne Sibert** (Birkbeck College, London, and CEPR). Their paper set out to model the decision problem facing a potential entrant into a monetary union where admittance is conditional on the entrant meeting one of the Maastricht criteria, namely a target inflation rate. Since inflation performance in a monetary union depends in part on such variables as tax-system efficiency and labour-market flexibility, the question investigated by the authors was whether the imposition of this entry requirement would encourage or discourage structural reforms by potential entrants. They showed that entry conditions can have two undesirable effects. First, they can lead to multiple equilibria by generating self-fulfilling inflationary expectations. Second, and paradoxically, tighter entry conditions can inhibit reform by helping to lower inflationary expectations during the qualifying period, thereby reducing the 'need' for structural reforms.

**Berthold Herrendorf** was puzzled by the fact that, in the model, membership of the union did not seem to matter at all. **Willem Buiter** asked whether, if the reform costs faced by policy-makers are interpreted as a social cost rather than a political-embarrassment cost, a low level of reform would then be an efficient outcome. **Marcus Miller** enquired about the benefits of asking potential entrants directly to undertake structural reforms rather than to meet an inflation target. **Anne Sibert's** reply that it was easier to monitor the inflation performance of potential entrants drew a rejoinder from Buiter to the effect that this argument risked undermining the whole paper, which considered inflation as a substitute for reform, and concluded that the outcome might be less reform. It therefore strengthened Miller's point that inflation was an inappropriate target. **Guido Ascari** (University of Warwick) thought the model lacked an important feature in the form of the discipline factor: once a country had entered EMU it would be easier and less costly to tackle labour-market reform.

The workshop ended with a panel discussion chaired by **Paul De Grauwe**. **William Allen** reported on the view of the financial markets regarding the prospects for EMU. According to implied future correlations of exchange rates based on option prices – a technique developed at the Bank of England – the markets' thoughts appeared to be that EMU would happen on time and that the union would be a broad one, with Italy, Spain and Portugal expected to be included, but not the United Kingdom. **Willem Buiter** focused on the post-1999 transition period up to 1 July 2002 (when all national currencies are to be demonetized), during which the euro will coexist with national currencies, and exchange rate risk will persist inside the Union. Buiter recommended that potential entrants from among other countries should not opt for a narrow EMS version. He was also of the view that the euro would be a strong currency (because

the selected central banker was likely to be very conservative and would need to build a good reputation and track record for the ECB).

**Richard Portes** also expected EMU to happen on time. Speculative attacks were still possible but unlikely from March 1998 onwards, and would disappear after 1 January 1999. Careful management of policy announcements among EU countries would be needed. **Rolf Günther Thumann** judged that financial markets currently might be too complacent about EMU. Some risk still existed in relation to Germany, where the opponents of EMU were getting stronger. More specifically, German savers could – as had happened already – shift large portions of their portfolio out of Germany. Buiter argued that it would have been better if Germany had been exempted from the fiscal criteria on the grounds of the exceptional cost of reunification.

## **Economic Policy**

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### **Rising Inequalities**

At a CEPR/IEEG workshop on 'Rising Inequalities', held in La Coruña on 14/15 February 1997, participants reviewed recent theoretical and empirical work explaining shifts in inequalities in income and unemployment. The workshop was organized by **Daniel Cohen** (ENS, CEPREMAP and CEPR) and **Thomas Piketty** (CEPREMAP and CEPR). Financial assistance was provided by the Pedro Barrié de la Maza Foundation and the Instituto de Estudios Economicos de Galicia.

In 'Tax Incentives for Youth Employment', **Michael Kremer** (MIT) studied the consequences for work incentives and unemployment of a cut in marginal tax rates for youth. Data from the CPS (Current Population Survey) showed that the number of workers for whom work incentives were distorted per dollar of revenue gained was six times greater for 17 to 21 year-olds than for older workers. As a result, a reduction in marginal tax rates on the young, combined with revenue-neutral increases in marginal tax rates on prime-age workers, would increase work incentives for youths by six times as much as they would decrease work incentives for older workers. Moreover, the benefits of improving work incentives are greater for youths because of their higher labour-supply elasticity. But reducing marginal tax rates on the young is problematical in that it may distort the choice between education and work. If education subsidies are close to optimal, a small reduction in marginal tax rates for the young will cause second-order welfare losses from distortions of education decisions and first-order welfare gains from the improvement in youth work incentives. Conversely, if the problem of distortion of educational decision is important, then tax reductions could be restricted to age groups in which few people attend school.

**Andrea Ichino** (European University Institute, Firenze, and CEPR) noted that there exists an important literature on tax credits to employers. Such credits are more advisable if the problem lies on the demand side, while cuts in marginal tax rates for employees are preferable if the problem lies on the supply side. In an equilibrium framework, however, tax credits to employers and employees have the same effects. **Thomas Piketty** noted that when a government cuts marginal tax rates on the young, this may be because decision-takers have in mind a very crude model of linear tax rates, whereas Kremer's paper pointed to the importance of hazard rates. Finally, **Daron Acemoglu** (MIT and CEPR) suggested that since child poverty is a more important problem than youth unemployment in the United States, it would be better to subsidize poor families with children.

'Sustaining Fiscal Policy Through Immigration', presented by **Kjetil Storesletten** (IIES, Stockholm, and CEPR), examined the effect of immigration on fiscal policy: Storesletten argued that changing immigration policy and admitting more young immigrants is an alternative to an increase in tax rates and/or a cut in spending when increasing social security obligations create a need for fiscal reform. The condition for immigration to have a fiscal impact is that immigrants differ from natives. In fact, they do differ from natives in age, fertility and employment. In a general equilibrium model, the following fiscal impacts of new working-age immigrants were identified: government spending per capita decreased, tax revenue per capita rose, and debt per capita decreased. The paper also computed the smallest increase in annual immigration needed to balance the budget, given that the government is free to choose the age structure of new immigrants and that current tax and spending policies remain unchanged. The increase was modest relative to the fiscal reform necessary if immigration policy was kept unchanged.

**Daron Acemoglu** noted the importance of other general-equilibrium effects, such as employment effects. **Gilles Saint-Paul** (Universitat Pompeu Fabra and CEPR) argued that the results would be the same if the growth rate of population were to increase: only the first generation would benefit from the increase because the capital-to-labour ratio would eventually return to the same value.

In 'What Level of Redistribution Maximizes Long-Run Output?', **Roland Bénabou** (New York University and CEPR) discussed the relative efficiency and long-run effects of two redistributive policies: progressive income taxation and education subsidies. Both policies have costs (due to distortions in agents' effort) and benefits (due to the lack of credit and insurance markets). Bénabou analysed this trade-off, both theoretically and quantitatively, in a stochastic model of human capital accumulation with

endogenous labour supply and missing credit and insurance markets. A first result showed that each income-tax or education-finance policy can be associated with a combination of consumption taxes and investment subsidies that restores investment to its optimal level. A second result was that progressive education finance was more efficient for maximizing long-run output and led to less inequality than progressive income taxation. Finally, when simulating the model with parameter estimates from the empirical literature, long-run output was maximized by an average marginal tax rate of 25% or by an equalization rate for education expenditures of 60%. In both cases, the top one-third of households subsidized the education of the bottom two-thirds.

**Gilles Saint-Paul** suggested using a richer taxation structure to run similar simulations. **François Bourguignon** (DELTA) noted that the conclusion that more public expenditure leads to more mobility seems to contradict evidence: the level of public expenditure for education is lower in the United States than in Europe, while intergenerational mobility is higher.

The paper by **Richard Blundell** and **Ian Preston** (both University College London), entitled 'Consumption Inequality and Income Uncertainty', was motivated by the debate over the use of consumption versus income in studies of inequality growth. In a formal inter-temporal setting, where borrowing and saving are allowed, it is usually believed that consumption expenditure reflects expected lifetime resources better than current income. This paper argued that, though neither consumption nor income is perfect as a measure of inequality, both measures can be combined to understand changing trends in inequality. More precisely, the paper showed that a comparison of the relative growth in income and consumption inequality can separately identify changes in the permanent and transitory components of inequality: a faster growth in income, than in consumption, inequality suggests a growth in short-run income uncertainty; an acceleration in the growth of consumption inequality suggests a rise in the permanent component of inequality.

Using data from the 1968–92 UK Family Expenditure Surveys, Blundell and Preston showed there had been an acceleration in expenditure inequality (indicating an increase in permanent inequality), and

#### CEPR/ESRC/IFR FINANCE NETWORK

As an ESRC Resource Centre, CEPR is organizing a new series of research workshops in finance, to be run in collaboration with the Institute for Financial Research (IFR). The workshops will bring together interested researchers from City firms, academia and regulatory institutions. Subjects covered will include security pricing, risk management, financial regulation, market microstructure and a range of

other topics in mainstream financial research. The first workshop, held in London on 21 March 1997, and organized by **William Perraudin** (Birkbeck College, London, and CEPR), concentrated on term-structure models. The following papers were presented:

'A Class of Arbitrage-Free Log-Normal Short-Rate Two-Factor Models', **Riccardo Rebonato** (BZW)

'General Interest-Rate Models and the Universality of HJM', **Martin W Baxter** (Pembroke College, Cambridge)

'The Potential Approach to the Term Structure of Interest Rates and Foreign-Exchange Rates', **L C G Rogers** (University of Bath)

'The Stochastic Volatility of Short-Term Interest Rates: Some International Evidence', **Clifford A Ball** (Owen Graduate School of Management, Vanderbilt University) and **Walter N Torous** (LBS)

'Yield Curves with Jump Short Rates', **Lina El-Jahel** (Birkbeck College, London), **Hans Lindberg** (Sveriges Riksbank, Stockholm) and **William Perraudin** (Birkbeck College, London, and CEPR)

that income variance had increased faster than expenditure variance in the latter half of the 1980s (suggesting rising short-term uncertainty). Younger cohorts therefore faced greater permanent inequality and greater short-term income uncertainty. **François Bourguignon** asked why only income and consumption variances had been used, and not the covariance between income and expenditure, because this covariance could be informative about the variance of permanent income.

In 'Low-Paid Workers: Some Figures for Italy, 1977–95', **Andrea Brandolini** and **Paolo Sestito** (both Banca d'Italia) addressed two questions: is there a low-wage problem in Italy? and has the situation worsened over the last decade? Using the Bank of Italy's survey of households' income and wealth, the paper documented changes in the overall earnings distribution and looked at the relationship between low wages and poverty. The analysis showed that earnings inequality decreased in the 1970s and the 1980s, but increased between 1989 and 1993. The particularly large rise in inequality between 1991 and 1993 could be explained by the abandonment of the wage-indexation mechanism that had been responsible for the earlier decline in inequality. Earnings inequality for prime-age non-farm workers began to rise after 1983, however, well before the overall increase in inequality began. Moreover, the share of inequality explained by between-group inequality had declined since 1990. Another result was that holding a permanent job seemed no longer sufficient for avoiding poverty.

**Dominique Goux** and **Eric Maurin** (both INSEE, Paris) examined the comparative effects of the French system of post-school training on wages, workers' mobility and wage inequalities in their paper entitled 'Train or Pay: Does it Reduce Inequalities to Encourage Firms' Investments in Workers' Training?'. They pointed to some unique features of the French system: in particular, since 1971, firms have had to devote a fraction (1.5%) of their wage bill to training their employees, or pay a tax. The authors examined data from the French Survey on Education and Qualifications and were able to match the workers and their firms, thereby enabling them to control for firm-specific compensation policies.

On average, the paper found that firms spent more than the legal minimum on training, but the level of expenditure depended on firm size. The percentage of trained workers increased with position and education, but the probability of being trained did not depend on education. Concerning employee returns to training, the paper showed that a trained worker was paid 5% more than the equivalent untrained worker. When taking into account firms' wage and training policies, however, the return to training fell to 3%; and when controlling for both firms and individuals, the return to training fell close to zero. Finally, company-sponsored training was found to increase job tenure. **Daron Acemoglu** noted that the corresponding German survey inquired whether the training would be useful in another firm, whereas in France no attempt is made to ascertain whether the training is specific or general.

**Daron Acemoglu's** own paper, 'Good Jobs Versus Bad Jobs: Theory and Evidence', was motivated by the presence of persistent and large wage differentials among identical workers in different industries and occupations. This led him to ask: what determines the composition of jobs?; why does this composition change over time? and; why do some labour markets have more bad jobs than others? The paper presented a search model in which different types of jobs have different creation costs – those that cost more to create will pay more. Thus the economy is naturally composed of good and bad jobs. Acemoglu showed that the composition of jobs will always be suboptimal (too many bad jobs) because good jobs cost more to create and firms do not necessarily receive the full marginal product of their investment. A further finding was that an increase in unemployment benefits improves job composition and may also improve welfare. This is because some workers, who were previously accepting bad jobs, will now prefer to wait for a good job, and this change in search behaviour induces creation of more good jobs. An increase in the minimum wage will also lead to a better job composition. The empirical evidence suggests that, in the United States, the impact of higher unemployment benefits and minimum wages

may be to increase unemployment somewhat but also to improve substantially the composition of jobs.

In 'The Distribution of Earnings in Spain during the 1980s: The Effects of Skill, Unemployment and Union Power', **Manuel Arellano** (CEMFI, Madrid), **Samuel Bentolila** (CEMFI, Madrid, and CEPR) and **Olympia Bover** (Banco de España) provided the first account, based on micro data, of the evolution of wages in Spain. The authors used the panel of monthly social security records of individual earnings from 1980 to 1987. During this period, high-skill real earnings increased by 1.42% while low-skill and median real earnings decreased (respectively by 0.37% and 0.22%); thus overall inequality expanded. This outcome was due to increasing dispersion in the top half, rather than the bottom half, of the wage distribution. In addition, the return to skill increased for high-skill and medium-skill workers and decreased for the low-skilled. Another finding was that wages rose with union coverage, more so for medium-skill workers than for the low-skilled.

In a joint paper on 'The Labour Market and the Evolution of Corporate Structure', **Daron Acemoglu** (MIT and CEPR) and **Andrew Newman** (Columbia University) investigated the relationship between changes in the labour market (in particular the fall in demand for line workers) and changes in the structure of organizations (in particular the fall in the ratio of production to non-production workers). Specifically, they explained both the recent changes in the organizational form of the firm and increased wage inequality as the result of the profit-maximizing response of firms to changing labour-market conditions. They argued that firms can either use high wages to give their workers the right incentives, or they can pay lower wages and spend more on monitoring. In their view, in the United States, the reduced demand for unskilled workers (due to the combination of globalization and technological changes) had allowed firms to pay lower wages, adversely affecting unskilled workers' incentives. Thus the organizational structure had to change to restore these incentives. Corporate moves towards 'lean' production, and increased use of information technology in monitoring could be viewed as attempts to maintain employee incentives while also reducing wages. Moreover, since there was a need for more information gathering, the demand for – and thus the salaries of – non-production workers increased, which led in turn to a rise in wage inequality.

## Corporate Finance

### Recent Theories and Evidence

On 21/22 March 1997, a joint CEPR/Caixa Geral de Depósitos workshop was held in Lisbon to discuss recent theories and evidence in corporate finance. The organizers were **Antonio Mello** (University of

Wisconsin-Madison and CEPR) and **Rafael Repullo** (CEMFI, Madrid, and CEPR).

In her opening remarks **Maria José Constancio**, Director of Economic Research at Caixa Geral de Depósitos, made a brief presentation on recent developments in the Portuguese economy and on the activities of the Caixa. In 'Efficiency of Bankrupt Firms and Industry Conditions: Theory and Evidence', **Vojislav Maksimovic** and **Gordon Philips** (both University of Maryland) investigated the costs of bankruptcy and the factors influencing sales and closures of assets of Chapter 11 firms. They showed that industry demand and the amount of productive capacity are relevant, and that both are more important to bankruptcy than Chapter 11 status. The proportion of plants in Chapter 11 falls monotonically, moving from low-growth to high-growth industries. In industries facing declining demand, firms become bankrupt as a result of excess industry capacity, but their productivity is no different from their counterparts, nor does it decline during the Chapter 11 period. In high-growth industries, bankruptcy is associated with a firm-specific inefficiency and there is evidence of decline during Chapter 11 proceedings. For these reasons, more asset sales occur in high-growth industries and, in these industries, bankrupt firms sell their more productive assets thus improving the productivity of the new owners.

**Henri Servaes** (University of North Carolina) commented that inclusion of data on capital structure might indicate whether the efficiency of transfers depends on the level of debt. **Colin Mayer** (Oxford University and CEPR) suggested the paper could also include a more general discussion of alternative ways of restructuring firms, and that some comparisons of performance under different forms of restructuring would be of interest.

In their paper on 'Managerial Compensation and Capital Structure', **Elazar Berkovitch** (Tel Aviv University), **Ronel Israel** (University of Michigan) and **Yossef Spiegel** (Tel Aviv University) developed a theory that accounts for the interdependence between capital structure and managerial compensation. Issuing debt has two effects: a job-security effect (debt commits the entrepreneur to an aggressive replacement policy, which may motivate managers to exert more effort); and a wage-bargaining effect (debt repayments reduce the cash-flow that managers can seek to capture through bargaining, which can lower motivation). These effects determine the level of managerial effort and monetary compensation. They also determine the firm's incentive to replace the manager and, hence, managerial ability. This theory yielded four predictions. First, the market value of equity and debt will decrease if the manager is replaced; second, companies that reveal their intention to retain their manager should experience positive price reactions; third, leverage, managerial compensation and cash-flows in firms that retain their

managers are positively correlated; and fourth, the probability of management turnover is negatively correlated with firm value.

For **Rafael Repullo** (CEMFI, Madrid, and CEPR), the most interesting results were those on managerial turnover, but he criticized the model used to deliver the compensation outcomes. For its conclusions on managerial turnover, the model had to resort to simulations, which reduced the robustness of the empirical regularities the authors were seeking to establish. Furthermore, the model did not indicate an optimal debt level. **Christian Laux** (University of Mannheim) suggested the need to look at both capital structure and monetary payments when analysing incentives for managers. In addition, the results presented were very sensitive to the assumptions about the underlying negotiation process, i.e. who participates and how the gains are split.

The capital-budgeting process is affected by two interactive incentive problems: the CEOs' motivation to collect information to evaluate projects; and their motivation to accept them. In 'Capital Budgeting and Stock Options Plans', presented by **Haizhou Huang** (LSE) and **Javier Suárez** (CEMFI, Madrid, and CEPR), stock options plans were seen as the optimal compensation schemes for CEOs when the above problems arise. The Managers have incentives to extract maximum profitability from a project in order to benefit from the possibility of exercising their option. The shares received through the exercise promote their acceptance of good projects and the exercise price reduces acceptance of bad ones. Specific additional results included the following: 1) under optimal compensation schemes for CEOs, the capital-budgeting process is not characterized by the NPV rule as an investment criterion; 2) under- (over-) investment can occur if the CEO is optimally compensated, as long as the investment is profitable (unprofitable) on average; 3) the smaller the evaluation costs, the greater is the attraction of stock options plans to managers; and 4) a non-monotonic relationship is suggested between Tobin's Q and the award of stock options.

**Ulrich Hege** (Tilburg University and CEPR) noted that stock options schemes allow managers to make independent decisions on investment and exercise of the options. This fact is not recognized in the model, where is not possible both to refuse an investment and exercise the option. The model also remained silent about the scope for renegotiation, especially after the manager has extracted information on the profitability of the project. **Gilles Chemla** (University

of British Columbia and CEPR) questioned the robustness of the optimal stock options plan, as described in the paper, and noted the importance of the manager's access to the credit market. Chemla also stressed that stock options are mainly used to promote long-term relationships and that managers are usually required to keep their options for several years.

'Entrenchment and Managerial Turnover', by **Walter Novaes** (University of Washington) and **Luigi Zingales** (University of Chicago, NBER and CEPR) focused on the proportion of employees' compensation determined by implicit contracts. The authors assumed that there is a value-maximizing trade-off between implicit and explicit contracts, and wondered whether a properly motivated manager would implement it. Without constraints, managers would permit too many implicit contracts, thus creating large managerial rents. However, boards have two instruments available for influencing managerial behaviour: incentive schemes and firing. The first induces the manager to choose the right organizational structure (i.e. the balance between explicit and implicit contracts), and the second reduces the manager's rent. The two instruments are not independent, because the model showed that the optimal mechanism requires some managerial turnover. The model also linked organizational structure and the two instruments used by the board, and showed that the deadweight loss from delegating the choice of incentives to the manager increases with the relative inefficiency of explicit contracts. Finally, the authors suggested some links between the two instruments and the firm's characteristics, such as size, technology and industrial sector.

**Sudipto Bhattacharya** (LSE and CEPR) commented on the authors' assumption that the productivity function of replacement is decreasing in the manager's choice of implicit contracts. He saw the paper as an innovative advance in efforts to integrate recent hypotheses about entrenchment with agency-theoretic control mechanisms. **Michel Habib** (LBS) questioned the practical value of the model's predictions, but he did note that it was unlikely that a manager would be fired if, in consequence, the company's productivity would decline. It would be useful to distinguish between two types of implicit contracts: those that involve most employees, and

***Mediating the Transition: Labour Markets in Central and Eastern Europe***  
**Forum Report of the Economic Policy Initiative no. 4**

Edited by: Lorand Ambrus-Lakatos and Mark E Schaffer

Contributors: Tito Boeri, Michael C Burda and János Köll



Over the past five to ten years Central and East European countries (CEECs) have undergone a radical transformation of their economies from state socialism to various forms of market capitalism. During this time employment ratios plummeted from dubious 'full employment' levels to levels equal to, or lower than, those in countries of comparable economic development. This transformation of labour markets has left in its wake a high and persistent rate of unemployment, implying that individuals still seek work despite a dramatic deterioration of their employment chances. At the same time, low participation rates are putting a severe strain on social security systems as dependency ratios have risen and are currently significantly above those in OECD countries. Entry into Europe, with the associated adoption of standards for social security provisions will increase even further the fiscal burden on the active population unless the ratio of employment to population, and hence the tax base for social policies, is increased.

This fourth issue of the EPI Forum Report looks at the nature of unemployment in the CEECs. With contributions from experts from both East and West, the Report analyses the determinants of labour supply and demand in order to predict where market equilibrium should be in these economies. The authors also consider the role of policy, arriving at a set of proposals for enhancing labour supply in the region. These include: better integration between unemployment benefits and social assistance; the maintenance and development of active labour-market programmes; direct translation of savings in social policy spending, resulting from future declines in unemployment, into reductions of statutory contribution rates; abolition or reduction of non-negotiated restrictions on job and labour turnover via severance benefits or firing costs; increased spending on general secondary education; and investment in the infrastructure of transportation.

This is a concise yet comprehensive account of the labour-market issues facing the CEECs as their transformation proceeds and they negotiate their entry into the EU. It will be of interest to anyone concerned with the economics and politics of transition and with economic policies in the region.

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those for top employees only.

**Thomas Copeland** (Mckinsey & Co, New York), **Yash Joshi** (Kids 1 Inc, New York) and **Maggie Quenn** (Bear Stearns, New York) presented 'A New Approach for Corporate FX Risk Management Programs: The Probability of Business Disruption'. The authors defended the adoption of hedging strategies by firms in order to reduce the probability of business disruption due to foreign-exchange (FX) risk. They showed that naïve transaction hedging and reductions in the volatility of operating cash-flows are insufficient to minimize this probability over a given period of time. The probability depends on the variance of hedge cash-flows, on the ratio of operating cash-inflows to cash-outflows, and on the drift in operating costs caused by FX hedging costs. The optimal hedge ratio is adjusted by the hedging costs per unit of variance in the FX contract.

**Ronald Anderson** (Université Catholique de Louvain and CEPR) noted that the paper did not refer to managerial risk aversion and that when the expected time horizon is infinite only the least risk-averse managers will not hedge or will tend to speculate on their position. He also mentioned that global hedging is used by many firms. **Todd Milbourn** (LBS) suggested that capital structure issues, firm-valuation

approaches and agency problems represented topics for further research.

Hedging strategies were also the subject of 'Funding Risk and Hedge Valuation', a joint paper by **Antonio Mello** (University of Wisconsin-Madison and CEPR) and **John E Parsons** (Charles Rivers Associates). Firms use such strategies to reduce the probability that they will have to resort to external financing and to reduce the cost of such financing. A hedge may decrease the long-term requirement for external financing, but at the same time increase the short-term requirement. The trade-off between the two effects is complex. Moreover, the cost of external financing cannot be specified without looking at its hedging strategy. The authors showed that a hedge does not necessarily create its own liquidity and so the funding risk it creates is an important factor in determining its value. The paper developed a model for evaluating alternative hedging strategies with a view to minimizing the cost of external financing. The model permitted the determination of the extent to which the firm's value is raised or lowered under each hedge.

**Yaakov Bergman** (Hebrew University of Jerusalem) stressed the value of the paper's conclusion that a trade-off exists between maximizing the firm's value

and hedging, under the assumptions that the firm faces financial constraints and asymmetric information as the source of imperfection. **Pierre Mella-Barral** (LSE and CEPR) noted the high volatilities revealed under the hedge strategies and wondered whether it might be preferable to issue equity instead of debt. **Hayne Leland** (Haas School of Business, Berkeley), referred to the relationship between the risks faced by debtholders and shareholders and asked how different hedging strategies would influence the levels of risk and the transfer of risk between the two sets of agents.

Recent surveys have shown that one of the motives for a firm to go public is to increase publicity about, and enhance the image of its products. 'IPOs and Product Quality', by **Neal M Stoughton** (University of Hong Kong), **Kit Pong Wong** (University of California-Irvine) and **Josef Zechner** (Universität Wien and CEPR), set out to explain the motivation for firms to undertake an IPO (initial public offering, or flotation, of its shares). A firm's share price incorporates information about potential profits arising from consumer demand, while the product market utilizes information transmitted through the stock price. When consumers observe a stock being traded in the financial market, that fact and the price at which the stock trades become indicators of the product's quality. Firms are willing to incur costs in going public in order to gain a higher reputation in the product market. The authors presented a model of the underlying relationships and of the links between IPOs, underpricing and the stock reactions of rival firms. They found that if a firm is considered in isolation, undertaking an IPO has a positive impact on sales. When the existence of competitor firms is taken into account, however, the likelihood of going public is found to depend on whether the rivals are public or private firms. On underpricing, their finding was that this is positively correlated with future stock price growth.

**Luís Cabral** (LBS and CEPR) noted there are many ways of signalling product quality and the model only refers to one. Thus alternative signals could be introduced. **Yossef Spiegel** concurred with this view. He also discussed the application of the model and noted that it could not be used in services industries or in respect of products whose quality is known to the consumer in advance of purchase. Furthermore, the assumptions that the consumer knows that the company has undertaken an IPO and knows the stock price may not hold true.

**Ekkehart Bohmer** (Humboldt-Universität zu Berlin) presented 'Industry Groups, Ownership Structure, and Large Shareholders: An Analysis of German Takeovers'. Bohmer used a sample of German takeovers between 1984 and 1988, and information on the bidders' ownership structure, to analyse the NPV of the takeover and to isolate the effect of shareholder structure on the NPV. He found that both

bidders and non-bidders had a similar ownership structure, suggesting that this had not affected the likelihood of becoming a bidder. The NPV analysis showed that the highest NPV (measured as the cumulative abnormal return) was obtained when bidders' controlling interests were foreign companies or families. By contrast, bidders controlled by financial companies, or with no 'blockholders', did not create positive NPV. The largest negative NPVs accrued to government-controlled bidders. All the results were consistent with agency problems, in that the worst takeovers were by management-controlled bidders. From regression analysis, two further conclusions were drawn: bidders with minority 'blockholders' made better acquisitions; and bidders with direct bank shareholders made worse acquisitions.

**José Correia Guedes** (Universidade Católica Portuguesa) believed this paper was the first to show a connection between the return on takeover and shareholder structure. He suggested the analysis be extended to study managers' competence in takeover decisions. **Alexander Ljungqvist** (Merton College, Oxford, and CEPR) also felt the paper developed an unresearched area. He enquired whether an understanding of the targets' ownership structures would help to interpret the empirical findings. A second question concerned the form of payment in the merger: US evidence pointed to an important role for cash versus equity. Finally, the long-run performance of merged German firms would need to be explored, in the light of US and UK evidence which indicated that merger benefits are reversed in the longer term.

In 'Bidding Strategies and State-Contingent Expected Payoff in Take-overs', **Sandra Betton** (Concordia University) and **B Espen Eckbo** (Stockholm School of Economics) presented an empirical analysis of the joint effects of the bidder's choice of 'toehold' (pre-bid ownership of target shares), tender-offer premium and payment method on contest outcome probabilities and conditional expected payoffs. The bidder's decision problem was captured by an event-tree, characterizing all tender-offer contests. Using traditional estimation techniques, the authors found that toeholds were lower the higher the pre-contest run-up in the target's stock price, the higher the initial takeover premium, the less favourable the target management's reaction to the initial bid and the greater the degree of observed competition in the contest. In addition, they found that the probability of a rival bidder winning the contest was higher the lower the toehold of the initial bidder, and in contests where the target's management opposed the first bid. Target management resistance was less likely the greater the toehold, and the smaller the equity value of the target. With independent or joint estimations of probabilities and pay-offs, the probability of success in a single bid contest depended on the initial toehold and offer premium. Moreover, when the initial bidder made its second bid, the probability that the rival

bidder would win the contest increased with the initial bidder's toehold.

In the opinion of **Fernando Branco** (Universidade Católica Portuguesa and CEPR), while this was a difficult area for theorizing, the theoretical background of the paper was weak. The models might have been mis-specified and the results were hard to interpret.

**Fausto Panunzi** (University College London, Università Bocconi and CEPR) pointed out that one important variable not considered in the paper was the ownership structure of the target firm. Moreover, the definition of success was peculiar in that, according to that definition, several bidders can be successful in the same contest. Evidence suggests that diversification has not been beneficial for US companies over the last three decades.

**Karl Lins** and **Henri Servaes** (both University of North Carolina) studied the same question in respect of German, Japanese and UK firms in 1994–5 in their paper on 'International Evidence on the Value of Corporate Diversification'. The authors argued that the institutional environment in Germany and Japan was very different from that in the United States or the United Kingdom and that the differences were important in evaluating the results of diversification. They found no evidence of a diversification discount in Germany, but there was a discount of 10–15% for Japanese and UK firms. Ownership concentration was one of the factors related to the discount in Germany: the higher the ownership concentration the smaller the discount. In Japan, ownership concentration had no effect, and in the United Kingdom the results were inconclusive.

**Luigi Guiso** (Banca d'Italia and CEPR) raised the problem of aggregation bias and suggested the separation between related and unrelated diversifications in relation to the discount. He also called for further explanation of the paper's interesting results. **Antonio Mello** noted that there were other possible explanations for the diversification discount, apart from ownership concentration. He also considered that the causes of the differences between countries warranted a closer look.

'Block Premia in Transfers of Corporate Control' was the title of the paper presented by **Mike Burkart** (Stockholm School of Economics), **Denis Gromb** (MIT and CEPR) and **Fausto Panunzi**. According to recent research, ownership structure and the level of concentration was an important determinant of many corporate decisions. 'Blockholders' (even of minority blocks) have voting power which can be used to resolve conflicts in their favour. Control thus confers private benefits, and sales of blocking shareholdings involve reallocation of control and its benefits. The authors showed that both the incumbent and the new, controlling party preferred block trades to public tender offers as a method of transferring control. They examined the determinants of block premia. Among

the results were; that the premium per share and the acquirer's profit decreased with the block size, and; that 'greenmail' and block trading had many common features.

**David Webb** (LSE) suggested that investigation of the origin and ownership of blocks, and of the identity of companies in which blocks are more prevalent, were potential areas for new research. **Luigi Zingales** raised the question of breaking up of blocks. The paper implied there was an incentive to buy blocks, but no incentive to break them up after the acquisition. However, there was evidence available to support the reverse argument, and smaller blocks were more common.

*CEPR's continuing work on the promotion of new developments in finance was reflected in a further workshop on 'Financial Intermediation and Structure of Capital Markets', which was held in Fontainebleau on 4/5 April 1997.*

## **'New' Economic Geography**

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### **Growth, Trade and Location**

A CEPR/CEPR workshop on 'Growth, Trade and Location' was held in Royaumont on 26 May 1997. The workshop, which was organized by **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR), **Philippe Martin** (Graduate Institute of International Studies, Geneva, CEPR, Paris, and CEPR) and **Constanze Picking** (CEPR), formed part of CEPR's research programme on 'Globalization and Regionalism: Policy-Making in a Less National World (GARP)', supported by the Ford Foundation and the French regional development agency, Délégation à l'Aménagement du Territoire et à l'Action Régionale (DATAR).

First developed by Krugman and Venables, the 'New Economic Geography' focuses on the presence of

circular causation mechanisms to explain the spatial concentration of economic activities. Often described by means of localized spillovers, two main centripetal forces have been identified: the preference for variety on the consumption side (the demand link); and the efficiency of increased diversity in intermediate goods (the cost link). Common centrifugal forces are transport costs and trade barriers, and the increase in prices caused by geographical concentration. The papers presented during the workshop focused on the question of convergence, both at regional and national levels, the stability of the different possible spatial equilibria, and the geographical links between innovation and production.

'The Core-Periphery Model and Endogenous Growth', jointly written by **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR) and **Rikard Forslid** (Lunds Universitet and CEPR),

investigated the influence of endogenous growth on the stability of equilibria in spatial distribution of activity models. The authors found that, whenever there are agglomeration forces – such as demand or cost links – at work, accounting for growth adds to these effects, thereby enabling it to play a highly destabilizing role. In this case, even the presence of high trade barriers (which permit the existence of a symmetric stable equilibrium in ‘classical theory’) can no longer ensure the stability of such an equilibrium. However, interregional learning spillovers and capital mobility constitute stabilizing factors, so a ‘catastrophic’ outcome is by no means predetermined.

**Riccardo Faini** (Università degli Studi di Brescia and CEPR) stressed the importance of migration for the final outcome and the necessity of exploring further the motivations behind it.

The paper by **Philippe Martin** (Graduate Institute of International Studies, Geneva, CEPI, Paris, and CEPR) and **Gianmarco Ottaviano** (Università di Bologna, Università Bocconi and CEPR) arrived at the same conclusions about the existence of a circular-causation relationship between growth and agglomeration, even in the absence of the usual demand or cost links. In ‘Growth and Agglomeration’, Martin and Ottaviano showed how industrial agglomeration spurs growth by reducing innovation costs through a lessening of transaction costs. Since, at the same time, growth fosters agglomeration via the existence of inter-temporal technological spillovers, the two are mutually self-reinforcing processes. Thus growth has an agglomerative effect of its own, in addition to those already identified by Krugman and Venables. This entails the existence for governments of a trade-off between regional equity and efficiency. These results are consistent with two stylized facts: the positive correlation between agglomeration and growth of economic activities; and the resemblance between the geography of innovation and the geography of production which is best illustrated by the crucial role of cities in both activities. **Peter Neary** (University College Dublin and CEPR) stressed the need for a better comprehension of agglomeration forces through finer modelling of market structures, and of consumers’ and firms’ decision processes. **Richard Baldwin** wondered about the welfare implications of the resulting shift of the equilibria.

The same issue was examined empirically at a national level by **Dan Ben-David** (Tel Aviv University and CEPR) who presented work with **A K M Atiqur Rahman** (University of Houston) on ‘Technological Convergence and International Trade’. Catching-up phenomena, such as the adoption of existing technologies by relatively underdeveloped countries, constitute an avenue through which convergence between countries might occur. As the knowledge dissemination behind this process is facilitated by exchanges and increased competition, trade might constitute a mechanism for reducing the degree of disparity among countries. However, income gaps

between most countries in the world show little evidence of falling over time; in fact, they often increase. Even among the wealthier countries, which should have the social capability to adopt first-best technology, no evidence of significant convergence can be found, whether in terms of income, total factor productivity or capital stock. Less than one quarter of randomly determined groupings of these countries display significant convergence. When these countries are grouped on the basis of trade relations (whether imports or exports), however, the authors find that there is strong evidence of convergence in levels of output and TFP, though not, apparently, in capital stocks. The primary channel through which trade leads to income convergence thus seems to be the technology route.

The causality links between income convergence and increased trade relations were the focus of general discussion on the paper. **Gilles Duranton** (LSE) observed that the existence of technological spillovers, linked to scale effects, was not observed at the world level; therefore, trade may be capturing proximity effects. On this point, **Alisdair Smith** (University of Sussex and CEPR) stressed the difference between trade liberalization and formation of blocs, such as the EEC.

**Vernon Henderson** presented ‘Urban Growth’, written with **Duncan Black** (both Brown University). Their paper modelled and examined empirically the evolution of cities in an economy. Twentieth-century urban evolution in the United States has been characterized by parallel growth of cities of different sizes and types, maintaining – with entry of new cities – a stable relative size distribution of cities over time. Cities also appeared to have evolved with differing average levels of human capital. National population growth has been translated into increased city sizes because of scale economies and knowledge spillovers, and because of increasing commuting costs. Thus individual city sizes have grown with human capital accumulation. Because per capita income and human capital levels differ across city types by production process and the benefits of spillovers and human investments, observed inequalities arise across cities among otherwise identical individuals. After stressing the empirical value of this study, **Gilles Duranton** noted that growth in population was necessary to urban growth as the returns to accumulable factors were declining over time.

‘Science-Based Diversity, Specialization, Localized Competition and Innovation’ was jointly written by **Marian P Feldman** (Johns Hopkins University) and **David B Audretsch** (Georgia State University and CEPR). The authors looked at the links between knowledge and production localization, and between economic performance and the composition of economic activity. The theoretical line derived from the works of Marshall, Arrow and Romer stressed the

superiority of both specialization and local monopoly, whereas Porter and Jacobs underlined the gains to be had from diversity and increased local competition in industries sharing a common science base. Using data on new products announcements at the city level, Feldman and Audretsch found considerable support for the Porter-Jacobs theory on both counts. The main force behind the formation of industrial clusters thus seemed to be the existence of a common, shared science base. **Johan Torstensson** (Lunds Universitet, University of Nottingham and CEPR) pointed out that size was likely to play a role in spatial distribution processes and wondered about the impact on interregional trade.

# DISCUSSION MEETINGS

## EMU

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### German Doubts

With 1999 and the date for European economic and monetary union (EMU) drawing nearer, a fierce public debate has sprung up in Germany. **Jürgen von Hagen** (Zentrum für Europäische Integrationsforschung, Universität Bonn and CEPR) presented an analysis of current German attitudes towards EMU at a CEPR lunchtime meeting on 11 March 1997. He argued that the risk to EMU in Germany at that stage was increasingly on the fiscal side. This was because, in the eyes of the German public, a large monetary union was looking increasingly unlike the 'stability club' promised by the German government, with the result that Chancellor Helmut Kohl could be forced to look for a way out of the dilemma by proposing a delay that would, most likely, kill the entire project.

Speaking against the background of his participation in the CEPR research programme on 'Globalization and Regionalism: Policy-making in a Less National World', supported by a grant from the Ford Foundation, von Hagen drew attention to a number of significant features impinging on the German debate. He noted first that, ever since the signing of the Maastricht Treaty, Mr Kohl and his finance minister, Theo Waigel, had used every occasion to tout their firm commitment to a strict interpretation of the Treaty's 3% (of GDP) limit to government deficits. Now it seemed increasingly likely that the German government would be caught in its own trap, as Germany would not be able to meet this fiscal criterion. The government's fiscal plan for 1997, meanwhile, incorporated a deficit target of 2.9% of GDP. But that plan was based on a forecast of 2.5% real economic growth – a figure that now seemed completely unrealistic. German unemployment had recently reached a post-war record of 4.7 million people, and there was little hope for a labour-market turnaround during the coming year.

The difficulty with this situation, as von Hagen saw it, was that even a minor 'violation' of the fiscal criterion would leave the German government with no strong arguments against the participation of Italy and other south European states in EMU. Among the German public, this, in turn, would undermine the credibility of Mr Kohl's promise that the euro would be as strong as the Deutsche mark. Moreover, a majority of

German economists remained sceptical about, if not opposed outright to, EMU. The German financial sector, by contrast, was firmly in favour. The Bundesbank had often warned that monetary union could not succeed without political union, although the vision of political union held by most Germans remained vague. The Kohl government hitherto had successfully avoided drawing up a list of conditions that would define an acceptable form for political union.

Until recently, public discussion of EMU had been virtually non-existent in Germany. When the SPD had tried to introduce the theme in the previous year's state elections, its local leadership soon recognized the continuing applicability of one of the 'laws' of post-war German politics, namely that you cannot succeed with anything that makes you look like a 'bad European'. Large anti-EMU majorities in public opinion polls notwithstanding, the election campaign against EMU failed to get off the ground.

But all this had now changed, and could change further as EMU drew nearer. If unions and opposition parties succeeded in portraying rising taxes and the removal of the welfare safety net as the price for Mr Kohl's strategy of political union through monetary union, German resistance to EMU might become more outspoken. Furthermore, while Germans would accept a smaller EMU with France and with Germany's smaller neighbours, a larger union including states with long histories of soft currencies and high inflation rates would be much less acceptable – hence von Hagen's view that Mr Kohl could be forced to put the whole project at risk in another way by proposing a delay in implementation.

## Commodities Futures

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### The Sumitomo Affair

The London Metal Exchange (LME) is the world's premier futures market for non-ferrous metals. The LME Copper Settlement price is effectively the world copper price. It should thus accurately represent the balance between supply and demand in a world market, whose turnover in 1995 was nearly \$34 billion. In 1996, however, it emerged that this price had been systematically manipulated by a Sumitomo trader over a period of six years, causing the LME price to depart substantially from its fundamental values, particularly in late-1995 and early-1996. These revelations prompted the Securities and Investment Board (SIB), which oversees regulation of all London financial markets, to undertake a major review of the functioning of the LME.

On 11 December 1996, on the eve of publication of the SIB's report, **Christopher Gilbert** (Queen Mary and Westfield College, London and CEPR), one of the UK's leading academic experts on commodity

futures markets, gave a briefing on the issues involved at a meeting organized by CEPR and funded by the ESRC Global Economic Institutions (GEI) Research Programme. Gilbert had recently completed the first independent academic study of the regulatory position in the United Kingdom with regard to manipulation of futures.

Futures manipulation is the activity of cornering or squeezing a futures market. This involves exploiting certain features of the futures market, in particular the delivery provisions, to create an element of monopoly power which allows the manipulator to raise prices to his advantage. Because manipulation distorts market prices away from their fundamental values, and because it reduces the value of the futures markets in hedging, such activity is at best regarded as 'antisocial', and is generally illegal.

In reviewing the existing regulatory arrangements, Gilbert argued that the 1986 Financial Services Act (FSA), under which the SIB regulates UK financial markets, failed to give explicit consideration to futures manipulation. The SIB deemed such manipulation illegal under section 47 of the FSA, but this section appeared too narrowly directed to sustain the claim. In the United States, in contrast, manipulation was explicitly prohibited under the Commodity Exchange Act (CEA). The implication was that the FSA should be amended to outlaw any exercise of monopoly power in futures markets which has the effect of generating artificial 'off-exchange' prices.

US experience nevertheless indicated that it was very difficult to bring successful prosecutions against futures manipulations. The emphasis should therefore be on prevention rather than prosecution. The key element in prevention is client-position reporting, which currently existed only on a voluntary basis on the LME. This should be put onto a statutory basis, extended to include metal in LME warehouses, and extended also to other London futures markets.

Gilbert further argued that the best deterrent to manipulation is increased transparency. Publication of aggregated position information can act as a significant impediment to manipulation, since market participants can act early to close out positions when they see evidence of a potentially manipulative situation emerging. Consequently, the SIB should introduce the CFTC's (the US Commodities Futures Trading Commission) *Commitments of Traders in Futures* reporting system to London markets. Reporting should cover both futures and options positions, augmented by summary statistics showing concentration of open interest. It should also cover stocks in LME warehouses.

The LME, however, differed in a number of respects from standard futures markets. The differences arose from the LME's traditionally very close links with the metals industry, which are a significant source of

strength for the exchange. Perpetuation of some of the differences – in particular, non-cash clearing and the use of historic-price carriers – was unwise and imposed additional risks on LME members, but did not raise regulatory concerns.

Another important difference between the LME and standard futures markets, which did raise regulatory concerns, was the LME's use of day-of-delivery rather than month-of-delivery market contracts. Typically, if manipulation takes place in a regular month-of-delivery market, this affects only the delivery contract, and not the 'nearbys', which are used as a pricing basis for 'off-exchange' contracts. The effects are therefore limited largely to the 'consenting adults' who participate in the 'delivery end-game'. By contrast, manipulation on the LME distorted the cash price which provided the basis for the entire world copper industry. The consequence was that, although manipulation was more difficult on the LME than on standard futures markets, its effects were more serious. This reinforced the importance of both the LME and the regulator acting urgently to ensure that manipulation became much more difficult in the future.

The Sumitomo events had also focused attention on the question of self-regulation, which formed the basis of financial-market regulation in the United Kingdom. Gilbert argued that there is a general public interest in ensuring that prices reflect market fundamentals – an interest which goes beyond the narrower interests of exchange members alone. This might suggest that exchanges should be even more vigilant in their suppression of manipulation than would be implied by the direct interest of their members. Although there was no basis for any charge that the LME had lacked diligence in attempting to identify and control manipulation, both it and other London futures markets would benefit from a significant strengthening of the regulatory framework.

## Trade Liberalization

### Transatlantic Trade Agreement?

Between them, North America and Western Europe account for two-thirds of world trade and one-half of world income. What benefits and costs would accrue – and to whom – if they became one giant North Atlantic trading bloc? This was the question posed by **Joseph Francois** (Erasmus Universiteit, Rotterdam, and CEPR) at a CEPR/European Institute meeting in Washington on 7 April 1997. As Francois noted, the issue was not simply whether pursuit of a trade and investment agreement between the two regions would be justified by the potential benefits. Equally important was whether they would benefit more from a preferential bilateral initiative or from joint support for multilateral initiatives.

Francois drew on his recent CEPR Discussion Paper (co-authored with Richard Baldwin), which had provided a quantitative assessment of the implications of preferential trade liberalization by the North Atlantic economies. This included an examination of the pattern of production, trade and import protection in both North America and Western Europe, and the likely trade and income effects of trade liberalization.

Three broad conclusions had emerged from this work. First, 'narrow' bilateral preferential agreements would have little discernible impact on national incomes in the two regions. Second, a 'deeper', but still only bilateral, trade agreement would generate modest increases in income and wages for both regions, but at the cost of generating welfare losses for North Africa and the Middle East. Third, the economic benefits arising from such bilateral preferential trade liberalizations would be easily swamped by the potential gains from comparable multilateral liberalizations. For other regions – particularly developing countries – the implications of such multilateral liberalization depend critically on their own participation in the liberalization process.

Francois noted that trade between North America and Western Europe consisted largely of exchanges of similar industrial products. In 1994, almost 40% of this trade was in machinery, cars, car parts and other transport equipment. Out of \$276 billion in total transatlantic merchandise trade, very little, in relative terms, was in politically sensitive industries, such as textiles, clothing, steel and agricultural goods, where trade frictions tend to be concentrated.

While the North Atlantic economies accounted for a large share of world trade, the analysis suggested that they offered relatively limited opportunities for further trade liberalization. This was because of the combination of Uruguay Round commitments to reduce tariffs, and the Information Technology Agreement reached at the Singapore Ministerial of the World Trade Organization. Taken together, these developments meant that, even without a preferential trade agreement, most transatlantic trade would face either relatively low tariffs (generally less than 2.5%) or zero tariffs by 2005.

Thus reduction in industrial tariffs alone, without a deeper liberalization initiative, was likely to have little – if any – impact on trade and incomes. Peaks of protection (tariff equivalents of over 30%) did affect EU and US exports of fishery and mining products, textiles, clothing, fabricated metal products, transport equipment and machinery, but these rates were generally found in Asia, Latin America and Africa, not in Western Europe or North America. (There was a notable exception, of course, in continued EU and US protection of sensitive products in their agricultural, textiles and fisheries sectors.)

With residual industrial protection relatively low, a 'narrow' preferential agreement would be likely to have only a very small positive effect on national incomes in North America, with near-zero gains for EU incomes. The research simulations suggest, in contrast, that a 'deeper' agreement, including bilateral elimination of industrial tariffs, agricultural protection and anti-dumping remedies, would generate modest increases in income and wages for the two regions. This would entail a broadening of the coverage of the plurilateral government procurement agreement, and a reduction in trading costs through mutual recognition and harmonization of standards.

The implications of a preferential agreement for third countries, however, vary according to the degree of liberalization. One qualitative result which was common to most of the simulations was that welfare losses would be implied for North Africa and the Middle East. The explanation was that a preferential agreement between the EU and North America would erode these other countries' existing tariff preferences in EU markets. The losses were generally of a magnitude roughly comparable – as a percentage of GDP – to the likely gains for the EU. Indeed, this result was quite general, in that preferential liberalizations solely among developed countries, whether involving only the North Atlantic economies or the entire OECD, were likely to imply adverse effects for various developing country regions (especially in Africa, but also in Latin America).

The research further suggested, however, that any potential economic benefits to Western Europe and North America from preferential bilateral liberalizations would be easily swamped by the potential gains from comparable multilateral liberalizations. For example, in the simulations, further trade liberalization also involving developing country tariff reductions implied significant gains for developed and developing regions alike. Moreover, these gains for non-OECD regions flowed largely from import liberalization by the developing regions themselves. Thus, within a multilateral framework, the gains that an individual region will enjoy as a result of a liberalization depend on the extent to which the region liberalizes itself.

*R E Baldwin and J F Francois, 'Preferential Trade Liberalization in the North Atlantic', Discussion Paper No. 1611, March 1997*

## EMU

### Unemployment Fears Unfounded?

Fears that a European Monetary Union, comprising a relatively large number of countries, will result in



higher unemployment and/or bigger inter-country unemployment differentials, are grossly exaggerated. This was the view of **Juan Francisco Jimeno** (Universidad de Alcala de Henares, Fundación de Estudios de Economía Aplicada (FEDEA), Madrid and CEPR), who spoke at a lunchtime meeting on 31 January 1997, organised by CEPR, hosted by the Spanish Chamber of Commerce in London.

Jimeno argued that, in the medium term, and in so far as it would lead to more stable monetary and non-monetary policies and to a higher degree of economic integration, EMU might have a more favourable impact on unemployment across the EU. But he also stressed that, quite apart from EMU, the fight against unemployment must involve the removal of structural obstacles to the effective functioning of national labour markets.

In elaborating on these two themes, Jimeno drew on work he had undertaken with José Viñals on a project on product market integration, labour market imperfections and European competitiveness. The project, which formed part of CEPR's Human Capital and Mobility programme, was funded by the European Commission. Their research had led to a number of specific conclusions. First, the contrast between the persistently high and drifting European unemployment rates, and the much lower and stable rates observed in Japan and the United States, suggests that there is a significant common element in European unemployment. There are, however, two countries which are in different starting positions, namely Spain, with an extremely high unemployment rate, and Sweden, where the European common factor seems to play a less important role.

Second, the very persistent nature of European unemployment over many years suggests that it is mostly of a 'structural' rather than a 'cyclical' nature. The high degree of real-wage rigidity in most EU countries is the main source of unemployment persistence. In some countries, there is also the danger that 'cyclical' unemployment becomes 'structural' if adequate policies are not implemented. Their third finding was that several labour-market institutions may have been responsible for the less-than-satisfactory performance of European labour markets, both by contributing to sustained wage pressures, and by slowing down the speed with which wage growth decelerates in the presence of worsening economic conditions. Jimeno pointed, in particular, to collective bargaining, job security legislation and unemployment benefit systems.

The fourth point was that, in attempting to meet the Maastricht convergence criteria, there may be short-run costs in terms of unemployment, but these ought to be more than offset by the long-term benefits. Moreover, short-term costs may be lessened – in some cases even eliminated – if convergence policies are credibly implemented and, where

applicable, accompanied by structural reforms in national product and labour markets. Fifth, unemployment convergence should not become an additional explicit or implicit requirement for entrance into EMU. In any event, it is clear that countries with badly-functioning labour markets, as well as worse growth and unemployment records, will have more difficulty meeting the convergence criteria.

Sixth, Jimeno noted that, despite the significant common element in the national unemployment situations of EU member states, policies to reduce unemployment remain largely the responsibility of the separate national authorities. Nevertheless, European-wide institutions can and should play a role in ensuring adequate coordination of these national efforts to fight unemployment, within the framework already established in the move towards EMU.

Finally, Jimeno argued that the pursuit of nominal convergence need not be incompatible with real convergence, provided the coordinated implementation of sound monetary and fiscal policies – aimed at achieving nominal stability – is accompanied by the introduction of appropriate structural reforms. In this regard, the further deregulation and liberalization, when necessary, of the non-traded goods and services sectors, and the redesign of labour-market institutions – such as job-security provisions and unemployment-benefit schemes – should be among the top priorities.

*J F Jimeno and J Viñals, 'Monetary Union and European Unemployment', Discussion Paper No. 1485, October 1996*

## **The Swedish Model**

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### **Lessons for New Labour?**

The UK Prime Minister, Tony Blair, has sometimes spoken bluntly of the need to abandon the statist policies of the old left or risk losing the trust of European citizens. It has often been suggested that the Swedish economic model – previously much admired in Europe – might offer some lessons on whether a centre-left government can successfully adopt the kinds of policies which Mr Blair and New Labour have advocated. Equally, can Sweden learn anything from the labour-market reforms which have been carried out in the United Kingdom over the past 18 years?

A recent Swedish Centre for Business and Policy Studies (SNS) report, written by a group of five international economists, set out to evaluate the Swedish economic model. **Thorvaldur Gylfason** (University of Iceland, SNS, Stockholm, and CEPR) outlined the report's findings during a London meeting organized jointly by CEPR and SNS on 12 June 1997. The speaker pointed to two significant indices of

serious flaws in the Swedish model. First, Sweden had seen its rate of growth slow down considerably over the past quarter-century; and second, in common with France and Germany, one-eighth of the labour force was now out of work.

Dealing first with the issue of unemployment, Gylfason argued that the main reason for the dearth of jobs had not been sluggish growth. While there was a cyclical element in total Swedish unemployment, which could be traced directly to the deep slump in economic activity in the early 1990s, there was also significant structural unemployment, which could be viewed as a belated consequence of various restrictions and rigidities that had been imposed on the Swedish labour market since the 1970s.

Because these impediments, which included centralized wage setting, had not become binding constraints in the 1970s and 1980s, they had not aroused much attention at the time. Moreover, their effect had been masked through the maintenance of full employment by, among other things, repeated devaluations of the Swedish krona and a relentless expansion of public-sector employment. In the 1990s, however, both those routes had been effectively closed, and unemployment had soared. Had they been operating in a more flexible labour market, Swedish firms would have been in a better position to weather the 1990s storm by adjusting wages and working hours rather than by cutting jobs.

On economic growth, Gylfason noted that the rate had been slow by international, as well as by Sweden's own historical standards. There appeared to be three main reasons for this. First, as was well known, Sweden was investing too little. In 1995, only 14% of GDP was devoted to investment – the lowest percentage in the OECD. By comparison, the East Asian tigers invested between 30% and 40% of their GDP, year after year. Moreover, Sweden had far too few small- and medium-sized enterprises.

Second, Sweden exported too little. In 1994, exports were equivalent to 33% of GDP, compared with an unweighted world average of 38%. Several European countries of similar size – not to mention the East Asian tigers – exported a good deal more, relative to GDP, than Sweden, and had grown more rapidly. For these reasons, Sweden's image as a small, open economy at the forefront of foreign trade expansion was no longer accurate.

Third, Sweden had failed to put enough emphasis on education. For example, the proportion of each age cohort of Swedes completing at least three years of post-secondary education had declined steadily in recent years. Specifically, of the cohort born just before 1950, 16% obtained such education. Since then the ratio had decreased with every cohort. Of the cohort born in 1968, only 7% had obtained three

years or more of post-secondary education. Several other indicators pointed in the same direction.

Gylfason ascribed this failure in part to blunted economic incentives. People will invest in education only if the returns warrant it. Centralized wage bargaining, however, had compressed the wages of fathers and sons; for example, the wages of 18–9 year olds in Sweden had risen from 55% of those of 35–44 year olds in 1968 to 80% in 1986. With the wage ladder lying on the ground, young people had lost sight of the need for education. To this extent, it was clear that centrally planned wage formation had been dangerous not only to employment in the short run, but also to economic growth in the long run.

If these aspects of Swedish experience offered some lessons to Mr Blair's New Labour government, the SNS report had also concluded that Sweden may have much to learn from the reforms undertaken in the United Kingdom in recent years, as well as in Central and Eastern Europe and East Asia. The evident deficiencies in the Swedish model raised the question of why so many sensible proposals for Swedish economic reform still seemed to find insufficient support in the political arena. Did radical reforms amount to political suicide for those who carried them out? The answer was no, since recent experiences elsewhere had demonstrated the danger of underestimating the electorate. Radical economic reforms could, and often did, win support among voters, provided the reforms were well-explained and well-executed. Several radical reformers had been re-elected, and some who had lost had made a comeback. Indeed, because of the potential political gains, radical reforms were often continued, and even completed, by those who inherited them from their originators. Gylfason recalled Harry Truman's dictum that there was virtually no limit to what people could accomplish in politics as long as they did not care who got the credit. Sweden surely did not need a deeper, and even more wasteful, crisis than that of 1991–3 – when GDP had declined for three years in a row – to convince its politicians and public that something needed to be done.

Gylfason thus expressed the hope that reform would not now be further delayed, and that a full-blown economic crisis could thereby be avoided. The Swedish government had actually implemented fiscal reforms with impressive speed in the previous few years, and – despite residual resistance to a major sharpening of incentives – most observers had concluded that further such reforms in other spheres were the key to stemming the slide.

## EMU

### UK Ostrich?

A CEPR report, analysing the policy implications for the United Kingdom of the single European currency,

was published in May 1997. The report was the result of a high-level independent panel study, chaired by **Rupert Pennant-Rea** (Caspian Securities Limited). At a CEPR meeting on 3 June 1997, Pennant-Rea outlined the main findings of the study.

The study recognised that the UK government had four possible strategies for EMU: 1) join at the start; 2) decide to join, but at a later date; 3) agree to wait and see; 4) decide in principle not to join. The panel concluded that, whatever decision the government eventually took, there would be big changes in the economic environment, and these changes would require policy responses. Some were widely recognised already: for example, a decision to join EMU would require that the Bank of England have more than operational independence over monetary policy. But other implications of joining had not been as carefully analysed. For instance, being in a monetary union would be less problematic for the United Kingdom if its sensitivity to interest rates were more like that of other EMU members. Could that be engineered and, if so, how? Any such policies would take time to implement and bear fruit, which therefore affected the date when it would be sensible to join EMU.

If the United Kingdom were to join at the start, five conditions would have to be met. First, the central bank would have to be fully independent by the end of 1998. The government would therefore have to attach high priority to drafting and passing a new Bank of England Act that was different, in important respects, from that outlined on 6 May 1997 by the Chancellor, Gordon Brown, when he announced his plans to give the bank operational independence. Second, there would need to be a significant tightening in macroeconomic policy. Interest rates in EMU's first-wave candidates were currently 3% below UK rates, and the gap might be wider in a year's time. Consequently, the United Kingdom would have to be subject to an interest rate probably much lower than it needed for its current cyclical state. The third and fourth requirements were, respectively, a lower exchange rate, and – to compensate for the loss of autonomy over monetary policy – enhancement of automatic fiscal stabilizers. Finally, the tax incentive to use debt needed reducing. This would help make the transmission mechanism of monetary policy in the United Kingdom more like that in other EMU candidates.

The second option – a decision to delay entry by, say, three or four years – would ease or eliminate the practical problems of trying to achieve these outcomes in time for the start of EMU. It would not be

imperative to make the Bank of England fully independent by the end of 1998, though legislation should not be delayed for long. It would also be desirable to bring in legislative measures to enhance the fiscal stabilizers; they would then have a chance to start working. But the bigger advantages of delay related to conjunctural and exchange rate concerns. By 2001 or 2002, the EMU interest rate may well be broadly what the UK economy would need in its then cyclical circumstances.

A wait-and-see strategy was the position of the 'pragmatic agnostic': if EMU works, then join at some unspecified date. This had the obvious advantage that some of the uncertainties about EMU – on the operation of monetary policy; on the demand for, and value of, the euro; and on the strains generated by a single short-term interest rate for all the 'ins' – would be reduced. But in order to keep open the option of joining EMU some way down the road, it would still be desirable to reduce the fiscal deficit and remove tax incentives to use debt. It would also be sensible to draft the forthcoming amendments to the Bank of England Act in a way which would allow it to operate as part of the European System of Central Banks should the United Kingdom join EMU.

Finally, if the United Kingdom were to stay out of a monetary union, how the value of sterling fluctuated against the euro would be of great significance. The sterling-euro exchange rate would be much more important for UK business than any current bilateral rate. Sharp fluctuations in the former would be more damaging than similar fluctuations in the latter. And because countries inside the single currency area could not independently do much to alter their competitiveness against UK goods, they would be likely to be more sensitive to the exchange rate implications of UK policy. The surest way for the United Kingdom to minimize discrimination against UK-based firms would be to participate actively in the development of the single market. If the government decided to stay out of EMU, this participation would be even more important – and, perhaps, more difficult too. Much would depend on attitude. If the United Kingdom was seen as a 'constructive agnostic' on EMU, it would be listened to on subjects such as competition policy. If it came across as a whinging outsider, it would be ignored.

*R Pennant-Rea et al, 'The Ostrich and the EMU: Policy Choices Facing the UK', A Report published by CEPR, May 1997. ISBN 1 89812831 6*

## World Bank

### Restructuring Dilemmas

What will be the World Bank's role in the 21st century? Under its new President, James D Wolfensohn, the Bank has begun to face these issues. According to **Christopher Gilbert** (Queen Mary and Westfield College, London and CEPR),

however, the Bank's 'strategic compact' proposal is misconceived. Speaking at a CEPR meeting on 23 January 1997, Gilbert argued that the World Bank should capitalize on its complementarity with private-sector banks and allow middle-income countries to graduate to private-sector lending. He asserted that this complementarity principle imposed qualifications on Wolfensohn's objective of making the World Bank market-led: the Bank should become more business-like, but it should ask where it has a comparative advantage over the private sector in providing development finance. As part of this process, moreover, the IFC (the Bank's private-sector arm) should be partially privatized.

Gilbert, who ñ together with colleagues Raul Hopkins, Andrew Powell and Amlan Roy ñ has been examining the Bank's role as part of the CEPR/ESRC Global Economic Institutions (GEI) research programme, noted that under Wolfensohn's direction, the Bank must take some of the most important decisions in its fifty-year history. The Bank was originally conceived as a public-sector development agency, lending to developing-country governments or against government guarantees. Its brief was to augment deficient capital flows to developing countries in a culture where governments were seen as the main agencies for growth. The Bank now had to adapt to a world in which; private capital flows to developing countries were at an all time high; the private sector was the dominant engine of growth in developing countries; environmental issues were creating new demands; and; the Bank's own resources were becoming increasingly stretched as a consequence of cuts in its administrative budget.

Wolfensohn had launched a major strategic review in response to these challenges. One possible response to the Bank's dilemma would be wholesale privatization, as suggested some years ago by Alan Walters, then adviser to Mrs Thatcher. But, said Gilbert, this suggestion ignored the functional complexity of the current World Bank group, which could not easily be sustained in a privatized organization. The Bank combines banking (financial intermediation) and development assistance functions, with each function benefiting from the other. The two functions are 'cemented' by policy conditionality, which enables the Bank to lend with greater security than private banks and allows it to reward governments that pursue successful development strategies. While Walters was right in arguing that privatization would introduce important market disciplines, a privatized World Bank would lack the authority to apply policy conditionality. The world would gain one more large international bank, but lose its leading development agency.

Wolfensohn himself sees the solution, not in privatization, but in the Bank's becoming more business-like. He contends that the Bank should [not??] decide which products to market, and which

are best suited to each client - it should be market-led. His mission is greatly complicated by contraction of the Bank's budget, however. He had therefore proposed a 'strategic compact', under which member governments would grant the Bank additional resources over three years to give it breathing space and to allow it to improve its investment portfolio and release resources for development assistance.

The research team believed, however, that Wolfensohn's approach, though refreshing, was misconceived. First, it would lead to the Bank competing directly with private-sector banks, effectively lending at subsidized rates to middle-income countries that face little difficulty in borrowing from the private sector. Second, as in all previous crises, it would result in the Bank expanding when it should be contracting ñ a response against which, ironically, it constantly warns client governments. Third, the proposed reform also seemed unlikely to put sufficient emphasis on private-sector investment.

A more appropriate response, in the opinion of Gilbert and his colleagues, would be for the Bank to emphasize instead its complementarity with private-sector banks and encourage middle-income countries to graduate from the Bank to the private market. If fostering private-sector investment in developing countries were to become the World Bank's main objective, however, it would entail a substantial reorganization of the World Bank group. The group currently comprises four separate entities with economic functions: 1) the IBRD (International Bank for Reconstruction and Development), which lends to middle-income countries; 2) the IDA (International Development Association), which lends at subsidized rates to the poorest countries; 3) the IFC (International Finance Corporation), which lends for private-sector investment; and 4) the MIGA (Multilateral International Guarantee Agency), which guarantees private-sector investors against expropriation and repatriation risks. Also included in group is a juridical institution, the International Centre for Settlement of Investment Disputes (ICSID).

The IBRD borrows from financial markets against member-government guarantees and on-lends against client-government guarantees, while the IFC borrows and lends in its own name, without member- or client-government guarantees, to private-sector projects. MIGA is financed via the IBRD; and the IDA is financed from group net income and by direct grants from member governments. The IBRD and IDA historically have been the largest components in the World Bank group; in Gilbert's view, however, a shift towards lending to the private-sector would require a major shift of resources towards the IFC and MIGA and away from the IBRD.

Indeed, the research pointed to the need for member governments to agree urgently to the refinancing of the IFC and MIGA. Refinancing of MIGA presented no major problems, since it could be effected through

direct transfer of resources from the IBRD. The urgency stemmed from the fact that MIGA was already in an actuarially precarious position. The IFC's funding structure, however, differed from that of the IBRD in a way that made refinancing via transfer of resources very expensive. The sums of money potentially involved were also very large. The IFC therefore should be recapitalized via an injection of private-sector funding, perhaps involving private-sector banks becoming minority shareholders.

This proposed injection of private-sector finance into the IFC would amount to partial privatization. It would simultaneously increase the World Bank group's capacity to lend to the private sector, while subjecting it to the discipline of producing an adequate return to equity holders. Placement of shareholdings with private banks would reinforce the principle of complementarity with the private sector. The proposal would put the IFC in a position to become the leading development agency in the opening decades of the new century. With the poorest countries continuing to rely on IDA funding which should remain the priority for investment of World Bank group profits the development assistance capability of the whole World Bank group would be maintained in respect of the entire range of developing countries, including the least developed countries.

*C L Gilbert, R Hopkins, A Powell and A Roy, 'The World Bank: Its Functions and its Future', GEI Working Paper No 15, July 1996*

## Education Outcomes

### Family Matters?

The influences exerted by the economic standing of parents upon the educational achievements and subsequent economic successes of their children have been the subject of a substantial body of recent research within CEPR's Human Resources research programme. The issues investigated include: 1) the extent to which, in general, affluence and poverty in the United Kingdom are transmitted from one generation to the next; 2) whether a UK mother's education is a good predictor of her children's – especially her daughters' – educational achievements; 3) the differences in educational levels attained by the offspring of native Germans and Turkish immigrants in Germany; and, 4) via a comparison between Italy and the United States, whether state-financed education is more effective than a privately-funded system in increasing intergenerational mobility. The fruits of this research were reported by four CEPR Research Fellows at a joint CEPR/Royal Economic Society meeting in February 1997.

Work undertaken by **Stephen Machin** (University College London, Institute for Fiscal Studies, London, and CEPR), in collaboration with Lorraine Dearden

and Howard Reed, suggests that the degree of intergenerational mobility in UK society is still very limited. Instead, the economic standing of parents is an extremely important determinant of where their children end up in the income distribution. Whether this is because of children inheriting their parents' abilities, however, or because of differences in children's family backgrounds, is not clear. Nonetheless, the research – which made use of the National Child Development Survey (a continuing study which follows the changing circumstances of a sample of children, born in March 1958, as they grow up) – yielded several important findings.

The first is that rich people tend to come from high-income backgrounds. Thus over half of the individuals in the top quarter of today's earnings distribution had parents who were also in the top quarter of their generation's earnings distribution. Similarly, poor people tend to come from disadvantaged backgrounds. For example, in the case of two fathers from a generation ago, earning £20,000 and £10,000 respectively (in today's prices), the results indicate that the son of the richer father would grow up to earn, on average, almost £7,000 more than the son of the poorer father. Second, these trends extend also to the occupational distribution, and to employment histories. Sons of managerial or professional fathers, for example, are almost three times more likely to end up in similar occupations themselves than are the sons of semi-skilled and unskilled manual fathers. Similarly, men whose fathers had experienced spells of unemployment in the 1960s and 1970s are twice as likely, in comparison to the average for their cohort, to have been unemployed for a year or more between 1981 and 1991.

Third, looking at those children from poor and disadvantaged backgrounds who do manage to escape from poverty in adult life, the data suggest that they tend both to be more able, and to have better educational qualifications, than the children who fail to escape. Finally, and more generally, while the research clearly indicates that people's attainments in education and the labour market are strongly related to their parents' performance a generation ago, it seems that today's income distribution may well reflect the pattern of inequalities extending back three or more generations.

The impact of mothers on their children's educational achievements was the subject of research carried out by **John Ermisch** (University of Essex and CEPR), in collaboration with Marco Francesconi. They made use of a unique set of data, which matches mothers and their young adult children, to study the impact of family background on young people's educational attainments. The data was derived from the first five years (1991–5) of the British Household Panel Study, a representative sample of the UK population in the 1990s.

Ermisch and Francesconi concluded that a mother's education is a very powerful predictor of her children's educational achievements, particularly for daughters. For example, if the mother's highest qualification was an O-level, then the likelihood of her child obtaining a university degree was only 12%; but if the mother was a graduate herself, the likelihood of her child also getting a degree was 67%. The research also considered the impact on a young person's educational achievements of three variables: first, whether or not they spent part of their childhood in a single-parent family; second, their parents' economic status; and third, whether their mothers worked, and what kind of work they did.

On the single parenthood issue, almost two in five of the young adults in the sample had spent some time in a single-parent family. This experience tended to reduce the educational attainments of young men moderately, but had little effect on young women's education. Among men, for example, the study found that the probability of obtaining a university degree fell from 22% for those who had always lived in an 'intact' family, to 18% for those who had spent some time in a single-parent family. Part, if not all, of this negative effect of single-parent-family experience reflected the fewer economic resources available in such families.

Parents' economic status also proved to be relevant in that young men whose parents were homeowners achieved higher levels of education. In addition, higher family income was associated with higher educational attainments among young women. Since mothers' education had already been taken into account, these results suggested that financing constraints were operating to affect parents' investment in their children's human capital, particularly beyond A-level. There was also evidence that scarcity of resources (both of money and of time) in larger families may have lowered educational attainments.

Finally, Ermisch revealed that they had found no grounds to support the view that working mothers prejudice their children's educational attainments. Indeed, having a working mother at age 14 may even increase the odds that the child will obtain A-level qualifications or higher. It was also found that young people who were born later in their mother's life achieve higher educational qualifications.

According to a study of the educational achievements of children in Germany, the children of native Germans acquire markedly more education than their contemporaries from other ethnic groups, and particularly the Turkish 'guest-worker' generation. In terms of length of time spent in school, the Germans averaged 12.1 years, while the Turks averaged 7.6 years. Moreover, 47% of the Germans obtained at least a high-school degree, compared with only 6% of the Turkish children. In terms of vocational training,

the pattern of degree completion was repeated, with 45% of Germans and 17% of Turks receiving such training, and other groups – Spaniards, Greeks, Italians and Yugoslavs – falling in between.

These were some of the research findings presented by **Klaus F Zimmermann** (SELAPO, Universität München and CEPR), who drew on the results of a study carried out jointly with Ira Gang. Zimmermann noted that the German guest-worker programme in the 1960s had attracted many workers who became permanent migrants. Since the parent migrants were mostly blue-collar workers, the educational attainments of their children – who mostly still retained their national status – were of interest.

Zimmermann argued that the inter-group variations in educational outcomes were not simply a matter of discrimination, in that the achievement of children in schools is subject to a number of influences, including parents' educational attainment, ethnicity, culture, gender and competition for school places. For Germans, for example, parents' educational background played a significant role, with the father's education being more important than the mother's in influencing children's educational outcomes. Parents' education had a positive impact on both the total years of education and the level of schooling achieved. There also appeared to be a bias against vocational training since the children of highly-educated German parents generally chose forms of education other than vocational training.

By contrast, for second-generation immigrants, parental education was not a good proxy for parental influence. Migrants' education levels bore little relationship to the educational attainment of their children. Instead, it could be argued that these parents had made their human capital investment in their children through their decision to emigrate. Moreover, although second-generation immigrants have an equal start in the German educational system, large differences nevertheless remained in human capital formation across ethnic groups. Some assimilation was evident across generations, but it was still far from being complete.

The significance of these findings lies in the fact that achievement of parity in educational attainment is a central issue in the intergenerational performance of immigrants and their families. This is especially important in economies like Germany, where a very substantial weight is placed on the formal aspects of educational degrees. Without education equivalent to that of the German system, the integration of immigrants into the German economy is rendered substantially more difficult. Hence, a higher level of school education and vocational training is a safeguard against unemployment in the German labour market. Even so, the research suggests that educational qualifications are much less rewarding

for foreign workers and their children than for native Germans.

If one of the goals of a state-financed education system is to promote equal opportunity for social mobility in order to reduce the waste of talents among low-income groups, then the Italian schooling system has failed to achieve this outcome. The centralized and egalitarian structure of education financing in Italy has indeed offered a substantially similar quality of education to both rich and poor families. Despite this offer of equal opportunities, however, in comparison to the United States, Italy displays lower intergenerational mobility, in terms not only of occupations but also in terms of education levels. This is the key conclusion from research conducted by **Andrea Ichino** (IGIER, Università Bocconi and CEPR) together with Aldo Rustichini and Daniele Checchi.

Ichino reported that, in the United States, if a father has a college degree, then the probability of his child graduating from college increases six-fold; in Italy, the probability increases 25-fold. And, if the probability that an American son will be in a high-income group depends more on his education level than on his family background, the opposite is true in Italy. It seems that for Italians, it is better to 'choose' the right family than to obtain a college degree. Not surprisingly, therefore, Italy has one of the lowest shares of college graduates among OECD countries.

Ichino's explanation for this failure is that, precisely because it offers the same quality of education to everybody, the Italian public school system prevents parents from investing in the education of their children according to their expected talent. In addition, in a country in which family networking in the labour market matters, uniform provision of education takes away from talented children of low-income groups an instrument to signal their talent and to overcome the networking advantage of children in high-income groups.

For both reasons, the Italian public education system, while reducing the cost of educational investment, also reduces the return for low-income groups. Ichino's suggested solution to this problem is that reform of the Italian public education system should be aimed at preserving a uniform minimum quality of primary education for everybody. But, at the same time, it should be aimed at increasing the quality differentiation at higher levels of education, in order to generate the correct incentives for individual investment in education.

*Stephen Machin, Lorraine Dearden and Howard Reed, 'Intergenerational Mobility in Britain', Economic Journal, January 1997*

*J Ermisch and M Francesconi, 'Family Matters', Discussion Paper No. 1591, February 1997*

*K F Zimmermann and I N Gang, 'Is Child like Parent? Educational Attainment and Ethnic Origin', Discussion Paper No. 1461, August 1996*

*A Ichino, A Rustichini and D Checchi, 'More Equal but Less Mobile? Education Financing and Intergenerational Mobility in Italy and in the United States', Discussion Paper No. 1496, October 1996*

## Transition Economies

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### Industrial Policy Role

Industrial policy, interpreted as discretionary government intervention in industry, has a bad reputation in the West, and has also for the most part now been eschewed by the governments of economies in transition. But, according to **Saul Estrin** (LBS and CEPR), most of their microeconomic policies – including their policies on privatization, competition, science and SMEs – are in fact industrial policies in all but name. At a meeting in Bucharest, held on 4 December 1996, and organized jointly by CEPR, IEWS and the Romanian Institute for Free Enterprise (RIFE) under the auspices of the *Economic Policy Initiative*, Estrin raised three questions about industrial policy. First, what are the appropriate parameters for the exercise of such policy? Second, should governments take a more strategic and systematic view of each element of industrial policy? And third, is there a case for coordinated industrial intervention in transitional economies?

Estrin argued that industrial policies are directed at raising economic efficiency in the industrial sector. This entails raising productivity, international competitiveness and non-price competitiveness, e.g. quality. In general, policies are needed in this area because markets frequently fail to do the job unassisted. But governments may be even more liable to fail, because they distort incentives for firms, creating rents from which business people and public officials alike can choose. There is thus no general solution here: the case must be argued on a policy-by-policy basis. There are five areas of industrial restructuring in transition economies in which industrial policy may be relevant. First, sectoral reallocations from industry to services, from heavy to light industry, and from import substitution to export promotion. There is little evidence that government policy is needed here, or is likely to be effective. Second, encouraging long-run growth, through coordinated policies to improve education, health and infrastructure. This is an important area for policy in transition. Third, increasing the size of the private sector, through privatization. Policies can be useful here, though encouraging the emergence of markets and 'real owners' should be the guiding principle. Fourth, encouragement of a balanced firm-size distribution, via policies to support small and medium-

sized enterprises, may be relevant. Finally, managing the state-owned sector – clear governance is needed, as are transparent arrangements for subsidy where relevant, and a legislative framework is very important.

Thus there is clearly a role for transition governments to play in the industrial development of their countries, but there is also a need to improve their policy effectiveness. One way forward would be to consider the possibilities for coordination of government policies, and for evaluation of the possible impact of a consultative process of ‘crystal-ball gazing’ undertaken by the government in partnership with firms – the so-called ‘indicative planning’ process. Estrin concludes that, provided the administrative capacity were available, both these options could play a useful role.

## **Trade Liberalization**

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### **Zero-Sum Game?**

There has been considerable public debate in recent years about the need for – or dangers of – movement by countries towards free trade with one another. At a CEPR meeting on 16 September 1997, **Dan Ben-David** (Tel Aviv University, NBER and CEPR) examined the issues surrounding whether countries should adopt free-trade policies, or whether they should look inward to avoid exposing themselves to cut-throat competition from abroad that may lead to domestic difficulties.

One of the cases that Ben-David highlighted was that of the original six founding countries of the European Economic Community (EEC). He sought to establish whether there were any lessons to be learned from the creation of the EEC and, in particular, whether trade liberalization within the EEC had reduced income disparity among member countries and what effects, if any, it had had on their economic growth paths.

Ben-David recalled that the late 1940s had brought the first hints of trade liberalization, with the creation of the Benelux union and the Marshall Aid-induced relaxation of quantitative trade restrictions among the future EEC countries. Trade liberalization had continued with the formal creation of the EEC in 1957 and the implementation of a ten-year transitional period (1959–68). Nearly all remaining trade restrictions among the EEC members were eliminated in a series of across-the-board cuts in tariffs and quotas during this period. Prior to these moves towards free trade, during the six decades between 1870 and 1930, the income gap among the countries had remained remarkably stable. The gap had then fallen by two-thirds between 1950 and 1968, before stabilizing at this new, lower, level. Nor was this example of trade liberalization being

accompanied by income convergence unique to the EEC. It had been repeated in other groups of countries where, as mutual trade had increased, the income gap among them had fallen substantially.

This evidence raised the question of whether the catching-up exhibited by the poorer countries had been at the expense of their wealthier partners, i.e. was this a zero-sum game? Ben-David recalled that both World Wars had led to massive reductions in European income levels. But, unlike in the post-1945 period, the first World War had not been followed by extensive trade liberalization. Looking at the five (out of the six) founding EEC countries for which historical data exists, it was clear that, whereas the first World War had been followed only by a return to the original growth path, the second had brought a movement to a new and steeper growth path.

More specifically, the average annual growth rate of real GDP per person in the five countries had been 1.4% between 1870 and 1939, but 3.4% between 1950 and 1989 – an increase of nearly two and a half times. Moreover, the growth rate of exports, which had proceeded at roughly the same rate as output during the decades preceding the second World War, had risen substantially as the countries had liberalized their trade. Thus average post-1945 export-output ratios in the EEC countries were 2.7 times the pre-war ratios.

Consequently, trade liberalization in the EEC had coincided with a sharp drop in income disparity among the countries, and this convergence had not come at the expense of the wealthier countries. In fact, claimed Ben-David, every one of the liberalizing countries had moved to a new and higher long-run growth path. Clearly, there were a number of other post-World War II events, besides the movement to freer trade, that had contributed to these changes. Nonetheless, the fact that differences in the timing of the trade liberalization schedules of different groups of countries appeared to have been strongly related to differences in the onset of income convergence suggested that trade had played an important role in the positive growth experiences of the countries concerned.

## **EMU**

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### **Creditworthy Reforms Needed**

Sustained reform of economic policies and structures has been identified by the European Commission as a condition for peripheral nations and regions to benefit from EMU, especially in the face of limited labour mobility and low capacity for fiscal redistribution. It has also been demonstrated by retroactive simulations that, had the ‘stability and growth pact’ been applied over the 1961–97 period, it would not have exacerbated recessionary forces.



These views were expressed by **Jorge Braga de Macedo** (former Portuguese Minister of Finance, Universidade Nova de Lisboa and CEPR) at a meeting jointly organized by CEPR and The Royal Bank of Scotland, whose Treasury and Capital Markets group acted as hosts. Braga de Macedo warned that if countries used EMU to hold up necessary reforms, then the benefits of the euro might vanish both at the core and at the peripheries.

In reviewing the progress made by EU members towards economic reform, Braga de Macedo noted that most countries had shifted towards a more disciplined fiscal and a more stable monetary regime after realizing that they could no longer improve their export competitiveness by engineering exchange rate devaluations. The trend had begun after the creation of the ERM in 1979, with the Netherlands forgoing devaluation after 1982 and France after 1983. Poorer states had taken longer to be convinced, but the economic regime had changed in Ireland after 1987, in Spain after 1989 and in Portugal after 1992. In Greece and Italy, the changes had been even more recent.

Looking ahead to the benefits of EMU, Braga de Macedo argued that stability-oriented policies would allow the effects of replacing national currencies with the euro to differ not so much spatially, by the geographical location of the state, but rather according to credit ratings. The implication was that, since ratings reflected the ability to service debt in the future, firms located in the peripheries might benefit more than those located in the core, as long as national and regional policies had sufficient credibility. Benefits would also flow if the assumption that the 'rules of good housekeeping' of the gold standard would be matched by the combination of the euro and the stability pact was to be realized. We would then have what might be called the 'euro standard'. While some features were still unclear – e.g. whether the European Central Bank would be accountable to the European Parliament, national parliaments, both or neither; and by whom the euro exchange rate against the dollar or the yen would be determined – such design problems were likely to be overcome by appropriate institutional evolution and awareness among members of the benefits of cooperation.

Differences between core and peripheral countries would be slow to erode, however. For the core currencies, since the choice of members and the locking of parities would now be simultaneous, greater resort to financial instruments and more effective central bank cooperation might suffice to discourage speculative attacks on the parities perceived to be weaker. But, even though the ERM will remain as a convergence instrument, currencies in the peripheries will continue to be subject to the lingering influence of 'geographical fundamentals' and other monetary myths. Myths from a misperceived historical experience interact perversely with geography, since the reputation of a state in the periphery of an international currency standard may differ from that of a state in the core. This had previously been true of the geography of the gold standard and, basically, it reflected the role of politics.

In the case of Portugal, the multilateral surveillance procedures of the ERM had enhanced national credibility abroad even before the policy had been accepted at home.

Thus, the difference with the currency crises in emerging markets from Latin America to Asia, let alone in Central Europe, lay in the expectation that stability-oriented policies would not be questioned in future elections. As the preference for stability was revealed at home and abroad, the benefits of policy credibility to economic activity and employment were becoming more apparent: Portugal's unemployment rate, for example, had been around 7% – one-third of Spain's.

Turning to the current 'state of play' on potential membership of EMU, Braga de Macedo claimed that, in the wake of the 'social' emphasis introduced by the election of the new French government in May 1997, the likelihood of Italy joining was now almost the same as that of Portugal or Spain. On the one hand, market sentiment remained such that the euro would be perceived to be too weak if Italy was included; on the other hand, while Italy was one of the EU's major financial peripheries, it was at the political core of the Union. It could not therefore be alone with Greece and the 'opt-outs' (Denmark, the United Kingdom and Sweden) in being outside EMU.

### **A Prohibition Approach to Competition Policy: The Implications for Utility Regulation**

In August 1997, the new Labour Government published a draft Competition Bill, *A Prohibition Approach to Anti-Competitive Agreements and Abuse of Dominant Position: Draft Bill*. The implications of the proposed Bill are far reaching and its passage will constitute the biggest change to UK competition policy for several decades. In short, the bill proposes to bring policy largely into line with the approach taken by the European Commission. Much of the Bill therefore shadows Articles 85 (restrictive practices) and 86 (abuse of dominance) of the Maastricht Treaty.

Such a dramatic change to the UK regulatory environment will obviously have an impact on the regulated utilities. It is intended that prohibitions should apply to regulated utilities, and be enforced by the appropriate sector regulators. In addition, the Government is undertaking a review of utility regulation to consider whether

changes are required to ensure open and predictable regulation, which is fair to all consumers and shareholders and which promotes the Government's objectives for the environment and sustainable development, while providing incentives to managers to innovate, raise standards and improve efficiency.

The utilities review, together with the proposed legislation, should lead to better accountability structures for UK utility regulators. The creation of a Competition Commission, replacing the Monopolies and Mergers Commission, also should result in a more transparent appeals process. Significantly, the ability of sector regulators and of the Director General of Fair Trading to exercise prohibitions against firms infringing competition rules should enhance the credibility of UK regulation. But the Bill and the review also raise interest in a number of issues related to the treatment of network agreements in the utilities, and, more generally, may call into question the position taken by the Government on vertical restraints.

These developments provided the background to the third in a series of informal CEPR/ESRC/LBS Regulation Initiative Network Workshops, which was held in London on 7 November 1997. The workshop was organized by **David Currie** (LBS and CEPR) and **Christopher Doyle** (LBS).

There were no formal presentations of papers. However, after an outline of the proposed Bill, given by Christopher Doyle, **Paul Grout** (University of Bristol) discussed the Bill's implications for sector regulation, particularly in telecommunications, and **David Newbery** (Department of Applied Economics, University of Cambridge, and CEPR) examined its likely impact on the energy sector and, more generally, on network regulation. These contributions were followed by a wide-ranging discussion from the floor.

Returning to the policy-reform theme, however, Braga de Macedo expressed concern about the fact, as he saw it, that the major uncertainty over whether or not EMU would begin on time had shifted from the financial peripheries to the core. Segments of European public opinion were disposed to give more salience to the dismal record on unemployment than to the possible benefits of EMU. Moreover, they were still prone to the belief that there exists a lasting trade-off between inflation and unemployment. In this environment, national governments, fearing that further structural reforms could exacerbate political instability, might use EMU as an excuse for procrastination over essential changes, and so threaten to derail the entire project.

There was, therefore, no room for complacency. Although the escudo, for example, had become a convertible currency without balance-of-payments crises, there were still substantial challenges in sustaining its newly acquired financial reputation. These pertained mostly to reform of the public sector, which had been interrupted since the 1993 local elections. The 'euro standard' could not replace reform in labour markets, social security, education and training. Only if reforms took place would

medium-term credibility be assured, thus ensuring that the effects of replacing national currencies with the euro would accord with the credit ratings of nations, cities and firms, rather than with their geographical location. The temptation to use EMU as an excuse for delaying unpopular reforms had to be resisted.

## **Labour Markets**

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### **Burdensome Taxes**

At a meeting in Brussels on 29 October 1997, jointly organized by ECARE and CEPR, **Guido Tabellini** (IGIER, Università Bocconi and CEPR) examined the possibility of a link between European unemployment and European growth levels. Contrary to the established view of economists that the natural rate of unemployment is invariant to productivity growth, Tabellini claimed to have found such a link, the existence of which had led to very large costs in terms of reduced growth and higher unemployment.

The major source of this problem was the rise in effective tax rates on labour income, the average rate of which had increased by about 10% between 1965–75 and 1976–91. This could account for a 4% increase in European unemployment, and for a reduction in the EU growth rate of about 0.4 percentage points a year. In Tabellini's view, therefore, one of the main challenges currently faced by the European Union was to moderate the overall level of taxation and particularly taxes on labour.

Tabellini's finding that unemployment and the slowdown in growth were related stemmed from the identification of a common cause, namely an excessively high cost of labour. If labour markets are non-competitive, an exogenous increase in labour costs has two effects. It reduces labour demand, thus creating unemployment; and, as firms substitute capital for labour, the rate of return on capital falls over long periods of time. This, in turn, diminishes the incentive to accumulate and thus to grow.

European labour costs had gone up for many reasons, but one was particularly easy to identify: higher taxes on labour. In competitive labour markets, nothing much would happen if taxes went up. The low elasticity of individual labour supply implies that the burden of a tax on labour income would be borne almost entirely by the worker, with

little effect on unemployment or on the capital-labour ratio. But if workers are organized in monopolistic unions, then labour taxes are much more distorting. The reason is that unions can succeed in shifting the burden of labour taxes onto firms. In this case, a rise in labour taxes would increase unemployment, increase the capital-labour ratio, and reduce long run growth. Thus, the consequences of labour taxes depend very much on the character of labour-market institutions.

Continental Europe fares very poorly on both counts. Labour markets are highly unionized; and labour taxes have increased substantially. Little wonder, therefore, that unemployment has increased so much and growth has slowed down. In some recent joint research with **Francesco Daveri** (Università di Brescia), Tabellini had made this argument more precise, by testing its validity against the evidence from a panel of 14 OECD countries – some European, some not – over the period 1965–91. The difference between Continental Europe and the other industrial countries had been striking in three respects.

First, Tabellini and Daveri had found a large positive correlation between labour taxes and unemployment in Europe, but not elsewhere. Second, there was strong evidence that higher labour taxes were indeed shifted onto higher gross wages in Europe but again not elsewhere. Third, there had been a much bigger surge in the capital-labour ratio in Europe than in other industrial countries. IMF estimates, for example, suggested that, between 1970 and 1995, the capital-labour ratio had more than doubled in the European Union, whereas it had risen only by 25% in the United States.

These results had provided the basis for estimating the costs, in terms of reduced growth and higher unemployment, occasioned by higher labour taxes in Europe. The policy implications of these conclusions were straightforward, but highly relevant. In a world with monopolistic trade unions, labour taxes can be as distorting and harmful to growth as capital taxes. Hence the need for moderating the overall tax burden, but especially the burden on labour.

*F Daveri and G Tabellini, 'Unemployment, Growth and Taxation in Industrial Countries', Discussion Paper No. 1681, August 1997.*

## Unemployment

### Radical Remedies

The stubborn persistence of unemployment in industrialized countries, both in the aggregate and – for many individuals – as a long-term phenomenon, has generated a range of new – and increasingly radical – policy proposals. The role of schemes directed to reduce long-term unemployment, for example, has received renewed attention in the light

of the new Labour Government's proposals, announced by Chancellor of the Exchequer, Gordon Brown, in his first budget in July 1997. Similarly, there is growing recognition that economic growth alone will not be sufficient to resolve the overall scale of unemployment and that other supplementary measures, or 'active labour market policies' (ALMPs) are needed.

The merits and limitations of a number of these new ideas were discussed at a seminar jointly organized by CEPR and NERA on 10 July 1997. First, **Jon Stern**, a NERA Senior Consultant, discussed some of the ALMP proposals directed at the UK's long-term unemployment problem. Second, **Gerry Holtham**, Director of the Institute for Public Policy Research, explored a number of the more general labour-market policy options for dealing with unemployment. And, finally, **Dennis Snower** (Birkbeck College, London, and CEPR) explained the radical notion of 'unemployment and training accounts' (UTAs).

Stern noted that the unemployment rate had been falling rapidly in the United Kingdom in recent years, from 10.1% of the labour force in 1992 to 7% in January 1997. The rate was now substantially lower than in France (12.5%), Germany (9%) and the EU average (10.8%). Long-term unemployment remained high, however, with 36% of benefit claimants having been unemployed for spells of 12 months or more. Therefore, the priority – as recognised in the budget – was to increase the

employability of the long-term unemployed and others on the margins of the labour force. This would help maintain their attachment to the labour force, and allow the economy to operate at a higher level of output and employment without jeopardising inflation targets.

There are various types of ALMPs, falling broadly within two categories: wage-subsidy schemes to encourage employers to hire the long-term unemployed; and public-sector employment schemes. In discussing these, Stern drew on recent reports prepared by NERA, which included a survey of the impact of wage-subsidy schemes in OECD economies, and a NERA-designed proposal called 'Opportunity to Work'. Wage subsidies for hiring the long-term unemployed have the potential to reduce the sustainable level of unemployment, as well as to raise long-run employment and output levels. It is also possible that they will be self-financing, although this outcome is less certain and might take some years to be realized. Wage-subsidy schemes, however, tend to have low levels of take-up. Moreover, they have the disadvantage that employers can receive a subsidy for recruits whom they would have been willing to hire in any event. These 'dead-weight' levels can be as high as 50% or more, so that the number of people for whom subsidies are paid can be twice as many (or more) as

the reduction in long-term unemployment. Thus the effectiveness of wage-subsidy schemes may be more limited in practice than their advocates might claim.

NERA's 'Opportunity to Work' proposal was intended to operate as a community programme for the 1990s with the emphasis on maximizing the employability benefits for the long-term unemployed. The scheme would use the 'challenge principle' – which had also been employed in the Urban Programme – to invite bids from work-scheme providers for the organization of specified and relevant training, including day-release and job-search assistance. The schemes would offer supported work programmes, typically of up to 12 months' duration, for the long-term unemployed, but the payments received by sponsors would be higher, the greater the specific employability benefits offered by their schemes.

Stern argued that, since the scheme was designed to use economic incentive effects to 'leverage in' employability benefits, this should help to maximize the subsequent employment prospects of scheme leavers, who could also be expected to secure better-quality jobs. It was acknowledged, however, that experience in practice would be needed to establish whether the number of scheme sponsors applying for funding would be sufficient for the economic incentives to work as intended. The take-up rate would therefore be a key issue, and it would be crucial for the success of the scheme that it be run by a small and effective agency. Stern nonetheless acknowledged that both UK and international experience suggested that the impact of ALMPs of all kinds on long-term unemployment had been limited and that too much should not be expected from such schemes.

Turning to the more general policy options for dealing with unemployment, Gerry Holtham noted that, while a period of sustained growth at 2.5% per annum would do a great deal to alleviate the problems of unemployment, given the scale of inactivity in the United Kingdom, specific measures would still be needed to supplement the effects of economic growth. Where pockets of inactivity are close to

centres of economic activity, the government's present proposals might offer a good start: Although wage subsidies would result in substitution, the resultant 'churning' of the pool of unemployed may be all that is needed to remove such pockets of unemployment in a context of general growth.

There was plenty of evidence, however, showing that people on 'sink estates' could be left untouched by economic growth in 'their' town or locality. In these and other black spots, therefore, it was unlikely that currently announced measures would prove adequate. There were several reasons for this. Take-up rates of labour subsidies may be too low; all past evidence indicated that training was a remarkably inefficient antidote to unemployment; schemes that did not result in worthwhile work would become discredited; and there are many inactive people outside the scope of the measures. Moreover, for people with dependants, it was essential – as the government was aware – to tackle the severe unemployment traps created by the benefit system.

Present proposals should be supplemented, therefore, by other measures. First, there was a need for job-creation schemes in low-activity areas, managed with the collaboration of local government. These would cost perhaps a billion pounds a year. Second, although it would also be expensive, the different benefit schemes – notably income support and family credit – should be integrated, and 'forgiveness' and 'tapering' should be modified to reduce work disincentives. But Holtham also advocated a number of pilot projects for more radical measures. In particular, poor areas could be singled out as 'social enterprise zones' for experiments in integrating the taxation and benefit systems – e.g. offering tax credits (or negative income tax) for the low paid – and abolishing all benefit rules for a five-year period, thus allowing people to retain benefits to which they acquire an initial entitlement, irrespective of the work they find during this period.

A radical proposal of a different kind was outlined by Dennis Snower. This was the notion of 'unemployment and training accounts' (UTAs).

### Financial Intermediation and the Structure of Capital Markets

A CEPR/INSEAD conference on financial intermediation and the structure of capital markets was held at Fontainebleau on 4/5 April 1997. The organizers were **Arnoud Boot** (Universiteit van Amsterdam and CEPR), **Jean Dermine** (INSEAD, Fontainebleau) and **Paolo Fulghieri** (INSEAD, Fontainebleau, and CEPR). The conference covered a wide range of theoretical and empirical issues. The following papers were presented:

'Optimal Financial Crises', **Franklin Allen** (University of Pennsylvania) and **Douglas Gale** (New York University)

'LAPM (The Liquidity Asset Pricing Model)', **Bengt Holmström** (MIT) and **Jean Tirole** (Université des Sciences Sociales de Toulouse and CEPR)

'A Dilution Cost Approach to Financial Intermediation', **Patrick Bolton** (Princeton University and CEPR) and **Xavier Freixas** (Universitat Pompeu Fabra, Barcelona)

'Can Relationship Banking Survive Competition?', **Arnoud Boot** (Universiteit van Amsterdam and CEPR) and **Anjan Thakor** (University of Michigan)

'The Strategic Effect of Dominant Investors on Transparency and Competition', **Enrico Perotti** (Universiteit van Amsterdam and CEPR) and **Ernst-Ludwig von Thadden** (Université de Lausanne and CEPR)

'European Economic Policies in the 90s: Banking and Financial Markets', **Mathias Dewatripont** (ECARE, Université Libre de Bruxelles, and CEPR) and **Ailsa Röell** (Princeton University and CEPR)

'Financial Dependence and Growth', **Raghuram Rajan** (University of Chicago and Northwestern University) and **Luigi Zingales** (University of Chicago and CEPR)

'Bank Lending and the Menu of Financing Options', **Charles Hadlock** (University of Florida) and **Christopher James** (University of Florida)

'Comparing Market and Regulatory Assessments of Bank Performance: Who Knows What When?', **Allen Berger** (Board of Governors of the Federal Reserve System), **Sally Davies** (Board of Governors of the Federal Reserve System) and **Mark Flannery** (University of Florida)

'Stock Market Efficiency and Economic Efficiency: Is There a Connection?', **James Dow** (European University Institute, LBS and CEPR) and **Gary Gorton** (University of Pennsylvania and NBER)

'Optimal Disclosure Rules Around New Equity Issues', **Thomas Chemmanur** (Columbia University) and **Paolo Fulghieri** (INSEAD, Fontainebleau, and CEPR)

Snower pointed out that, since unemployment falls much more heavily on the unskilled than the skilled, the government's employment policies cannot be seen in isolation from its policies to promote skills. The UK government currently spends a very large sum of money on unemployment support, further education and training. The question that Snower asked was whether these funds could be redirected to create more incentives for people to become employed and acquire skills.

Referring to research that he had recently undertaken with J Michael Orszag, Snower argued that replacing the current unemployment benefit and public-sector training systems by UTAs could fulfil this prerequisite. In essence, the proposal was that every employable person should be assigned two

accounts: an unemployment account, to provide support against job loss; and a training account, to provide funding to acquire new skills. Instead of paying taxes to finance general government spending on unemployment support, further education and training, all employed people would be required to make regular contributions to their UTAs. The size of these mandatory contributions would rise with their incomes. To maintain the living standards of the poor, the government would pay the contributions of the lowest income groups, and would tax the contributions of the higher income groups. People could also make voluntary contributions in excess of the mandatory amounts.

When people became unemployed, therefore, they could make limited withdrawals from their unemployment accounts instead of receiving unemployment benefits. If they also wished to acquire skills, they could draw on their training accounts, instead of receiving government grants, subsidies and loans. If their UTA balances fell below a specified limit, they would receive public assistance on the same basis as under the current system. If their UTA balances became sufficiently high, they could use the surplus funds for other purposes. At the end of their working lives, their remaining UTA balances could be used to top up their pensions.

Withdrawals could be made from training accounts at any point in people's working lifetimes. Those who identified their preferred careers early in their working lives could draw substantially on their accounts soon after leaving secondary school. Those who took longer to find their niche in the labour market, or who required retraining upon changing occupations, would make significant withdrawals much later in their careers. In this way, training accounts would enable people to remain employable and adaptable throughout their working lives.

Further ideas included the possibility of people being able to borrow money on favourable terms for their training accounts, thus enabling them to finance their acquisition of skills through their future incomes. Unemployed people who developed promising job market strategies at their 'Restart' interviews could receive government loan guarantees when borrowing

their training account money. And employers' contributions to employees' training accounts should receive favourable tax treatment.

Initially, the UTAs would be managed largely on a pay-as-you-go basis (similar to saving accounts, from which people can make withdrawals even though the banks use most of the money for other purposes). With the passage of time, however, they could eventually be turned into a fully-funded system, in which individuals would have discretion over who could manage their UTAs. To guard against bankruptcy, the financial activities of private-sector UTA fund managers would be regulated, along lines similar to the regulation of commercial banks.

Adoption of the UTA system, so Snower maintained, could substantially reduce the level of long-term unemployment and promote the acquisition of skills. In particular, moving from unemployment benefits to unemployment accounts would give individuals greater incentives to avoid long periods of unemployment. For the longer people remain unemployed, the lower their unemployment account balances would become and, consequently, the smaller would be the funds available to them later on. Moreover, since the unemployment accounts would generate more employment than unemployment benefits, the unemployment account contributions necessary to finance a given level of employment support would be lower than the taxes necessary to finance the same level of unemployment benefits.

Similarly, the training accounts would be better suited than current education and training programmes to ensuring people's lifetime employability, since the funds could be accessed whenever employees (and their employers) found it worthwhile. In this way, both employers and employees would stand to gain from a switch to UTAs. Retired people would also gain, through their ability to use their UTA balances to augment their pensions. And the government would gain, since the removal of the distortions from the unemployment benefit system would promote new economic activity and thereby generate increased tax revenue. Beyond that, the UTAs would be more efficient than the current system at redistributing income from rich to poor, since unemployment benefits and training schemes are not targeted exclusively at the poor, whereas government contributions to UTAs would be.

To provide additional incentives to find work and acquire relevant skills, the government would subsidize long-term unemployed people who draw on their UTAs to provide recruitment or training vouchers for firms that hire them. The size of each individual's voucher would depend on his or her wages earned over the subsequent two years of employment. The recruitment vouchers would reduce the cost to firms of training the recruits; and the subsidies would be set so that they could be financed through the tax

revenues from the recruits' first two years of subsequent employment and through the abolition of in-work benefits.

Finally, Snower argued, replacing the current system by UTAs would not only reduce unemployment but would simultaneously promote equality. While people are generally resentful of their tax burden and often feel demeaned by the existing unemployment benefits and training programmes, they would be more willing to contribute to personalized accounts for their own purposes. UTAs would afford people more freedom to use employment support and training funds to meet their diverse individual needs, and greater latitude to respond to changing job opportunities, finance periods of job search, acquire skills and provide for retirement. Furthermore, all this could be done without creating greater inequality or increasing government expenditure.

*G de la Dehesa and D J Snower (eds.), Unemployment Policy: Government Options for the Labour Market, Cambridge University Press for CEPR, 1997.*

*D J Snower and J M Orszag, 'Expanding the Welfare System: A Proposal for Reform', Discussion Paper No. 1674, July 1997*

*D J Snower and J M Orszag, 'Youth Unemployment and Government Policy', Discussion Paper No. 1675, July 1997*

# DISCUSSION PAPERS

## Unemployment Benefit

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### *Duration Effects on Dismissals*

**D**oes an extension of the period for which unemployment benefit can be claimed affect the incidence of unemployment? Hitherto, studies of the incentive effects of social programmes using wage-benefit replacement ratios have proved problematic owing to endogenous effects. In Discussion Paper No. 1521, **Rudolf Winter-Ebmer** approaches this issue via a quasi-experimental situation where there are selective and exogenous changes to benefit duration.

In 1988, the period for which elderly people in Austria could claim unemployment benefits was extended from one to four years in certain regions. Subsequently, unemployment rates for elderly workers increased substantially. Winter-Ebmer suggests that this increase in unemployment was due to the breach of implicit employment contracts in which workers are paid wages below their productivity at the beginning of their careers, and above their productivity at the end. Firms have an incentive to dismiss workers once their productivity is below the contractual wage. More generous unemployment compensation may reduce the reputation costs for firms of such dismissals. Winter-Ebmer suggests three tests that show this hypothesis to be preferable to the argument that increased benefits raise unemployment by reducing labour supply incentives and thereby increasing voluntary quits.

***Benefit Duration and Unemployment Entry: Quasi-Experimental Evidence for Austria***  
**Rudolf Winter-Ebmer**

**Discussion Paper No. 1521, December 1996 (HR)**

## International Trade

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### *Leapfrogging Quality Standards*

**R**ecent vertical product-differentiation models provide a basis for the analysis of international trade issues which arise when countries differ in terms of product qualities, technology, costs, market size and income. Research suggests that, owing to such asymmetries, national industries will either be market

leaders or lag behind in the international market place in terms of their product qualities. This, in turn, provides a reason for national governments to intervene to alter the situation in their favour.

In Discussion Paper No. 1522, **Iñigo Herguera** and **Stefan Lutz** analyse this possibility in the context of a model in which a more efficient domestic firm competes with a less efficient foreign firm in the domestic market, and where the foreign firm initially produces and sells products of a higher quality. The domestic firm could make higher profits by offering higher quality but, as the current outcome is a market equilibrium, it is unable to do so. Herguera and Lutz show that, given this situation, it is possible for the national government to set minimum quality standards that will facilitate both the domestic firm 'leapfrogging' its foreign competitor in terms of quality and the foreign competitor exiting from the market, thus raising domestic welfare. The result suggests that decision-makers should be aware of the possible radical effects of their domestic policies. The authors point out that a more complete understanding of leapfrogging would necessitate an analysis of firms' strategic actions and profits.

***Minimum Quality Standards as Facilitating Devices: An Example with Leapfrogging and Exit***  
**Iñigo Herguera and Stefan Lutz**

**Discussion Paper No. 1522, November 1996 (IT)**

## Endogenous Growth

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### *Links with the 'New Geography'*

**A** surprising and unfortunate characteristic of work on endogenous growth (or 'new growth theory') and the 'new geography' is that, despite their growing importance within economics, the two research agendas have so far been kept separate. The separation is surprising because the two literatures ask related questions, and unfortunate because, in the case of the new geography, it leads to the analysis of location dynamics which are based on the redistribution of a given amount of resources, while in the case of endogenous growth, the absence of a geographical dimension contradicts a point stressed by Lucas (1988), namely that the economic mechanism at the origin of endogenous growth requires social interactions or external effects which are mostly local in nature.

In Discussion Paper No. 1523, **Philippe Martin** and **Gianmarco Ottaviano** construct a model of endogenous growth and endogenous industry location where the two interact. They show that, with global spillovers in R&D, a high growth rate and a high level of transaction costs are associated with relocation of newly created firms to the south (the location with a low initial human capital). With local spillovers in R&D, this activity

will be agglomerated in the north and the rate of innovation will increase with the concentration of firms in the north. This, in turn, implies that a decrease of transaction costs through, for example, trade integration, will increase the growth rate, because it leads to a higher industrial concentration of firms where the R&D is located. They show that industrial concentration improves welfare only for low enough transaction costs and high enough spillovers.

### ***Growing Locations: Industry Location in a Model of Endogenous Growth***

***Phillippe Martin and Gianmarco I P Ottaviano***

**Discussion Paper No. 1523, November 1996 (IM/IT)**

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### **Minimum Wages**

## ***No Bad Thing?***

**T**he conventional wisdom that imposition of a minimum wage reduces employment has recently been powerfully challenged. In *Myth and Measurement*, Card and Krueger have shown that the overall empirical effect of a minimum wage on employment is small or negligible and, sometimes, even positive. In Discussion Paper No 1524, **Gianni De Fraja** offers a theoretical model of the labour market that accounts for these findings. In conventional models, because workers are paid the value of their marginal product, the introduction of a minimum wage rate leads to the dismissal of workers whose productivity falls below the wage. De Fraja suggests instead that employment contracts are multidimensional, in the sense that employers can vary not only wages but also working conditions – for example, by making jobs more tiring or more difficult, or by asking employees to work longer hours. While the firm's profit is reduced as a consequence of the minimum wage, it can limit the extent of the reduction by retaining workers whose productivity is currently below the wage rate and increasing their productivity by altering the other dimensions of their employment.

The model can be extended to consider the cases where employers invest in fixed capital and in training. De Fraja shows that, in both cases, some firms increase their employment in response to an increase in the level of the minimum wage. The paper concludes that minimum wage legislation will stimulate investment and encourage the training of low-paid workers – both positive effects which, it can be argued, justify the associated losses in firms' profits.

### ***Minimum Wage Legislation, Work Conditions and Employment***

***Giani De Fraja***

**Discussion Paper No. 1524, November 1996 (HR)  
Regional Trading Arrangements**

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## ***This Way Lies Multilateralism?***

**O**ne of the major areas of disagreement about the increasingly common regional trading arrangements (RTAs) is whether they constitute stepping stones towards liberal multilateral trading arrangements, or millstones around the neck of such progress. In Discussion Paper No. 1525, **Alan Winters** examines the theoretical arguments and historical evidence relevant to this question.

After considering the definition of multilateralism, Winters surveys recent contributions to the literature, proposing a classification of models by four criteria: 1) their assumed objective functions, i.e. whether governments seek to maximize national welfare or pressure-group interests; 2) whether RTAs are always functionally identical (symmetric models) or not (asymmetric models); 3) whether the interaction between countries is one-off or repeated; and 4) how RTAs determine their post-integration policies. Finally, he looks at actual experience – a limited exercise, because relatively few RTAs have been successful for long enough to have observable effects. Winters finds significant theoretical arguments and historical evidence, on both sides of the debate. His tentative conclusions are that regionalism may help to liberalize very restrictive trade regimes; that it may increase the vulnerability of less restrictive regimes to breakdown; and that it is more likely to be harmful if governments are subject to sector-specific lobbying forces.

### ***Regionalism Versus Multilateralism***

***L Alan Winters***

**Discussion Paper No. 1525, November 1996 (IT)**

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### **Standard Working Hours**

## ***Fewer Hours, Higher Wage Rates?***

**I**t is often suggested that a reduction in hours worked per person increases employment. In practice, the effects on employment of a cut in standard hours worked depend on subsequent changes in actual hours worked, on wage increases negotiated in order for workers to accept the cut in hours and on the changes in incentives to employers caused by the increased constraints on use of labour. In Discussion Paper No. 1526, **Jennifer Hunt** uses the German Socio-Economic Panel to analyse the effects of a decrease in standard working hours in Germany over the period 1984–9. She finds that, for hourly-paid manufacturing workers, actual hours fell by 0.85–1 hour in response to a one-hour cut in standard hours. Results for services and salaried workers are less clear-cut, but appear to be similar.

Turning to wages, Hunt examines the hypothesis that reductions in standard hours lead to wage restraint. She



finds that workers in sectors achieving reductions in standard hours negotiated sufficient increases in the hourly wage to ensure that their monthly pay did not fall relative to other workers. Hunt concludes that these results are inconsistent with the hypothesis. While the large reduction in hours worked per worker increases the probability that employment rises owing to cuts in standard hours, the increase in the hourly wage reduces this probability.

***The Response of Wages and Actual Hours Worked to the Reduction of Standard Hours in Germany***  
**Jennifer Hunt**

**Discussion Paper No. 1526, December 1996 (HR)**

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**Labour Relations**

## *Unionization Costs*

Common sense suggests that companies prefer not to recognize unions because they increase firms' wage bills. Evidence indicates that unions do get a wage premium, but does not show a corresponding reduction of company profits. In Discussion Paper No. 1527, **Jacques Bughin** and **Stefano Vannini** provide an explanation for this paradox: so long as companies can pass on wage increases through prices, and justify price increases to customers by reference to increased production costs, profits will not be harmed.

Bughin and Vannini present a model of labour-management relations that formalizes such 'cost-raising strategies'. Greater union power may sometimes increase the incentive for firms to distort prices (by invoking wage increases) and gain market power. The heightened incentive is contingent on items contained in the agenda of union-firm negotiations. If greater union power puts employment and wages on the bargaining agenda, higher profits may have to be shared with the union – and incentives to distort prices can be reduced. The model formalizes the way cost-raising strategies can be used by firms as rational behaviour. Should these strategies be put under scrutiny on anti-trust grounds, as the authors suggest, it would be necessary to show that firms' actions are deliberate.

***To be (Unionized) or Not to Be? A Case for Cost-raising Strategies***  
**Jacques Bughin and Stefano Vannini**

**Discussion Paper No. 1527, December 1996 (IO)**

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**Insider Trading**

## *Front-Running*

The trading activities of large investors can alter stock prices, even when they are not based on private information about the fundamental values of assets. This is because such trades may be indistinguishable from those made by informed insiders. This renders information about the activities of liquidity traders valuable. Managers of large investment funds have the opportunity to make personal profits from information about future fund trades – a strategy known as front-running – but whether such activity should be permitted remains controversial. In Discussion Paper No. 1528, **Jean Pierre Danthine** and **Serge Moresi** model the trade of a front-running fund manager against an informed insider. They endogenize noise trading – trading by small investors through mutual funds to hedge illiquid assets.

Previous studies suggest that front-running by insiders with information about trades reduces potential profits for insiders with information on fundamentals. Danthine and Moresi instead show that modelling market interaction of the two types of information, within a framework which takes into account the motives that bring liquidity traders to the market and incorporates the effect of front-running, drastically alters the welfare implications of front-running. The authors find no case where front-running is socially bad. Its effect on the profits of insiders with information on fundamentals can be viewed favourably on fairness grounds – but front-running fund managers may find themselves in a conflict of interest with their investors.

***Front-running by Mutual Fund Managers: It Ain't That Bad.***  
**Jean-Pierre Danthine and Serge Moresi**

**Discussion Paper No. 1528, December 1996**

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**Economic Growth**

## *Explaining Agglomeration*

In the well-established correlation between growth and agglomeration, it is not obvious whether growth spurs agglomeration or vice versa, or whether causality runs both ways. Another stylized fact of growth – the strong resemblance between the geography of production and the geography of innovation – is well illustrated by the role of cities in economic growth and technological progress. A good example of the tendency for innovative activity to be even more spatially concentrated than production itself is afforded by the computer industry and Silicon Valley.

In Discussion Paper No. 1529, **Philippe Martin** and **Gianmarco Ottaviano** construct a model which is consistent with these two stylized facts and illustrates some of the economic mechanisms behind them. In their model, growth and geographic agglomeration of economic activities are mutually self-reinforcing

processes. Industrial agglomeration in one location spurs growth, because it reduces the cost of innovation in that location through a pecuniary externality due to transaction costs. Growth fosters agglomeration because, as the sector at the origin of innovation expands, new firms tend to locate close to this sector. The model can be interpreted as illustrating one mechanism behind the emergence of cities seen as centres for production and innovation, and is consistent with the episodes of simultaneous increases in growth rates and spatial agglomeration.

### **Growth and Agglomeration**

**Philippe Martin and Gianmarco I P Ottaviano**

**Discussion Paper No. 1529, November 1996 (IM/IT)**

## **EMU**

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### **Fixing Conversion Rates**

In Discussion Paper No. 1530, Research Fellow **Paul De Grauwe** looks at the problem of how conversion rates will be determined at the start of EMU. Decisions concerning membership of EMU should be taken early in 1998, but conversion rates can not be set until 1 January 1999. This creates a transition period of uncertainty and may invite strong and destabilizing speculation.

De Grauwe analyses, in the context of a simple exchange rate model, three possible rules for setting the conversion rate to minimize these problems. He looks at an announcement that the final rate will be based on weighted averages of market rates over a given period (the Lamfalussy rule); an announcement of fixed conversion rates; and an announcement that the conversion rates will be the market rates just prior to the start of EMU. De Grauwe compares the first two rules, and finds that the Lamfalussy rule causes more problems than it solves. An announcement of fixed conversion rates is potentially more effective, but requires a 'commitment technology' to be set in place to ensure its credibility. If this is not done, it will be necessary to allow a sufficient amount of flexibility in exchange rates prior to the start of EMU to absorb speculative shocks.

**How to Fix Conversion Rates at the Start of the EMU**  
**Paul de Grauwe**

**Discussion Paper No. 1530, November 1996 (IM)**

### **Job Tenure**

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## **A Matter of History?**

In Discussion Paper No. 1531, **Alison Booth, Marco Francesconi** and **Carlos Garcia-Serrano** provide evidence of changes in job mobility and seek to ascertain the extent to which work history is relevant in the labour markets of the United Kingdom in the twentieth-century. The authors use a new data source – the British Household Panel Survey (BHPS) – which is detailed enough to provide an almost complete work history of the individual surveyed. Among the principal findings from the cross-tabulations are that job tenure increases with the number of jobs for both men and women, but declines with the date of entry into the labour market, with more recent cohorts having shorter tenure patterns. The average number of jobs held is five for both men and women, half of which are held in the first ten years of working life. In addition, the probability of a male seeking self-employment and of a female seeking part-time employment increases with the number of jobs.

The working history of an employee is found to 'matter' in two respects. The first is date of entry: entry to the labour market earlier in the twentieth century is associated with longer job tenure but also with more pronounced gender differences. The second is personal history: as jobs accumulate, job tenure increases and men are more likely to shift into self-employment and females into part-time employment.

### **Job Tenure: Does History matter?**

**Alison L Booth, Marco Francesconi and Carlos Garcia-Serrano**

**Discussion Paper No. 1531, January 1997 (HR)**

## **Unemployment Benefit**

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### **Efficiency Costs**

The unemployment problem in Europe, and especially the large proportion of people out of work for longer than six months, gives rise to the question of how effective an unemployment benefit system is for the labourforce. In Discussion Paper No. 1532, **Melvyn Coles** discusses an equilibrium labour market in which an unemployment benefit system cannot raise the average value of being unemployed in the long run.

## **European Summer Symposium in Economic Theory**

CEPR's European Summer Symposium in Economic Theory (ESSET) was held in Gerzensee from 30 June – 11 July 1997, with the Studienzentrums, Gerzensee, acting as hosts. The symposium, which was organized

by **Klaus Schmidt** (Universität München and CEPR), **Margaret Meyer** (Nuffield College, Oxford) and **Philippe Bacchetta** (Studienzentrum, Gerzensee), included four special workshops on Experimental Economics, Matching, the Psychology of Preference, and Inter-temporal Choice and Behavioural Game Theory. The following papers were presented:

'Using Learning Models to Predict Behaviour', **Alvin Roth** (University of Pittsburgh)

'On the Role of Reinforcement Learning in Experimental Games: The Cognitive Game Theory Approach', **Ido Erev** (University of Pittsburgh)

'Cooperation, Emotion, and Punishment: An Experimental Analysis of Norm Formation and Enforcement', **Ernst Fehr** (Universität Zürich)

'Theoretically Robust But Empirically Invalid? An Experimental Investigation into Tax Equivalence', **Rudolf Kerschbamer** (Universität Wien) and **Georg Kirchsteiger** (CentER, Tilburg University)

'A Simple Test of Explanations for Contributions in Dilemma Games', **Gary Bolton** (Pennsylvania State University), **Jordi Brandts** (Institut d'Anàlisi Econòmica, CSIC, Barcelona) and **Elena Katok** (Pennsylvania State University)

'Wishful Thinking and Strategic Ignorance', **Juan Carillo** (ECARE, Université Libre de Bruxelles) and **Thomas Mariotti** (Université des Sciences Sociales de Toulouse)

'Introduction to Two-Sided Matching Markets and Models', **Alvin Roth** (University of Pittsburgh)

'The Dynamics of Reorganization in Matching Markets: A Laboratory Experiment Motivated by a Natural Experiment', **John Kagel** (University of Pittsburgh)

'Unravelling and Capacity Withholding in Two-sided Matching Markets', **Tayfun Sonmez** (University of Michigan)

'Some Engineering Aspects of Mechanism Design: The Redesign of the American Clearinghouse for New Physicians', **Alvin Roth** (University of Pittsburgh)

'The Generalized War of Attrition', **Jeremy Bulow** (Stanford University) and **Paul Klemperer** (Nuffield College, Oxford, and CEPR)

'Strategic Complementarity, Bounded Rationality and the Non-Neutrality of Money', **Ernst Fehr** (Universität Zürich) and **Jean-Robert Tyran** (Universität Zürich)

'Repeated Games and Limited Forecasting', **Philippe Jehiel** (Ecole Nationale des Ponts et Chaussées, CERAS, Paris, and CEPR)

'ERC. A Theory of Equity, Reciprocity, and Competition', **Gary Bolton** (Pennsylvania State University) and **Axel Ockenfels** (Universität Magdeburg)

'Imperfect Tests and Natural Insurance Monopolies', **Winand Emons** (Universität Bern and CEPR)

'On the Effects of the Pricing Rule in Auction and Fair Division Games: An Experimental Study', **Werner Güth** (Humboldt-Universität zu Berlin)

'Reputation or Reciprocity?', **Armin Falk** (Universität Zürich), **Simon Gächter** (Universität Zürich) and **Judith Kovacs** (University of Debrecen, Hungary)

'Post-Trade Transparency in Multiple Dealer Financial Markets', **Mark D Flood** (Concordia University, Montreal), **Ronald Huisman** (Universiteit van Limburg, Maastricht), **Kees Koedijk** (Universiteit van

Limburg, Maastricht), **Ronald J Mahieu** (Erasmus Universiteit Rotterdam) and **Ailsa A Röell** (Princeton University and CEPR)

'Evolving Social Hierarchies in Large Population Games', **Fernando Vega-Redondo** (Universidad de

Alicante)

'The Psychology of Preference: Mental Accounting', **George Loewenstein** (Carnegie Mellon University)

'Behavioral Finance', **Richard Thaler** (University of Chicago)

'Rational Social Learning with Random Sampling', **Lones Smith** (MIT) and **Peter Sørensen** (Nuffield College, Oxford)

'How to Account for Fair and Unfair Outcomes – A Model of Biased Inequality Aversion', **Ernst Fehr** (Universität Zürich) and **Klaus Schmidt** (Universität München and CEPR)

'Hyperbolic Discount Functions and Time Preference Heterogeneity', **David Laibson** (Harvard University)

'Inter-temporal Choice, Emotion and the Brain', **George Loewenstein** (Carnegie Mellon University)

'Behavioural Game Theory', **Colin Camerer** (California Institute of Technology)

'Home Bias in International Stock Return Expectations', **Michael Kilka** (Universität Mannheim) and **Martin Weber** (Universität Mannheim)

The author uses a standard labour-turnover framework, but distinguishes it by the assumption that entrepreneurs are not completely informed on all profit-making opportunities, with the result that the creation of vacancies takes time. The existence of a positive stock of unemployed, however, makes the filling of a vacancy relatively easy. The creation of a new job is affected by the current market wage, such that a high wage reduces potential profits and, hence, the rate of new job creation. As wages are assumed to be determined competitively, for a given number of jobs created, wages will vary inversely with the level of unemployment. If a government attempts to make the unemployed better off by increasing compensation, this increases their reservation wage. Employment becomes less attractive and, hence, unemployment remains high, but this time at a higher cost. Although a benefits system provides a partial insurance against business-cycle risk, it does so at big efficiency costs. The author argues that a similar insurance mechanism could be achieved through varying payments over the cycle – paying relatively high benefit rates in periods of high unemployment (recessions) and low benefits at other times (booms). Targeting unemployment compensation to recessions, when being unemployed is particularly costly, and reducing the value of remaining unemployed in booms would encourage greater downward wage flexibility. This, in turn, would substantially reduce average unemployment levels and lead to greater investment.

***Designing a Cheaper and More Effective Unemployment Benefit System***  
**Melvyn G Coles**

Discussion Paper No. 1532, December 1996 (HR)

**Trade Liberalization**

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## *Quantifying Benefits*

In Discussion Paper No. 1533, **Joseph Francois** and **Bradley McDonald** provide a quantitative examination of initiatives for post-Uruguay Round liberalization in 'traditional' GATT/WTO market-access areas. They emphasize the need for further tariff liberalization in industrial and agricultural trade and for trade in information technologies, and also the need for an expanded Agreement on Government Procurement (AGP). They argue that, given the limited supply of 'trade-negotiating capital', there will, of necessity, be a trade-off between those scarce negotiating resources devoted to new issues, and those devoted to further progress in more traditional GATT/WTO market-access areas, although the potential benefits in both areas are substantial.

By using a computable model for the global economy, the authors estimate that an elimination of all remaining tariffs on information technology products would save roughly \$72 billion in annual world income. Moreover, a 50% reduction in remaining industrial tariffs would yield approximately \$270 billion in global income (welfare) gains per year in the long run. The authors argue also that a formula approach that offers simplicity and transparency should at least be considered for future industrial tariff liberalization. Lastly, they warn that progress towards these objectives can be inhibited by sectoral negotiations, and therefore recommend that integration of parallel initiatives to promote liberalization in different sets of market-access areas should be encouraged.

***The Multilateral Trade Agenda: Uruguay Round Implementation and Beyond***  
**Joseph F Francois and Bradley McDonald**

Discussion Paper No. 1533, December 1996 (IT)

### *Benefit Duration and Unemployment Length*

**S**tudies of the effect of potential unemployment benefits on the duration of unemployment usually focus on the wage-benefit replacement ratio. Since personal labour history and past earnings are used to calculate benefits, however, it is very difficult to disentangle the independent influences of labour-market history and the generosity of benefits. This has led to the application of 'quasi-natural experiments', where it is easier to observe exogenous and sometimes selective changes in the benefit system.

In Discussion Paper No. 1534, **Rudolf Winter-Ebmer** applied this methodology to Austria in 1988, when the period for which elderly people could claim unemployment benefits was extended from one to four years in specific regions of the country. The paper confirms first that the anticipated effect of increased unemployment for the group did materialize and then concentrates on the incentive effects of potential benefit on unemployment duration. Previous work for Germany and the United States has indicated that increased potential duration does lead to slightly longer actual unemployment spells. Although the period over which benefits can be claimed is one of the main differences between the European and US benefit systems, the author argues that this feature can explain only a small part of the difference in long-term unemployment rates. The empirical analysis shows that men react significantly to the benefit duration whereas women generally do not. The magnitude of this reaction is smaller in comparison to Germany and the United States. Furthermore, the impact of extended benefit duration is differentiated for short and long spells. Whereas for long spells a higher impact for men and for women is found, no unemployment-prolonging effects could be detected, for short spells.

**Potential Unemployment Benefit Duration and Spell Length: Lessons from a Quasi-experiment in Austria**  
**Rudolf Winter-Ebmer**

**Discussion Paper No. 1534, December 1996 (HR)**

## Transition Economies

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### *Fiscal Performance*

**D**iscussion Paper No. 1535, by **Willem Buiter**, reviews some of the central fiscal problems confronting transition economies. Buiter looks at

six countries in Central and Eastern Europe and six in the former Soviet Union, all of which have been subject to IMF programmes during 1990–5. The purpose of the paper is to assist the design and implementation of future Fund programmes, focusing on medium- and longer-term fiscal issues, such as government solvency and longer-run sustainability. Given their narrow tax bases and limited capacities for raising tax revenues, the 12 countries all find it difficult to finance their spending programmes while simultaneously controlling inflation. It is often the case, moreover, that the general government financial deficit bears no relationship to the state of the government's underlying financial position. The author argues, therefore, that a longer-term perspective on the evolution of government revenues and spending commitments is needed.

Two distinct sets of problems are diagnosed: First, countries that have only recently initiated their transition, and have not yet succeeded in achieving lasting macroeconomic stabilization, face declining tax revenues towards levels similar to those of underdeveloped countries. Second, countries that are already advanced in their transition, conversely, face high levels of general government spending. In either case, governments need to re-think the way that the fiscal sector can be financed in the long run. To impose the discipline required, the IMF might have to resort to the threat of withdrawing loan disbursements.

**Aspects of Fiscal Performance in some Transition Economies under Fund-supported Programmes**  
**Willem H Buiter**

**Discussion Paper No. 1535, December 1996 (TE)**

## Human Capital Investments

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### *Parental Support*

**I**t is well known that young adults are likely to face constraints on borrowing against future income to finance their human capital investment. Young people's own income may not, however, be the appropriate resources variable in the budget constraint for investment decisions. Families may pool resources. In addition to financial transfers to their adult children, parents can also provide support by having the children live in their own household. Evidence from the British Household Panel Study (BHPS) indicates that both forms of support are common in the United Kingdom. In Discussion Paper No. 1536, **John Ermisch** sets out to improve our understanding of what produces the observed patterns of co-residence and intra-household transfers.

The paper thus develops two models of support. In one, altruistic parents decide on the level of transfers and co-residence, with the children taking these rules into account when making their investment decisions. In the

other, parents are selfish, but they are willing to make loans to their credit-constrained children. Both models offer predictions about the effects of a young person's income, parental wealth and human capital investment on the odds of co-residing and the odds of receiving financial transfers from parents when living apart. Econometric estimates, using data from the BHPS, suggest that young adults currently making larger human capital investments are more likely to receive transfers from their parents when living apart from them, and those investing through on-the-job training are also more likely to receive implicit transfers through co-residence with their parents. These findings lend support to parental altruism as a motivating force behind transfers from parents to their young adult children. The analysis also finds that richer parents are more likely to give transfers to their adult children, but less likely to co-reside with them, indicating substitution between different kinds of parental support for their adult children.

***Parental Support for Human Capital Investments by Young Adults***  
**John F Ermisch**

**Discussion Paper No. 1536, December 1996 (HR)**

**Metals Futures**

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***The Sumitomo Affair***

**F**rom at least 1991 until 1996, the Sumitomo Corporation manipulated the London Metal Exchange (LME) copper price, which forms the pricing basis for the world copper market. This manipulation resulted in substantial departures of the LME price from fundamental values, and concentrated attention on the functioning and governance of London futures markets in general, and of the LME in particular.

In Discussion Paper No. 1537, **Christopher Gilbert** notes that, in contrast to the United States, futures market manipulation is not illegal under UK financial services regulation, but argues that, in any case, deterrence is better than prosecution. US experience indicates that, even with clear legislation, it is very difficult to bring successful prosecutions against futures manipulation. Manipulation will be best deterred instead by greater transparency, in particular through mandatory reporting of client positions to exchanges, but also through the publication of suitably aggregated positions data. The LME differs in a number of respects from standard futures markets and one effect of these differences is to render manipulation more difficult on the LME. But the differences also imply that, when it does occur, manipulation of the LME has more serious consequences. While there is no evidence that the LME has been insufficiently active in attempting to eliminate

manipulations, price discovery on futures markets generates an externality that justifies the regulator seeking even higher standards in the future.

***Manipulation of Metals Futures: Lessons from Sumitomo***  
**Christopher L Gilbert**

**Discussion Paper No. 1537, January 1997 (FE)**

**Market Structures**

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***The Role of Middlemen***

**I**n many markets, sellers and buyers face a choice between trading with middlemen and attempting to trade directly with someone on the other side of the market. But direct trades – for example, via advertisements in buy-and-sell magazines – can be costly, especially if the 'market' – or reservation – prices are not known. It is not clear how the existence of direct trade possibilities affects the nature of competition among middlemen.

In Discussion Paper No. 1538, **John Fingleton** examines how the introduction of a direct trade alternative for buyers and sellers affects competition among middlemen. Direct trade makes the supply and demand functions performed by middlemen depend on both bid and ask prices, a feature Fingleton terms 'interdependence'. A simple model is used to illustrate the phenomenon and to show how interdependence effects depend on the efficiency of direct trade. The conclusion is that direct trade does not alter Stahl's (1988) finding that middlemen may 'corner' the market. If direct trade is without frictions (no delay or uncertainty costs etc.) then the interdependence effects will be strongest and the possibility of such monopolization of the intermediated trade will not exist. For all cases where there are some frictions in direct trade, however, a variant of Stahl's result will prevail, and prices may be distorted, albeit by reduced magnitudes.

***Competition among Middlemen when Buyers and Sellers can Trade Directly***  
**John Fingleton**

**Discussion Paper No. 1538, December 1996 (IO)**

A conference on market integration and real exchange rates was held jointly by CEPR and the Center for German and European Studies within the Program for International Economic Studies at Georgetown University on 2/3 May 1997. The conference, which was held at Georgetown University, Washington DC, was organized by **Matthew Canzoneri**, (Georgetown University and CEPR), **Robert Cumby**, (Georgetown University), **Francesco Giavazzi** (IGIER, Università Bocconi) and **Axel Weber** (Universität Bonn). The purpose of the conference was three-fold: to examine structural explanations of real exchange rates; to consider nominal exchange rate regimes and the behaviour of real exchange rates; and to explain the behaviour of real exchange rates empirically using the relative prices of national outputs, the relative prices of non-traded goods and the terms of trade. The following papers were presented:

'Arbitrage Costs and Exchange Rates', **Alan Stockman** (University of Rochester) and **Lee Ohnian** (Universities of Pennsylvania and Minnesota)

'Monetary Shocks and Real Exchange Rates in Sticky Price Models of International Business Cycles', **V V Chari** (Northwestern University), **Patrick Kehoe** (University of Pennsylvania) and **Ellen Mcgrattan** (Federal Reserve Bank of Minneapolis)

'Violations of the Law of One Price: Should We Make a Federal Case Out of It?', **Charles Engel** (University of Washington) and **John Rogers** (Federal Reserve Board)

'The Varying Speed of Adjustment to the Law of One Price', **Shang-Jin Wei** (Harvard University) and **Paul O Connell** (Harvard University)

'Sources of Real Exchange Rate Movements in Europe', **Axel Weber** (Universität Bonn)

'The Elixir of Development: Trade, Technology and Western Labour Markets', **Patrick Minford** (University of Liverpool, Cardiff Business School and CEPR), **Jonathan Riley** (Cardiff Business School) and **Eric Nowell** (University of Liverpool)

'Relative Labour Productivity and the Real Exchange Rate in the Long Run: Evidence from a Panel of OECD Countries', **Matthew Canzoneri** (Georgetown University and CEPR), **Behzad Diba** (Georgetown University) and **Robert Cumby** (Georgetown University)

'The Business Cycle, Real Exchange Rates and Trade', **Michael Artis** (European University Institute and CEPR) and **W Zhang** (Manchester Metropolitan University)

'Modelling the Real Dollar-Pound Exchange Rate: 1871-1995', **Nelson Mark** (Ohio State University)

'The Behaviour of Real Exchange Rates During the Post Bretton Woods Period', **Mark Taylor** (University of Liverpool and CEPR) and **Lucio Sarno** (University of Liverpool)

## Market Structures

### *Bypassing the Middleman*

In many markets, sellers and buyers face a choice between trading with middlemen who set bid and ask prices (intermediated trade), searching for a partner on the other side of the market (direct trade) or not trading. Examples include markets for second-hand goods, where traders compete with newspaper advertisements for the business of sellers and buyers, and financial markets where brokers compete with decentralized trading mechanisms. Typically, direct trade involves a better price (because there is no margin interposed between the price the buyer pays and that received by the seller), but often at some cost, usually owing to trading frictions. Middlemen, by contrast, often provide liquidity, thus improving the speed and reliability of trade, but at a less favourable price because of the middleman's extracted margin.

This market situation raises several questions. First, what determines the balance between direct and intermediated trade where both are available, and how do the decisions of sellers and buyers affect each others' options? Second, is the outcome of intermediation likely to be welfare-improving? Third, does disintermediation – when direct trade replaces intermediated trade – happen at the right time? In Discussion Paper No. 1539, **John Fingleton** analyses the competition between direct and intermediated trade. He shows that, if the alternative of trading directly exists, middlemen's supply and demand depend on both their bid and ask prices. Multiplicity also prevails. Direct trade does not constrain the market power of middlemen unless it is frictionless, but its presence does increase welfare. The author's results also suggest that the timing of disintermediation is likely to be suboptimal, with implications, for example, for the analysis of many financial and food markets, where alternative trade channels exist.

***Competition between Intermediated and Direct Trade  
and the Timing of Disintermediation***  
**John Fingleton**

Discussion Paper No. 1539, December 1996 (IO)

**Migration**

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***'Chinatowns' and 'Little Italies'***  
***Explained***

**A**s part of their effort to pool individual risk, households consider spreading their members over a plurality of locations, both inside and outside their country of origin. At the same time, the world is full of 'Chinatowns' and 'Little Italies': people, whenever they move, tend to bunch in the same location. Bunching would thus appear to be fundamentally at odds with the desire to diversify risk. In Discussion Paper No. 1540, **Francesco Daveri** and **Riccardo Faini** provide a framework for reconciling spatial bunching with the spread of migrants.

Much previous work on migration determinants focused on the role of wage and unemployment differentials, under the Harris-Todaro (1970) hypothesis of risk neutrality of an individual migrant. Daveri and Faini retain the Harris and Todaro assumption of rationality, but instead study the decision to migrate when it is taken at the household level by risk-averse agents seeking a shelter against uncertain income prospects. The authors' model builds on the portfolio approach to the determination of the optimal demand for children developed by Appelbaum and Katz (1991). Among the authors' innovations, however, is an allowance for concave household-level mobility costs. If households are not too risk-averse, this concavity drives all members of the same family to migrate to the same place or not to migrate at all, thus explaining the 'bunching' phenomenon, while the diversification of destinations is the result of heterogeneity of tastes. Evidence from Southern Italy is consistent with the main predictions of the model.

***Where do Migrants go? Risk-Aversion, Mobility  
Costs and the Locational Choice of Migrants***  
**Francesco Daveri and Riccardo Faini**

Discussion Paper No. 1540, December 1996 (HR)



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## Unemployment Duration

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1998 ▼

3 JUN

*The Euro versus the Dollar* Richard Portes (hosted by the SNS, Stockholm), Stockholm

5 JUN

*Economic Policy Roundtable* (conference hosted by the Credit Suisse First Boston, supported by the Foreign & Commonwealth Office), London

9 JUN

*Mediating the Transition: Labour Markets in Central and Eastern Europe* Tito Boeri (with the Zentrum für Europäische Integrationsforschung, Universität Bonn), Bonn

12/13 JUN

*Factors Hindering the Efficiency of the Transmission Mechanism of Monetary Policy in the Associated Countries of CEE*, National Bank of Hungary

18 JUN

*Creating Wealth in the Weightless Economy*, London

23 JUN

*Sustainability of Public Finances* Jürgen von Hagen (with ECARE), Brussels

25/28 JUN

*European Research Workshop in International Trade (ERWIT)* (with the Tinbergen Institute, Erasmus University), Rotterdam

26/27 JUN

*Transatlantic Economic Policy Panel* (conference, TEPP with the Brookings Institution), Leesburg, Virginia

28 JUN/  
11 JUL

*European Summer Symposium in Economic Theory (ESSET)* (hosted by the Studienzentrums Gerzensee), Gerzensee

29 JUN/  
8 JUL

*First Annual Transition Economics Summer Workshop for Young Academics*, Prague

9/12 JUL

*International Workshop in Transition Economics* (with the WDI, University of Michigan, hosted by the CERGE-EI), Prague

13/24 JUL

*European Summer Symposium in Financial Markets (ESSFM)* (hosted by the Studienzentrums Gerzensee), Gerzensee

24/25 JUL

*World Capital Markets and Financial Crises* (conference with the ESRC Global Economic Institutions Programme), University of Warwick

27/29 AUG.

*New Issues in Trade and Location* (Conference with the Arne Ryde Foundation), Lund

7/12 SEP

*European Summer Symposium in Labour Economics and Migration* (hosted by the Studienzentrums Gerzensee), Gerzensee

27/28 SEP

*Rethinking the Welfare Society* (workshop with the Instituto de Estudios Económicos de Galicia, Pedro Barrié de la Maza), La Coruña

16/17 OCT

*Twenty-Eighth Economic Policy Panel Meeting* (conference)

29 OCT/  
1 NOV

*Metropolitan Economic Performance* (conference hosted by the Universidade Nova de Lisboa), Lisbon

1 NOV

*Labour Demand, Education and the Dynamics of Social Exclusion* (workshop), Lisbon

6/7 NOV

*Regionalism in Europe: Geometries and Strategies after 2000* (conference with the Yrjö Jahnsson Foundation and the Zentrum für Europäische Integrationsforschung, Universität Bonn), Bonn