Centre for Economic Policy Research

Bulletin

90–98 Goswell Road, London EC1V 7RR
Tel: (44 171) 878 2900 Email: cepr@cepr.org
Fax: (44 171) 878 2999

No 71 Summer 1998

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This issue of the *Bulletin* ponders the early lessons of the 1997 Asian and Czech exchange rate crises, and reports conference and workshop proceedings on real exchange rates, social inequalities and mobility, the links between product quality, labour productivity and trade in Europe, and regional integration in the context of globalization. Discussion meetings on the options for exchange-rate policy under EMU, reform of the EU's regional policy, the alleged demise of the 'job for life', the reform of pension systems, and East-West trade in Europe are also reported.

3 Lessons from the Asian Financial Crises
A CEPR conference at the Bank of England brought together a wide range of participants to consider the causes and consequences of the 'Asian flu' phenomenon.

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13 Social Inequalities and Social Mobility
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14 Product Quality, Labour Productivity and Trade
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18 Globalization, Regional Integration and Development
The resurgence of regionalism in a multilateral world prompted examination of the relationships between industrial and fiscal policies and regional integration at a Venice workshop.

22 Discussion Meetings
Recent discussion meetings covered the conclusions of a CEPR Occasional Paper on the options for future exchange rate policies under EMU; the requirements for successful reform of the EU's regional policy; a challenge to the conventional wisdom that the 'job for life' is under threat; the lessons from world-wide efforts at systemic pension reform; and the implications of EU enlargement for East-West trade in Europe.

30 Among Recent Discussion Papers
The optimum methods for, and political sustainability of privatization programmes. The effects of 'endorsement' of political candidates by organized interest groups. The case for using trade policy to back 'winning' firms. The effects of work-sharing experiments. Techniques for extracting useful information from asset prices. Inflation targets versus inflation contracts. Industrial structure, menu costs and the non-neutrality of money. The effects of work-related training.

55 Forthcoming Events
Several planned workshops will deal with different aspects of financial economics. Others include conferences on Rethinking the Welfare Society, the Economics of Inequalities and Regionalism in Europe.

ISSN 0256–7996

CEPR NEWS

CEPR has been awarded various project grants: from the Economic and Social Research Council for a series of seminars on Transition Economics, led by Mark E Schaffer; a Euroconference grant for a series of conferences entitled 'Markets, Managers and Firms: New Approaches to the Study of Institutions and Incentives', led by Patrick Bolton; and a project entitled 'Costs, Competitiveness and the Changing Structure of European Banking' which will be led by Thomas Gehrig, following a successful proposal to the Banque de France Research Foundation.

CEPR joined a successful submission to DGV of the European Commission, coordinated by Deutsches Institut für Wirtschaftsforschung, entitled 'Impact of EU Enlargement on Employment and Labour Markets'.

In addition CEPR has joined an existing Training and Mobility of Reseachers network, coordinated by Julian Franks (London Business School and CEPR) on 'Financial Market Efficiency and Economic Efficiency'.

CEPR is delighted to welcome Chase Manhattan Bank and Pensions 2000 as Level 3 corporate members and Banco Portugues Investpinento as a Level 2 corporate member. In addition, we are delighted to announce that Dresdner Kleinwort Benson have decided to upgrade from Level 1 to Level 3. Information about CEPR's corporate membership programme can be obtained from Joan Concannon, External Relations Officer, CEPR, 90–98 Goswell Road, London EC1V 7RR. Tel 44 171 878 2917, Fax 44 171 878 2999 or email jconcannon@cepr.org

The Centre for Economic Policy Research was established in 1983 to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions. Institutional (core) finance for the Centre is provided through major grants from the Esmée Fairbairn Charitable Trust and the Bank of England. The Economic and Social Research Council also supports CEPR's networking and dissemination activities, in particular this *Bulletin*, under a grant financing an ESRC Resource Centre within CEPR. None of these organizations gives prior review to the Centre's publications, nor do they necessarily endorse the views expressed therein.

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The CEPR *Bulletin* (ISSN 0256–7996) is issued to inform academic, business and government policy communities of the current and forthcoming activities of the Centre. It also summarizes Discussion Papers produced under the auspices of the Centre. The Centre's Executive Committee does not give prior review to the *Bulletin*. Summaries of Discussion Papers and reports of meetings, conferences and workshops attempt to convey the sense and substance of the papers presented and the discussions which took place. The summaries and reports have not been authorized by the authors and discussants concerned, nor does the Centre endorse the views expressed.

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RESEARCH

Financial Crises

'Asian Flu' Lessons

The Asian financial crisis, which began in Thailand in mid-1997, but subsequently engulfed all the previously-styled 'tiger economies' of south and east Asia, and visited repercussions on virtually all emerging markets, has raised many fundamental and pressing analytical and policy issues. These issues encompass the origins and nature of the crisis, including the fact that it was largely unanticipated and proved so 'contagious'; the impact and management of the consequences of the crisis, including the requirements for reform of policy and institutions and the appropriate role to be assigned to the international financial institutions (IFIs); and the implications for the identification, assessment and – if possible – avoidance of future upheavals of comparable magnitude in the global financial system.

Such questions, of course, are not new and have been raised twice before in the current decade alone by the collapse of the European exchange-rate mechanism (ERM) in 1992–3 and the Mexican 'peso' crisis of 1994–5. But the self-evident differences in the 'Asian flu' episode clearly demanded their urgent reconsideration. In recognition thereof, a conference convened by CEPR was held at the Bank of England on 4/5 February 1998, involving a wide range of participants from IFIs, central banks, governments, independent research institutes, the private financial sector, academia and economic journalism. Seven papers were presented, but the contents of these and of the extensive discussions that ensued were summarized and consolidated in an extended essay by **Robert Chote** *(Financial Times*), and published – along with abstracts of five of the papers, and an introduction by **Richard Portes** (London Business School and CEPR) – by CEPR in March 1998.

Portes notes first that corporate bankruptcies and national financial crises are a necessary and even desirable consequence of well-functioning capital markets, for their absence would imply excessive risk aversion and, hence, suboptimal investment levels. The potentially extensive economic damage to which such crises can lead, however, demands that policy-makers, regulators and markets alike be appropriately equipped to limit, manage and mitigate the consequences. Hence the need to learn the lessons afforded by these events.

Chote organizes the lessons of Asia around the three themes of diagnosis, cure and prevention. He draws attention first, however, to the magnitude of the Asian crisis, which he characterizes as perhaps the most severe regional financial disruption since the Creditanstalt default of 1931. By February 1998, equity markets in the worst-affected economies of Indonesia, Malaysia, the Philippines, South Korea and Thailand had fallen by more than 50% – in some cases by 75% – below their 1996–7 peaks, and their currency values (measured against the US dollar) by between 40% and 72%. The growth implications were no less severe: 1998 growth forecasts for these economies had been reduced from 6–8% to 0–4% and actual recession could not be ruled out. The initial knock-on effects for other regions – Japan, the EU, Latin America – may have been smaller, but if sharply reduced demand and devalued currencies in Asia were to lead to rising current account deficits and increased protectionism elsewhere these effects could yet be amplified.

The sensible starting-point for diagnosis is the existing set of models of financial crises. Yet neither 'first generation' models – in which the source of collapse is excessive money-financed borrowing by a government defending a fixed exchange rate with limited foreign exchange reserves – nor 'second generation' models – which emphasize the political and economic costs of increased unemployment consequent upon defence of an exchange rate peg through tight monetary policy – apply to the Asian case. If there was an underlying macroeconomic weakness in Asia, it was in the balance of payments, where current account deficits had been on a rising trend and the capital inflows that had (more than adequately) financed them had comprised mainly potentially fickle portfolio, rather than more secure direct investments. Even so, this is an uncertain criterion on which to pin the blame for any pre-existing fragility. Countries may not yet have learned how best to cope with capital inflows, but they are – at least for a time – symptomatic of economic promise and success. Nor is it reasonable to blame 'overinvestment': this may have been true *ex post*, but was it true *ex ante*?

Some see the explanation for collapse in combinations of vulnerabilities. **Joseph Stiglitz** (World Bank), for example, identified four such areas: weak financial sectors; high corporate debt-to-equity ratios; large short-term foreign debts; and the adverse informational consequences of a lack of transparency. But these are explanations only in the sense that they rendered the Asian economies vulnerable to a 'shift in beliefs', thus amplifying the crisis when it came, rather than being proximate

causes. 'Mistaken' official policy actions, such as last-gasp defences of fixed exchange rates, undoubtedly aggravated the problems, but likewise were not fundamentally to blame. A more persuasive explanation, said Stiglitz, is a change either in the world or/and in the policies of the Asian governments, the closer integration of global capital markets, and the rapid liberalization of Asian financial sectors, without commensurate regulatory strengthening. Both seemed relevant here.

Another argument, motivated by **Charles Wyplosz** (Graduate Institute of International Studies, Geneva, and CEPR), is that the 'Asian flu' may be an example of a financial crisis caused by 'self-fulfilling' speculation, as opposed to fundamental imbalances. A self-fulfilling crisis necessarily requires the presence of some form of pre-existing weakness, but the weakness is sufficiently moderate that a crisis, while possible, is not inevitable. When a crisis occurs, however, the weakness becomes much more serious and eventually offers *ex-post* justification for the crisis itself.

A quite different explanation has been offered by Paul Krugman. His view is that the ultimate source of Asian instability lay in asset-market 'bubbles', assisted by institutional and regulatory failures and problems of moral hazard. This explanation seems to fit the facts of the Asian crisis well. The role played by the implicit government guarantees that the liabilities of many financial intermediaries were perceived to enjoy, carried echoes of the US savings and loans debacle. The 'bubble' theory, however, does not explain the contagion effect. In the Asian case, moreover, contagion ran from a relatively small economy – Thailand – to other economies, both large and small, whereas the effect has usually been observed to begin with a large economy and to spread to smaller ones. Some contributory roles in contagion may be played by bilateral trade and investment links, by the competitive dynamics of devaluation, and by the 'wake-up call' (or 'information cascade') effect, in terms of which the problems of Thailand may have prompted reassessments of the creditworthiness of other Asian borrowers.

Discussion of possible cures for a currency crisis – Chote's second broad theme – centres inevitably on the role of the IMF. This is not simply a matter of the pros and cons of conditionality *per se*. It also concerns the appropriateness of prescribing contractionary macropolicies, and mandating closure of financial institutions, in a situation which cannot be blamed on poor management of public finances or on general macroeconomic imbalances. Critics have argued that these conditions merely exacerbate the problems, and fail to achieve rapid turnarounds in the currency and equity markets. Stiglitz suggested that the motives for temporary tightening of monetary and fiscal policies in these circumstances rested less on the likely direct economic effects of these policies than on the perceived need to 'restore confidence'.

Stiglitz adduced arguments suggesting the possibility of perverse results on both counts. On the direct effects, the relationship between budget deficits and the exchange rate in the presence of capital flows, and when the exchange rate is falling, is theoretically ambiguous; and higher interest rates may exacerbate financial sector weakness more than a lower exchange rate. Higher interest rates, therefore, might reduce the expected – as opposed to the promised – return on capital inflows. In short, it is possible that tighter monetary and fiscal policies will deter capital inflows by reducing the expected rate of return. As to what policies would restore confidence, moreover, there is little theory and perhaps even less evidence.

In defence of the IMF, **Michael Mussa** (IMF) argued that it was important to understand the practical dynamics of the evolution of a Fund Programme and illustrated this with reference to the Thai Programme. Noting first that creation of a Fund programme is always a 'bizarre' undertaking with an air of unreality about it, he pointed out that to start with a set of macroeconomic assumptions. This, in turn, indicates the initial policy directions, but the details are then subject to negotiation between Fund staff in Washington, Fund staff in the field and the government concerned. These negotiations do not take place in a vacuum, but in a context in which events are constantly changing.

In the Thai case, the initial assumptions were of sharply reduced growth and a large (8% of GDP) current account deficit, of which at most half seemed likely to be financed by private capital flows. The Fund considered that the public sector should contribute to the narrowing of the external deficit and it was the extent of this fiscal consolidation that had to be negotiated. The complex agreement that ensued, however, failed to take account of quasi-fiscal losses hidden in the public sector's balance sheets. In the meantime, the baht had depreciated by an amount which, at the time, looked excessive. The Thai authorities acceded initially to the monetary tightening – higher interest rates and suspension of some finance companies – which the Fund therefore urged upon them, but the Bank of Thailand subsequently backed off. Domestic political pressures also led to weak implementation of structural reforms. It is policy reversals of this kind, Mussa claimed, that are 'reliably catastrophic', and the Thais were not unique in undermining confidence in their own programme. The end result was that the fiscal stance had to be tightened even more, and interest rates raised even higher, than if the Thai

authorities had stuck to their guns in the first place. Mussa also claimed that the Fund had seen the Thai problem coming and had pressed in vain for action as early as autumn 1996. By the time Thailand finally sought help, it had lost most of its reserves.

Although conceding that higher interest rates could result in further damage to weak financial systems, Mussa argued that currency free-fall has to be halted when there are large short-term foreign-currency obligations to be met. The key was to avoid raising interest rates to a level which the market knows is not sustainable. On the question of closing insolvent banks, it was important to be decisive since this would help guarantee the solvency of remaining institutions. Confidence is damaged less by closing insolvent banks than by not closing them. Keeping seriously weakened institutions afloat merely aggravates fears of future closures and – as **Morris Goldstein** (Institute for International Economics) argued – tempts banks to 'gamble for resurrection' by taking on yet higher risks.

A quite separate criticism of IMF rescue programmes stems from concerns about their potential moralhazard consequences in encouraging investors to pay less attention to the risks inherent in emerging markets. The argument hinges on whether such 'bail-out' packages are necessary to avoid systemic collapse. Recent research by Takatoshi Ito and Portes, for example, has questioned the necessity for the Mexican rescue and has suggested that, without it, the scale of 'unwise' lending to Asia might have been much reduced. A noteworthy difference between the Mexican and Asian crises is that the former largely involved a run on government debt, whereas in Asia the bulk of affected debt is private. This meant that, in South Korea, for example, the first priority in the crisis was to persuade foreign creditors to roll over maturing loans without offering any IMF guarantees of repayment – a situation fraught with free-rider problems. Whether the accompanying demand for structural and institutional reforms in Korea helped persuade investors that the shortage of foreign exchange reserves was only temporary is arguable.

Barry Eichengreen (IMF, University of California, Berkeley and CEPR) and Richard Portes noted that, however compelling the criticisms of the IMF on moral hazard grounds, they are of little practical value when the only alternative they offer is inaction. Policy-makers cannot stand idly by, and the notion that markets can sort out the problems unaided is even less plausible. In the wake of the Mexican crisis, Eichengreen and Portes had suggested new institutional arrangements to support a more efficient market-based resolution of sovereign debt crises. For all the differences in the 'Asian flu' case, the proposal remained relevant. Their recommendation was that government bond contracts should include provisions – such as sharing and majority-vote clauses – to deal with collective action problems among creditors. There should be created also a standing steering committee for creditors to facilitate better representation and smooth negotiations – a suggestion viewed by bankers, however, as an invitation to borrowers to elude their obligations. Whether the IMF's rules might be amended to allow the Fund to impose a standstill and to shelter countries initiating debt negotiations from legal action, is also controversial. The weaknesses of such 'orderly workout' proposals notwithstanding, future crises are inevitable and better ways of containing them need to be found.

Chote's final theme was the options for helping to prevent future crises. These come in the form of either better 'early warning' indicators or improved surveillance (and the associated implications for policy reform). The heavy costs imposed by banking and currency crises justify the search for mechanisms that will help to identify and reduce vulnerabilities. Financial market indicators alone have been proven insufficient for this purpose. Morris Goldstein, drawing on work by himself and Carmen Reinhart, has developed a set of macroeconomic leading indicators, the better of which, if applied, would have correctly 'predicted' the great majority of crises since 1970. The best short-term indicators of banking crises were an upward deviation of the real exchange rate from trend, a fall in equity prices, a rise in the money multiplier, a drop in exports and in real output, and a rise in the real interest rate. For currency crises, apart from the existence of a banking crisis, the best 'flashing signals' are a rising real exchange rate, a declining stock market, falling exports, declining international reserves and a rising ratio of M2 to reserves. On an annual basis, the state of the current account relative to investment was a significant indicator for both kinds of crisis, while the current account-GDP ratio was relevant to a currency crisis, and the ratio of short-term capital inflows to GDP for banking crises. As a 'predictor' of impending crisis in the Asian countries, however, the model had mixed results. Incorporation of contagion, institutional characteristics of weak banking systems, composite leading indicators and a more up-to-date database might help to improve the predictive performance.

An alternative to the 'signals' approach is multivariate regression to quantify the probability of crisis. Focusing only on currency crises, **Manmohan Kumar** (Credit Suisse First Boston) and **William Perraudin** (Birkbeck College, London, and the Bank of England and CEPR) examined emerging market data and confirmed the importance of overvalued exchange rates and

falling exports and output as 'good' predictors of increased probability of default. Their model also seemed to have good predictive performance.

The obvious imperfections of the indicators approach suggest there is still a major requirement for the IMF's more detailed 'surveillance' procedures, in the form of annual Article Four consultations and the biannual 'world economic outlook' exercises. Recent criticisms of these procedures have led the Fund to allocate more resources to them. Sharp differences of view exist, however, about the extent of the IMF's foresight in respect of the Asian crisis. There is also a continuing debate about the relative importance of – and the possibility of a trade-off between – confidentiality and transparency in surveillance. Some would argue, moreover, that the information the Fund receives through surveillance is less useful and less timely than the data obtained by private investors and credit-rating agencies. But there is also a need for yet more publicly available information, especially about external debt structures, international reserves and non-performing loans, and there may be another useful role here for the Fund.

A recent paper by Portes and Ito has addressed a different aspect of the crisis-prevention problem, namely the adoption by borrower countries of policies and practices which would reduce the risk of crisis. The recommended policies include avoidance of premature and indiscriminate liberalization of capital flows and wariness – even regulation – of short-term capital inflows; reduction of impediments to foreign direct investment; and strengthening of financial systems. In addition, where an exchange rate peg is being used for stabilization purposes, the authorities should give advance thought to how they propose to exit from the peg. Shifting to a managed float after a nominal peg has come under attack will be too late to avoid a crisis.

In sum, the Asian crisis – the repercussions of which have still to become fully apparent – cannot readily be explained by the traditional models. The story appears to have been one of unsustainable bubbles in asset prices, fuelled by inflows of private capital into economies with weak and poorly regulated financial systems. Implicit guarantees to lenders, and inappropriate policy responses by the authorities when matters started to go awry, contributed to the scale and spread of the problem. But these factors still fall short of a convincing explanation for the timing of the crisis. Whether the IMF's responses exacerbated matters because they were inappropriate to the nature of the crisis, or whether they were undermined by lack of 'backbone' on the part of Asian governments in sticking to unpalatable, but necessary, measures, remains moot. The support given by private lenders to Asian banks and corporates raises again the problems of moral hazard inherent in rescue packages, and underlines the case for creating 'orderly workout' mechanisms which would underpin more market-based solutions to financial crises. Although future financial failures cannot – and should not – all be prevented, the heavy costs they impose demand that both policy-makers and market participants have better access to 'early warnings' of impending difficulties. There is a role here for improved statistical models, and – albeit more controversially – also for better IMF surveillance. Emerging market countries themselves, however, can also contribute by learning some of the lessons of the Asian crisis, in particular by better management of capital flows and more consistent policies towards their financial sectors.

Credit Risk Research Group

A Workshop of the CEPR Credit Risk Research Network was held in London on 15 December 1997. The following papers were presented at the workshop, which was organized by **William Perraudin** (Birkbeck College, London, Bank of England and CEPR):

'Corporate Hedging: The Relevance of Contract Specifications and Banking Relationships', **Ian A Cooper** (London Business School) and **Antonio S Mello** (University of Wisconsin-Madison and CEPR)

'Credit Risk Modelling', **Andrew Smith** (KPMG)

'Debt Design and Incentives', **William Perraudin** (Birkbeck College, London, Bank of England and CEPR)

CONFERENCES

Real Exchange Rates

Recent Theories and Evidence

With the advent of European Monetary Union (EMU), nominal exchange rates will cease to exist in the EU and the policy relevance of real exchange rates will increase. Against this background, a conference was held at the Oesterreichische Nationalbank in Vienna on 3/4 April 1998 for the purpose of bringing together academics and central bank policy-makers to discuss the policy implications of recent theoretical and empirical research on structural explanations of real exchange rates. The conference was organized by **Eduard Hochreiter** (Oesterreichische Nationalbank) and **Axel Weber** (Universität Bonn and CEPR).

Much work on purchasing power parity (PPP) has been unable to produce strong rejections of unit roots in US dollar real exchange rates for industrial countries in the post-1973 period. In 'The Great Appreciation, the Great Depreciation, and the Purchasing Power Parity Hypothesis', **David Papell** (University of Houston) tested the hypothesis that these non-rejections can be explained by the large appreciation and depreciation of the dollar in the 1980s. Treating the large rise and fall in the dollar as exogenous events which lie outside the data-generating process, Papell developed unit-root tests that account for these events while imposing the subsequent return to long-run PPP. Using panel methods, the unit root is rejected for those countries which adhere to the typical pattern of the dollar's rise and fall. Moreover, the half life of deviation from PPP drops from almost three years to half a year.

Fabio Canova (Universitat Pompeu Fabra, Barcelona, and CEPR) criticized the exogeneity assumption, arguing instead for an economic explanation of the reasons behind such a persistent deviation from PPP. **Mark Salmon** (City University Business School, London, and CEPR) suggested that, instead of assuming three breaks in the slope of the real exchange rate, allowance should be made for different distributions in time in seeking to explain why the market switches from one regime to the other. **Jacques Mélitz** (CREST-INSEE, Paris, and CEPR) proposed that other relative prices – such as oil or commodity prices – be used to explain the real exchange rate because economic theory does not necessarily suggest mean-reversion of the real exchange rate, i.e. a constant equilibrium real exchange rate.

Asking 'What Do we Really Know About Real Exchange Rates?', **Ronald MacDonald** (University of Strathclyde) provided an overview of the recent literature. Widely researched questions include the extent of mean-reversion, and the importance of real, relative to nominal, shocks in the determination of real exchange rates. Because the recent period of floating rates has been too short to produce strong results, more powerful tests have been sought by using either panel methods or long-run data extending back to the 1870s. Though evidence for mean-reversion is found, the half-life adjustment back to equilibrium is too slow to be consistent with traditional PPP. Transport costs, generating a band within which it proves unprofitable to arbitrage away deviations from PPP, provide an explanation for the slow adjustment. Although sticky-price models suggest that the nominal rate drives real exchange rates, models focusing on the relative price of traded and non-traded goods imply the reverse, namely that volatility in real rates explains the behaviour of the nominal rate. Real exchange rates contain business cycle-related components, although the failure to capture important supply-side effects may be more a reflection of the methods used than of their lack of importance. A number of studies have shown that the systematic component of real exchange rates is related to productivity differentials, fiscal balances, terms of trade effects and net foreign-asset positions.

Anne Sibert (Birkbeck College, London, and CEPR) doubted the usefulness of some of the questions posed in real exchange rate research. Looking for mean-reversion with univariate methods implies the assumption that real shocks are temporary. Causality between nominal and real exchange rate movements is meaningless if both variables are endogenous. The use of long-run data implies the assumption that the stochastic nature of the process has not changed – an assumption that is obviously violated with regard to transport costs, trade restrictions, exchange rate regimes, capital mobility or the predominance of monetary over real shocks.

Klaus Liebscher (president of the Oesterreichische Nationalbank) explained the Austrian perspective on EMU and on the accountability of the European Central Bank (ECB). The Maastricht Treaty provided a variety of measures for transparency and accountability of ECB policy. Reporting to parliament would be useful if it related to the *ex-post* explanation of central bank policy. Nevertheless, publication of the minutes and the voting behaviour of the ECB council members could lead to national pressures if European monetary policy were to conflict with national views. Ultimately, the ECB would be accountable to European citizens with respect to maintenance of the purchasing power of the currency. After the announcement of the conversion rates in May 1998, an intensified coordination process would be necessary during the interim period up to the start of monetary union in January 1999.

Concerning the decision on a targeting procedure, Liebscher advocated a broad approach based on more than one target variable, since uncertainty would be high at the beginning of EMU.

Nelson C Mark (Ohio State University) presented 'Price Level Convergence Among United States Cities: Lessons for the European Central Bank', written with **Steve G Checchetti** (Ohio State University) and **Robert Sonora** (Ohio State University). The authors studied the dynamics of price indices for 19 major US cities over the period from 1918 to 1995. Using panel econometric methods, they found that relative price levels among cities were mean-reverting, but at a surprisingly slow rate. The estimated half-life of convergence was approximately nine years. The inclusion of non-traded goods prices in the price index did not seem to provide an explanation for the persistence in real exchange rates, as deviations from PPP for traded goods were equally persistent. Instead, arbitrage impediments created by transport costs seemed to be present since large deviations were shorter-lived than small ones. As the United States is more integrated than the EU, the estimate provided an upper bound on convergence rates for the participants in EMU.

Riccardo Rovelli (Università degli Studi di Bologna) asked why the nine-year half-life of disturbances to the real exchange rate within the United States was higher than that of the three to five years which is generally found for real exchange rates between different countries. He supposed it might be owing to the failure to account for real factors, such as non-tradables prices. Different policy implications could be drawn for the ECB. If persistent nominal rigidity was present, the ECB could use monetary policy for output stabilization. In contrast, if persistence was due to real rigidities, monetary policy could do nothing about it. Other participants questioned the accuracy of the price data and the use of the CPI in the paper.

Matthew Canzoneri (Georgetown University and CEPR) investigated 'Trends in European Productivity: Implications for Real Exchange Rates, Real Interest Rates and Inflation Differentials', written with **Robert Cumby**, **Behzad Diba** and **Gwen Eudey** (all Georgetown University). They argued that the rapid increases in relative prices of home goods in southern European countries and in Belgium were owing largely to productivity gains in their traded goods sectors, and fundamentally should not be a cause for concern. If these trends in prices and productivity continued, however, these countries should experience inflation and real interest rate differentials with Germany of the order of 2–2.5%, which was about ten times the size of differentials observed across regions in the United States. As the real interestrate differential was a consequence of different productivity trends, it would be independent of the chosen monetary arrangement. If the policy objective of the ECB was to hold German inflation on the pre-union level, the European inflation target would need to be set about 1% higher than the current German target. For countries about to join the union in a second round, incorporating an inflation and an exchange rate criterion for convergence could create a competitiveness problem.

Mark Salmon remarked that some of the implications hinged on the functional form of the production function used. **Jacques Mélitz** asserted that real interest-rate differentials did not imply inefficiencies in the allocation of credit but only different shoe-leather costs in different regions of a monetary union. **Timo Tyrväinen** (Bank of Finland) suggested excluding agriculture and the public sector from the analysis because prices in these sectors were not determined competitively and there was no clear concept of productivity.

Menzie David Chinn (University of California, Santa Cruz, and NBER) examined the evidence for a productivity-based explanation of real exchange rate behaviour among East Asian currencies in 'The Usual Suspects? Productivity and Demand Shocks and Asia-Pacific Real Interest Rates'. Since the Asia-Pacific economies had been the fastest growing in the last decades, they were the most likely to offer evidence for the Balassa-Samuelson effect, which predicts that richer countries with higher labour productivity in the tradables sector would have higher non-tradables prices and higher price levels than poorer countries. Yet panel regressions incorporating productivity variables, as well as other demand-side factors, were hardly encouraging. Relative per capita incomes, a proxy for preferences towards services, or government spending did not appear to be determinants of real exchange rates in the region.

Jacques Mélitz suggested that a systems approach to estimation would be more efficient. Chinn's results showed that the model did not work well for countries in which the variables displayed different degrees of integration. This could indicate that some explanatory variable was missing. **Enrique Alberola-Ila** (Banco de España) suggested that the current account deficit of the United States could be relevant for the Asia-Pacific countries. **Axel Weber** mentioned that equity prices could exert an influence on the real exchange rate via asset markets.

Optimal Fiscal Policy

A CEPR/ESRC macroeconomics workshop on Optimal Fiscal Policy was held in London on 11 April 1997. The organizers were **Andrew Scott**

(London Business School and CEPR) and **Michael Wickens** (University of York and CEPR) and the proceedings were chaired by **John Flemming** (Wadham College, Oxford). The papers presented were as follows:

'Optimal Taxation Without State-Contingent Debt', **Albert Marcet** (Universitat Pompeu Fabra, Barcelona, CEMFI, Madrid, and CEPR), **Thomas J Sargent** (University of Chicago) and **Juha Seppälä** (University of Chicago)

'Does Tax Smoothing Imply Smooth Taxes?', **Andrew Scott** (London Business School and CEPR)

'A Modest Proposal for Setting the Public Debt Structure', **Spencer Dale** (Bank of England), **Alessandra Mongiardino** (Bank of England) and **Danny Quah** (London School of Economics and CEPR)

'Debt and Deficit Ceilings, and Sustainability of Fiscal Policies: An Intertemporal Analysis', **Michael Wickens** (University of York and CEPR) and **Merih Uctum** (City University of New York)

Mark P Taylor (University College, Oxford, and CEPR) examined 'Non-linear Mean-Reversion in Real Exchange Rates: Towards a Solution to the Purchasing Power Parity Puzzles', written with **David A Peel** (Cardiff Business School). The theoretical literature on the effects of transaction costs of international arbitrage suggests that real exchange rate adjustment towards long-run equilibrium may be highly non-linear. A smooth transition autoregressive (STAR) model with a quadratic transition function implied rapid adjustment to a shock if the exchange rate was far from its equilibrium value, and slow adjustment if it was near equilibrium. Impulse response functions had to be simulated, as the reaction to a shock was path-dependent and depended on the current position of the exchange rate relative to its equilibrium value. The half-lives of real exchange rate shocks varied with the size of the shock and the initial conditions, implying higher persistence of smaller shocks. For shocks of 15% or more, half of the shock was reversed in a year and a half or less.

Axel Weber suspected that it was not transaction costs, but policy actions – such as realignments – that accounted for most of the non-linearities found in European real exchange rates. Moreover, the discriminatory power between autoregressive, threshold autoregressive and STAR models may be low when only a few observations lie outside the bands. With current account deficits also asymmetric, non-linear adjustment seemed possible. **Nelson C Mark** doubted that non-linearities could solve the PPP puzzle as the dollar episode did not seem to fit into the model. Though the deviation from PPP was large, no mean-reversion was apparent for several years. **Menzie David Chinn** suggested specifying where the non-linearity arises in the model.

Holger C Wolf (New York University and NBER) assessed the aggregate importance of arbitrage in a paper entitled 'Is Real Exchange Rate Mean Reversion Caused by Arbitrage?', written with **José Campa** (New York University and NBER). To determine whether mean-reversion is caused by arbitrage it is necessary to know the size and the impact of arbitrage activities on prices. It is therefore necessary to investigate price and quantity data. The authors were unable to find evidence for a link between arbitrage and mean-reversion. Most episodes of evident mean-reversion were connected with three events: the collapse of the Bretton-Woods system; the end of the dollar bubble in the wake of the Plaza agreement; and the ERM crisis of 1992. One explanation for these findings is that arbitrage is not of sufficient quantitative importance to trigger mean-reversion. The other interpretation is that arbitrage is considered important by financial markets and governments with the result that exchange rates revert owing to markets' expectations of an appropriate exchange rate, based on expected future trade flows. This interpretation is supported by the finding that mean-reversion is faster among countries located close to each other, and among countries with sizable bilateral trade.

Philippe Martin (Graduate Institute of International Studies, Geneva, and CEPR) suggested that the model should discriminate between movements to equilibrium through trade in goods, trade in assets, and central bank interventions. Though deviations from PPP are assumed to trigger trade flows – leading to a positive correlation between the two variables, as assumed in the paper – trade also tends to reverse the deviation from PPP, and the sign of the correlation between trade and the real exchange rate is therefore not clear *a priori*. Thus it would be more natural to test for bidirectional Granger causality. Since the possibility that arbitrage could lead to mean-reversion is already accounted for, the actual trade volume becomes an endogenous variable in this case and should not be used in the estimation. Instead, a truly exogenous variable measuring the ease of conducting trade, e.g. openness or distance, would be preferable. **Rainer König** (Deutsche Bundesbank) considered the time horizon for the empirical tests to be too short for trade to show effects. In most cases, moreover, mean-reversions were brought about through a changing risk assessment in the asset markets.

Mathijs A van Dijk (Maastricht University) presented 'The Re-emergence of PPP in the 1990s', written with **Kees G Koedijk** and **Peter C Schotman** (both Maastricht University). They investigated PPP in a

panel with 17 countries for the period from 1972 to 1996. The novel feature of their panel methodology was that the results were invariant with respect to the choice of a numeraire currency. Individual country effects in the relation between prices and exchange rates were allowed, which permitted identification of the currency pairs for which PPP held or did not hold. Evidence in favour of PPP was strongest for exchange rates relative to the Deutsche mark, and weakest for the Japanese yen. For the latter currency, a trend-like variable – such as productivity growth – was missing.

László Halpern (Hungarian Academy of Sciences, Budapest, and CEPR) questioned the restrictions imposed on the covariance matrix. **Mark Taylor** remarked that the model had no static equilibrium solution and therefore the tests maintained a hypothesis different from that in most of the literature. Moreover, the model did not specify the dynamics of the adjustment to PPP. Panel tests were more efficient because they imposed restrictions on the coefficients estimated. Taylor criticized the fact that the most restrictive assumptions in the paper were not tested.

Jean-Jacques Rey (National Bank of Belgium) moderated a Policy Panel on ’Real Exchange Rates, Competitiveness and EMU Entry’. The panel comprised **Matthew Canzoneri** (Georgetown University and CEPR), **Rainer König** (Deutsche Bundesbank), **Jacques Mélitz** (CREST-INSEE, Paris, and CEPR) and **Gertrude Tumpel-Gugerell** (Oesterreichische Nationalbank). The participants discussed two questions: Are the current central parities a good guess as equilibrium exchange rates for the transition to a common currency?; and ’Will the euro start as an overvalued currency?’. For most currencies, the panel considered the current parities were compatible with the fundamentals. Although the academics feared increased speculation before the exchange rates were fixed, the central bankers were convinced that pre-announcement of the conversion rates would ensure a smooth transition. Canzoneri stressed the importance of fiscal policy for the determination of the euro exchange rate. If fiscal policy is loose, monetary policy can be tight and a strong euro will result. If fiscal policy is bound instead by the stability pact and monetary policy is expansive, a devaluation of the euro will be likely. Since Europe as a whole is a relatively closed economy, König expected the ECB to concentrate on domestic price stability and to leave determination of the exchange rate to the markets. Panel members offered different interpretations of the stability pact. Some feared that the pact, with its constraints on fiscal policy, would leave no room for policy measures, whereas others considered fiscal policy more or less ineffective given the current high levels of government debt. On the latter view, until sustainable debt levels are reached, the policy focus will have to be on wages and incomes in order to enhance markets' responses to asymmetric shocks and to stabilize the economy.

Currency Crises

Czech Lessons

From 1991 until early 1997, the Czech exchange rate was fixed. Subsequently, the currency suffered from a dramatic attack and fall in reserves which forced the Czech authorities to let it float freely. The Czech Republic has been not only one of the most advanced transition countries, but also in the forefront of the trend towards capital account liberalization. Consequently, its experiences and its institutional adjustments are of particular relevance to other countries in the Central and Eastern European (CEE) region. To facilitate understanding of the Czech experience, and to consider possible policy recommendations for other CEE countries, a conference on 'Lessons from the Czech Exchange Rate Crisis' was held at Melnik Castle, Prague, on 10/11 November 1997. **Vladimír Dlouhy** (Czech Economic Research Association) and **Richard Portes** (London Business School and CEPR) were the organizers.

David Begg (Birkbeck College, London, and CEPR) opened the workshop with a paper on ‘Exchange Rate Regimes in Central and Eastern Europe: Lessons from Transition 1990–96’. He subdivided the transition into two stages. The first stage or ‘stabilization period’ requires strong macroeconomic management and a fixed exchange rate to play the important role of a nominal anchor, but the second stage is more complex. Begg stressed the importance of structural microeconomic adjustment in the second stage, but his primary focus was on exchange rate regimes and capital inflows.

Begg suggested that foreign investors’ expectations of future growth in the Czech Republic were exaggerated, leading to excessive capital inflows in 1995 and 1996. The events of the spring of 1997 were therefore a natural adjustment to correct the fast-growing borrowing of Czech subjects. The initial reaction of the Czech government to high capital inflows should have been a tighter fiscal policy in order to keep aggregate demand under control. But since fiscal policy is known to be an extremely crude and slow policy tool, an adjustment of the capital markets was unavoidable. **Jan Klacek** (Economics Institute of the Czech National Bank) stressed the role played by total public sector expenditures, noting that the municipalities' budgets had gone from surplus to a substantial deficit in only three years.

The paper by **Miroslav Hr•cir** (Czech National Bank), ’Czech Currency Turbulences Viewed from Inside’, focused directly on the spring 1997 exchange rate crisis. Despite growing macroeconomic

imbalance in the Czech economy in 1995–6, by comparison with Mexico or Thailand the outcome of the Czech crisis had been relatively favourable. **Martin Èihák** (Komerèní Banka) argued that the openness of the Czech economy meant that macroeconomic policy was subject to very tight 'supervision' by capital markets. Given this framework, it was Èihák's view that the timing of the exchange rate regime switch had come too late.

Vladimír Dlouhy (Czech Economic Research Association and former Minister of Industry and Trade) presented a paper on 'Trade Balance and Exchange Rate Relationships in the Czech Republic'. The paper provided an overview of the government's macroeconomic policy since 1992 and stressed the impact of the lax fiscal policy. Analysing monetary tightening by the Czech National Bank (CZB) in 1996, Dlouhy maintained that it had caused a slump in aggregate supply but, by failing to reduce aggregate demand, it had contributed to the growing macroeconomic imbalance and, hence, to the crisis in 1997. **Oldøich Dìdek** (Czech National Bank) pointed to the political business cycle, which had led to the relaxation of fiscal policy in 1996, and – given that the Czech crown was appreciating in 1996 – questioned whether the CNB had had another option as far as the exchange rate regime was concerned. **Miroslav Singer** (CERGE-EI, Expandia Finance and CEPR) believed that an earlier switch to a floating regime would have prevented the large-scale capital outflow in May and June 1997. For **Andrew Burns** (OECD), the cause of the ballooning current account deficit had been a too rapid growth of wages. In the absence of microeconomic restructuring, moreover, this problem remained an imminent threat to the Czech economy.

Charles Wyplosz (Graduate Institute of International Studies, Geneva, and CEPR) presented a paper, entitled 'Contagious Currency Crises', in which he argued that increasing capital mobility makes currency fluctuations more volatile and contagious. Using an extensive data set for 20 countries over a 24-year period, he showed that that there was a growing tendency towards contagion in currency crises, and that it was relaxed monetary, rather than fiscal, stances that led to such crises. **Ludìk Niedermayer** (Czech National Bank) acknowledged the relevance of contagion in exchange rate crises, but questioned the validity of using historic data for future policy recommendations. Pegging their exchange rates to the currency of their main trading partners may, according to Niedermayer, offer a second-best solution for transition countries.

Richard Portes (London Business School and CEPR) presented 'Coping with International Capital Flows', which he had co-authored with **David Vines** (Balliol College, Oxford and CEPR). Portes raised the issue of the switch of the exchange-rate regime from fixed- to floating-rate and explained that the (optimal) timing of the switch depended crucially on the nature of the capital inflows. If these were perceived by both investors and authorities as permanent, the floating-rate regime would remain sustainable. In the Czech case, a substantial part of the inflows was long term so the optimal policy was to accommodate the inflows and let the currency float. Portes questioned whether a fiscal tightening in 1996 would have been possible (and desirable), since the deficit on the consolidated government budget had been only negligible. Tightening, according to Portes, would have restricted the growth of the economy and contributed to the currency appreciation.

Miroslav Singer (CERGE-EI, Expandia Finance and CEPR) pointed out that the banking sector had required substantial bailouts by the CNB in 1996 and that this had generated a 'quasi-fiscal' expansion. **Mark Allen** (IMF Budapest) reiterated the Fund's view that Czech wage growth had been too high and had led to excessive aggregate demand. Both **Andrew Burns** and **Judit Neményi** (National Bank of Hungary) emphasized the importance of the role of bad loans in any assessment of overall economic stability, and questioned whether the Czech banks could have performed better given such high ratios of non-performing loans.

David Begg suggested that the discussion of the causes of the Czech currency crisis seemed to point to four general hypotheses: a) general nervousness among foreign investors, who had panicked without obvious reason; b) worsening fundamentals, causing a capital outflow; c) overheating due to a hidden fiscal expansion caused, in turn, by the bad bank-loans problem; and d) rising inflation, which was caused by high capital inflows and which undermined Czech competitiveness. **Vladimír Dlouhy** and **Ondrej Schneider** (Charles University and Ministry of Industry and Trade, Czech Republic) expressed the view that the slowdown in growth, without accompanying stabilization of the external account, had resulted from an asymmetric reaction by the Czech economy to the monetary tightening.

In 'The Stability of the French Franc: Sound Economic Fundamentals and Credibility', **Jean Cordier** (Banque de France) described the development of French monetary policy from the repeated crises and devaluations of the 1970s and 1980s to the relative stability of the 1990s. He emphasised the crucial importance of a pegged exchange rate mechanism for European integration. **Charles Wyplosz** was curious about whether the underlying thesis of Cordier's paper implied that a stable exchange rate is a trade policy measure. He pointed out that transition countries can expect a faster productivity growth and can therefore afford inflation rates somewhat above the rates prevailing in the EU.

István Székely (National Bank of Hungary and Budapest University of Economics) presented a paper on 'The Relationship Between Monetary Policy and Exchange Rate Policy in Associated Countries: Is There Room for Independent Monetary Policy on the Way to EU Membership?'. He classified different exchange rate policy regimes and stressed the difficulty of timing regime changes. For this and other reasons, he argued, a desirable exchange rate regime should be flexible enough to accommodate rapid changes in the government's economic policies.

Analysing the prospects of associated countries joining the EU, Székely stressed the necessity of stabilizing exchange rates beforehand, which in turn requires a sound and properly regulated banking sector together with fiscal prudence. He concluded that whatever exchange rate regime is chosen, it can be sustained only if the government and central bank have clearly stated preferences and are able to rank them in order to implement a consistent mix of policies. **Ondrej Schneider** (Charles University, Prague) emphasised the political costs of changing the exchange rate regime and pointed to a lack of coordination between the Czech government and the central bank in 1996 and 1997. Neither the government nor the central bank were able to give explicit targets for their respective policies, and the privatization process slowed down significantly in 1996.

Rutger Wissels (European Commission) noted that the end-goal of the transition countries was EU membership; consequently, their policies should be adjusted to this objective.

Zdenék Tuma presented 'Current Account Deficits: Lessons from Transition', a paper written with **Vladimir Kreidl** (both Charles University, Prague, and Patria Finance) that estimated Czech export and import functions. They showed that although imports have been highly sensitive to changes in the exchange rate, exports have been much more stable with changes in the exchange rate having seemingly insignificant effects. Tuma and Kreidl thus concluded that the Czech current account deficit was caused by a disparity between saving and investment and that the fixed exchange rate made the current account deficit worse in the long run. **Judit Neményi** (National Bank of Hungary) questioned their analysis of the public budgets and raised the question of whether the Czech public budgets were really balanced or whether there were hidden deficits.

Hedging and Pricing in Incomplete Markets

A CEPR/ESRC/IFR finance network workshop on Hedging and Pricing in Incomplete Markets was held in London on 10 December 1997. **William Perraudin** (Birkbeck College, London, Bank of England and CEPR) organized the meeting at which the following papers were presented

'Hedging Long Term Exposures With Multiple Short Term Futures Contracts', **Anthony Neuberger** (London Business School)

'Optional Decompositions Under Constraints', **H Föllmer** (Humboldt-Universität zu Berlin) and **Dmitri Kramkov** (Steklov Mathematical Institute, Moscow, and Bank of Tokyo-Mitsubishi International)

'Hyperbolic Distributions and Option Pricing', **Rüdiger Kiesel** (Birkbeck College, London)

'A Generalization of the Sharpe Ratio and its Applications to Valuation Bounds and Risk Measures', **Stewart D Hodges** (University of Warwick)

'Optimal Hedging of Options With Small But Arbitrary Transaction Cost Structure', **A Elizabeth Whalley** (Warwick Business School) and **P Wilmott** (University of Oxford and Imperial College, London)

WORKSHOPS

Rising Inequalities

Social Inequalities and Mobility

A workshop on Social Inequalities and Social Mobility was held in La Coruña, Spain, on 3/4 April 1998. The workshop, which formed part of a CEPR research programme on rising inequalities, was organised jointly with, and held at, the Instituto de Estudios Económicos de Galicia, Pedro Barrié de la Maza. The organizers were **Andrea Ichino** (European University Institute, Firenze, IGIER, Università Bocconi, Milano, and CEPR) and **Gilles Saint-Paul** (Universitat Pompeu Fabra, Barcelona, and CEPR).
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Three papers focused on a range of issues relating to social and income mobility. **Peter Gottschalk** and **Enrico Spolaore** (both Boston College) presented 'On the Evaluation of Economic Mobility'. Trying to answer the question, 'Why do we care about mobility?', they considered preferences for those fundamentals – uncertainty, fluctuations in consumption – affected by the different aspects of mobility and provided a tool for assessing gains and losses associated with given transition matrices. They also considered the value of late versus early resolution of uncertainty, thus addressing the 'origin dependence' aspect of economic mobility.

In their paper, 'IQ, Social Mobility and Growth', **John Hassler** (Institute for International Economic Studies, Stockholm and CEPR) and **José V Rodríguez Mora** (Universitat Pompeu Fabra, Barcelona) investigated the links between social mobility and growth. They proposed an interpretation of social mobility as an endogenous phenomenon in a multiple-equilibrium model. When the market allows talented individuals, independently of their background, to become entrepreneurs, further knowledge and growth are developed, thus raising the return to individual talents for the gifted and raising wages for the non-gifted. The outcome is a high-mobility/high-growth equilibrium in which agents are sorted across occupations according to their built-in talents, rather than their social backgrounds. In the authors' interpretation, however, societies in which 'family' plays a decisive role in determining individuals' occupations will, in turn, experience little growth, thereby reinforcing the problem of low mobility.

Javier Ortega (Universitat Pompeu Fabra, Barcelona) discussed efficiency issues related to migration, or geographical mobility, in a paper entitled 'How (Good) Immigration Is: A Matching Analysis'. Starting from the lack of clarity about the effects of migration on natives' welfare, Ortega proposes a multiple-equilibrium two-countries matching model of the labour market in which agents can decide whether to search for work in their home country, or pay a migration cost and go abroad. On the firms' side, if migration is anticipated, more vacancies will be posted since lower wages will be paid to immigrants, who are high search-cost workers. This mechanism generates self-fulfilling expectations. The three equilibria found are also Pareto-rankable, and Ortega shows that the full-migration equilibrium is the most efficient, thus implying that natives do not suffer a loss from migration, and providing a rationale for several empirical results.

In their paper 'The Long-Run Educational Cost of World War II: An Example of Local Average Treatment Effect Estimation', **Andrea Ichino** (European University Institute, Firenze, IGIER, Università Bocconi, Milano, and CEPR) and **Rudolf Winter-Ebmer** (Universität Linz and CEPR), provide an assessment of the educational losses occasioned by World War II in several participant and non-participant countries. The estimation technique they employ – local average treatment effect – allows them to isolate the return to education for those persons whose educational choice was directly affected by the war in the sense that they were involuntarily pushed into a lower educational category. They estimate that in Germany in 1986, GDP was 0.36% lower than it would otherwise have been; the corresponding figure for Austria in 1983 was 0.67%. Ichino and Winter-Ebmer propose this measure as a proxy for the loss of human capital incurred because of liquidity constraints of importance comparable with those likely to arise during a war.

On the issue of inequality, in 'Income Redistribution Within the Life Cycle Versus Between Individuals: Empirical Evidence Using Swedish Panel Data', **Anders Bjorklund** (SOFI, Stockholms Universitet) and **Márten Palme** (Stockholm School of Economics, Stockholms Universitet) presented an analysis of the effects of the Swedish welfare state on inequality across individuals as well as within the life cycle. The authors used the generalized entropy measure to decompose overall inequality into these two components which were then computed for both pre- and post-tax and pre- and post-benefit incomes. They showed that taxes tended to reduce inequality across individuals, whereas the main effect of benefits was to smooth the path of income over the life cycle – although benefits also played a role in equalizing individual incomes. The income-smoothing effect of the welfare state was stronger in the lowest quartile of the long-run income distribution.

The paper entitled 'Wage Inequality in Spain and Portugal: Contrasts and Similarities', written jointly by **Olga Canto** (European University Institute, Firenze), **Ana Rute Cardoso** (Universidade do Minho) and **Juan Jimeno** (Universidad de Alcala and FEDEA, Madrid), presented evidence on the link between wage flexibility and earnings inequality. Their study looked at Spain and Portugal, two countries that share many institutional features and have experienced similar changes in labour demand and supply. Portugal's labour market, however, is regarded as one of the most flexible in the OECD, while Spain's is considered among the most rigid. Nonetheless, the results of the analysis suggest that there are fewer differences than might be expected between the earnings distributions in the two countries, although differences were found in the determinants of the distributions. Thus the reward for tenure was higher in Spain, whereas the return to schooling was higher in Portugal. Similarly, both skills and different types of collective bargaining agreements played more important roles in determining inequality in Portugal than in Spain.

Comparing France and the United States, **Etienne Wasmer** (Institute for International Economic Studies, Stockholm, and Centre for Economic Performance, LSE) offered a labour-supply interpretation of the rise in the return to skills. In 'The Labour Market Consequences of Demographic Trends: US and France 1964–94', Wasmer investigated the extent to which the substitutability of experience for education in the production function – which he quantified – affected the wage distributions and the returns to skills in the two countries. His conclusion was that changes in labour supply, if properly handled, could account in large part for most of the differences between the two countries.

In 'Equilibrium Unemployment Insurance', **John Hassler** (Institute for International Economic Studies, Stockholm, and CEPR), **José V Rodriguez Mora** (Universitat Pompeu Fabra, Barcelona), **Kjetil Storesletten** (Institute for International Economic Studies, Stockholm, and CEPR) and **Fabrizio Zilibotti** (Institute for International Economic Studies, Stockholm, and CEPR), presented a dynamic politico-economic model offering a rationale for the huge differences in unemployment benefits and rates in the United States and Europe. Human capital accumulation through learning-by-doing leads workers to vote in favour of high unemployment benefits since they would suffer significant losses following an unemployment-induced change of sector. Hence, if specialized workers are politically influential, society will agree to a high replacement ratio. This, in turn, implies longer unemployment spells and a more narrowly specialized and 'choosey' workforce. The opposite result arises if the initial workforce is less specialized: lower unemployment insurance payments will prevail, making the duration of unemployment spells shorter and workers more willing to change sector, thus reducing the benefits of learning-by-doing.

A proposal for, and test of, a mechanism by which product-market competition and/or financial distress of the firm can feed back to the employer-worker relationship and determine the structure of the wage-setting process was put forward by **Marianne Bertrand** (Harvard University and NBER). In 'From the Invisible Handshake to the Invisible Hand? How Product Market Competition Changes the Employment Relationship', she found that exogenous increases in product competitivity, as measured by changes in the exchange rate, implied both a lower dependence of wages on the unemployment rate at the time of hiring, and a stronger link to the current unemployment rate. She interpreted this to mean that firms increasingly use spot-market wage setting as a means for dealing with exogenous changes in competitiveness.

Industrial Location

The Labour Cost–Product Quality Nexus

The relationships between European labour costs and European competitiveness were the subject of a joint Zentrum für Europäische Integrationsforschung (ZEI)/CEPR workshop on 'Product Quality, Labour Productivity and Trade' held in Bonn on 23/4 January 1998. The workshop organizer was **Stefan Lutz** (Union Bank of Switzerland, Zürich, ZEI, Universität Bonn and CEPR).

The workshop was intended to address several questions. Are high labour costs in some European countries, such as Germany, a competitive disadvantage, threatening a flight from investment in those countries and rising unemployment? Or does the high level of skills and consequent higher productivity of workers still give European firms a headstart in the production of high-quality goods? How are European manufacturers coping with the growing competition from low-wage developing countries and what are the likely consequences of this new competition for European wages and employment? And what industrial, trade or labour market policies, if any, should European authorities embrace in dealing with these issues?

Johan Torstensson (Lunds Universitet) presented 'Economic Geography, Comparative Advantage and Trade within Industries: Evidence from the OECD', which was written with **David Greenaway** (University of Nottingham). The paper addressed the issue of the determinants of the patterns of specialization in intra-industry trade. Monopolistically competitive models offer economies of scale and horizontal product

differentiation as explanations for intra-industry trade. Yet, in their simplest form, they do not help in determining the pattern of specialization within an industry. The authors presented a simple unifying theoretical framework which considered both market access and comparative advantage (due to relative factor endowments) as possible explanations for this pattern of specialization. They then tested the model empirically using data on Swedish imports, on the assumption that these are representative of the broader OECD patterns.

The results support the assumption that both the size of the home market and relative factor endowments, in particular human capital, are important in explaining the choice of quality by producers in a certain industry. The data do not, however, support the presumption that falling trade costs should lead to higher geographical concentration of the production of certain quality spectra over time. Finally, the paper measured the relative importance of vertical, as opposed to horizontal, intra-industry trade. Vertical intra-industry trade – defined as the exchange of low-quality for high-quality versions of the same good – was found to be quantitatively more important than horizontal intra-industry trade, defined as the exchange of different varieties of similar goods. Moreover, while the share of the former seemed to have increased over time, the latter had stagnated in the period from 1981 to 1994.

For **Lionel Fontagné** (Université Paris I and CEPII, Paris), the distinction between vertical and horizontal product differentiation was important in that the former is likely to imply larger adjustment costs than the latter. **Tito Cordella** (IMF and CEPR) noted that the theoretical implications of a positive relationship between market size and higher quality depend crucially on the assumption that higher quality implies higher fixed costs rather than higher marginal costs, which may not be the case in many industries.

A quantitative assessment of the importance of intra-industry trade in quality-differentiated products was the central concern of 'Intra-Industry Trade and the Single Market: Quality Matters', presented by **Michael Freudenberg** (CEPII, Paris) and written with **Lionel Fontagné** (Université Paris I and CEPII, Paris) and **Nicholas Péridy** (CEPII, Paris). Using a highly disaggregated dataset of intra-EU trade, the authors were able to examine the changing patterns of specialization and trade within the European market over the period from 1980 to 1994. Trade patterns were identified by breaking up total trade into three types: inter-industry trade; intra-industry trade in horizontally differentiated products; and intra-industry trade in vertically differentiated products. In this case, the distinction between vertical and horizontal intra-industry trade relied on a comparison between the unit value of imports and the unit value of exports for a given good: if these values differed by more than a certain range, trade was classified as vertical, on the assumption that differences in prices reflected differences in quality.

The results showed that overall intra-industry trade in the EU had increased substantially over the period considered, mostly because of a pronounced increase in the exchange of vertically differentiated products. By contrast, exchange of horizontally differentiated varieties did not change significantly. This suggested the existence of a qualitative division of labour in the EU, with adjustments taking place within industries along the quality spectrum, rather than between industries. The second part of the paper used econometric techniques to investigate some of the factors that may have influenced these changes in the pattern of trade. The main conclusions were that vertical intra-industry trade increased with differences in the economic size of member countries, and that the removal of Non-Tariff Barriers did not substantially affect the composition of intra-industry trade.

Carlo Scarpa (Universitá di Bologna) suggested particular care was needed in the use of the dispersion of unit values as a proxy for vertical intra-industry trade, since differences in prices may reflect factors other than differences in costs and quality. Furthermore, the results may be fairly sensitive to the arbitrary choice of a given difference in unit values for classifying goods as vertically rather than as horizontally differentiated, especially if the threshold is assumed to be equal across all products.

Tito Cordella (IMF and CEPR) tackled the issue of the short-term social cost – particularly as perceived by workers – of the relocation of economic activity when barriers to trade, or to foreign investment, fall. His paper, 'Globalization and Relocation in a Vertically Differentiated Industry', written with **Isabel Grilo** (CORE, Université Catholique de Louvain), presented a partial-equilibrium model of a duopoly with vertically differentiated products, in which firms can relocate their production activity abroad, bearing a fixed cost, and the incentive for relocation comes from a given wage differential. Depending on the relative magnitudes of the fixed cost and the wage differential, four equilibria can arise in the globalization scenario: one in which neither firm relocates; one in which both firms relocate; and two in which either the high-quality or the low-quality firm chooses to produce abroad.

The welfare analyses of these equilibria show that workers are worse off relative to autarky when both firms relocate, but globalization may be welfare-improving when one (and only one) of the two firms relocates. An interesting implication of the model is that, in the latter case, it matters which of the two firms relocates: in an economy which has a strong preference for high quality under marginal-cost pricing, the relocation of the firm producing the high-quality good is preferable in welfare terms. In their

conclusions, the authors stressed that large parts of society might bear non-negligible costs in the short-run as a consequence of globalization. Moreover, since the model revealed the possibility of multiple equilibria with quite different welfare implications, there was a role for industrial policy in helping to select the types of firms that relocate their activities abroad.

Stephanie Rosenkranz (Universität Bonn and CEPR) suggested that firms could change the quality of their products in response to the relative preferences of their domestic economies for higher or lower quality. Some participants pointed out that, if a general equilibrium view is taken, the social costs of relocation are likely to be less substantial. The authors replied that, although this was true, their purpose had been to investigate the short-run cost of relocation, as perceived by workers and by public opinion, and as it usually enters the political debate in developed countries.

Offering a theoretical explanation for the recent empirical finding that there exists a negative relationship between wages and unemployment when estimated across regions was the main purpose of 'Regional Unemployment and Specialisation' presented by **Uwe Walz** (Universität Tübingen and CEPR) and written with **Peer Ritter** (Universität Tübingen). They considered a region with a finite number of firms and a pool of workers with a given distribution of skills. A larger region implies more specialized firms and therefore a more specialized demand for skills, which drives up the wage rate. Using a model of equilibrium unemployment, based on efficiency wages, they also showed that a larger region will have a lower level of unemployment because of the better matching between firms' demand for, and workers' supply of skills. These two effects yielded the sought-for negative relationship between the level of wages and unemployment across regions.

Stefan Lutz pointed out that one of the main policy implications is the desirability of a more flexible educational system, that is to say, a system that can provide each future worker with very specialized skills, and offering a wide range of skills in the aggregate. This would reduce the skill-mismatch problem, thus increasing wages and reducing unemployment.

Stefan Lutz (Union Bank of Switzerland, Zürich, ZEI, Universität Bonn and CEPR) and **Alessandro Turrini** (CESPRI – Bocconi, Milano, and CORE, Université Catholique de Louvain) presented 'Skills, Labor Costs and Vertically Differentiated Industries: A General Equilibrium Analysis'. Their paper addressed the much-debated issue of whether high European labour costs (both wage and non-wage) really have a negative bearing on firms' profits. The trade-off between labour costs and industry profits was analyzed within a general-equilibrium model in which one industry is oligopolistic and vertically differentiated. Producing goods of a higher quality requires the employment of a larger amount of skilled labour. Given an underlying skills distribution, the model determines prices, qualities, profits and wages. The non-linearity of the model did not allow for a closed solution, and simulations were performed. The results showed that high wages may be associated with high or low profits, depending on the skills endowment of the economy. The model also shed some light on the effects of the reduction of labour taxation: depending on the skills endowment, it may either lower or increase industry profits.

Isabel Grilo commented on some technical aspects of the model and suggested some extensions; it may be interesting to study what happens when substitutability between different skill levels is reduced and when different degrees of dispersion of skills in the economy are considered. **Richard Baldwin** (Graduate Institute of International Studies, Geneva, and CEPR) observed that the model could have interesting implications for open economies.

Sébastien Jean (CEPII, Paris) presented 'Does Competition from Emerging Countries Threaten the European Unskilled Labour? An Applied General Equilibrium Approach', written with **Olivier Cortes** (CEPII, Paris). The authors built a computable general-equilibrium model to assess the effects on European factor rewards of fast growth in large developing countries. They divided the world into three regions (Europe, the rest of the developed world, and emerging countries); each region's production was classified within two perfectly competitive industries and 11 monopolistically competitive industries; and products were differentiated by country of origin, i.e. goods produced in Europe and goods produced in emerging countries were not perfect substitutes in consumers' preferences. Within this framework, they introduced a shock in the form of a doubling in the size of the emerging countries' economies, but which leaves their relative factor endowments unaffected.

The results suggested that the effects of such a shock on European factor prices should be small: the prices of skilled labour and of capital would increase by 0.7% and 0.1% respectively, and the real wage of unskilled workers would decrease by only 0.1%. **Michael Pflüger** (Universität Freiburg) pointed out that some interesting features of European labour markets had been left out of the model; if wages are rigid, for example, then the effects in terms of unemployment could be non-negligible. Another point, raised also by other participants, was that assuming a process of growth which leaves factor proportions unchanged is quite unrealistic and could strongly influence the results.

’How to Compete in Quality: Factors Explaining Vertical Intra-Industry Trade’ by **Marion Jansen** (Universitat Pompeu Fabra, Barcelona) presented an attempt at an empirical test for the determinants of countries’ performance in high-quality exports. The paper proposed a new measure for product quality differences, based on the ranks of prices of imports from different countries, rather than on the usual criterion of dispersion of unit values of imports and exports. Following the suggestions of trade models with vertically differentiated products, R&D, workers’ skills, physical capital and country size were suggested as potential determinants of product quality. The results showed that a high level of education, used as a proxy for workers’ skills, had a strong and significant effect on the quality of exports, whereas physical capital seemed to play almost no role. The regression exercise also showed a negative effect of income on the quality of exports – a rather unexpected result on theoretical grounds.

Luca Lambertini (Università di Bologna) suggested particular care was required in using differences in prices as a proxy for differences in quality. Differences in prices could reflect strategic behaviour by firms, different firm sizes and technologies, and many other factors that had very little to do with product quality *per se*. This criticism applied to Jansen's paper as well as to most empirical work on quality and trade. An alternative approach is offered by Bresnahan who measured differences in quality within a certain industry by means of the technical characteristics of products using the hedonic prices approach. Lambertini also pointed out that since every conceivable theoretical framework seemed to yield a strong positive relationship between product quality and income, the empirical finding of a negative relation was indeed puzzling. Some participants observed that the potentially high positive correlation between GDP and education could give rise to problems of collinearity, thus imparting a downward bias to the coefficient on income.

Hylke Vandenbussche (UFSIA, University of Antwerp and CEPR) presented 'Globalisation and the Effects of National versus International Competition on the Labour Market: Theory and Evidence on Belgian Firm Level Data', written with **Jozef Konings** (CES, Katholieke Universiteit Leuven and CEPR). Their paper developed a theoretical framework showing that important differences exist between national and international competition and the consequent effects on national labour markets and welfare. The effects of an increase in national competition versus an increase in international competition were studied under endogenous wage formation and different types of market structure.

The model predicted that extra foreign competition would have stronger employment and wage effects than extra domestic competition. Furthermore, extra foreign competition would always reduce domestic employment, but the scale of job reduction would be lower in unionized sectors, since some of the competitive pressure would be offset by a reduction in the wage mark-up. The authors' empirical test of their theoretical model, performed on firm-level data for Belgium (augmented by the results of their own survey), confirmed the main predictions. **Richard Baldwin** appreciated the quality and the interesting conclusions of the empirical work, and suggested some simplifications which might make the thoretical framework more general and easier to work with.

Imperfect information on the part of consumers about product quality was suggested as a possible new reason for foreign direct investment in vertically differentiated industries in 'Intra-Industry Trade and Locational Choice under Incomplete Information: Empirical Evidence from German-Polish Trade and FDI Data'. This paper was presented by **Christian Wey** and **Andrzej Cieslik**, and written with **Justus Haucap** (all Universität des Saarlandes). The authors focused on 'experience goods', i.e. goods whose quality is unknown to the consumer before consumption takes place, and they assumed that firms can relocate, at a cost, between developed and developing countries. Costs of production were assumed to differ in the two locations. If, in forming their beliefs about the quality of a good, consumers took into account the location in which it was produced, then location of production in a high-cost country would be a signal of high quality. In this setting, there exists an equilibrium in which high-quality firms will locate in developed countries and low-quality firms in developing countries, thus increasing the scope for vertical intra-industry trade and reducing the scope for FDI in experience goods sectors.

Isabel Grilo pointed out that the authors had focused on only one possible equilibrium, namely that in which firms chose to send different signals, but there could be other equilibria with different implications. **Paolo Ramezzana** (LSE) observed that once allowance is made for the possibility of having a brand, and for consumers to consider this brand as a signal of the quality of the good, as is the case with most products, then the results could be easily reversed. Thus western firms with established brands would produce in low-cost developing countries and sell without any credibility problem in their home market – a pattern which seemed quite common in many industries.

Globalization

Regional Integration and Development Policy

A joint CEPR/International University workshop on 'Globalization, Regional Integration and Development' took place at the International University of Venice on 31 January/1 February 1998. Globalization, seen as the rapid growth of economic integration through international transactions, is today an important issue for debate. Part of the extensive literature focuses on the resurgence of regionalism in a multilateral world. In this workshop, several papers examined the relationship of issues such as industrial development or fiscal policy to regional integration. Other topics discussed included inequality, technology diffusion, contagion in security markets and deep integration. **Riccardo Faini** (Università degli Studi di Brescia and CEPR), **Joseph Francois** (Erasmus Universiteit Rotterdam and CEPR) and **Bernard Hoekman** (World Bank and CEPR) were the organizers of the workshop.

Diego Puga (London School of Economics and CEPR) and **Anthony J Venables** (London School of Economics and CEPR) presented 'Trading Arrangements and Industrial Development', in which they analysed the influences of different trading arrangements on the industrialization process in developing countries. Traditional analysis of this issue had been based on the ideas of trade creation and trade diversion, which occurred as a result of different comparative advantages. The experience of the newly industrialized countries in Asia, however, suggested the need for a framework in which the pattern of comparative advantage is not set in stone, but is potentially flexible.

The authors developed an alternative approach in which interactions between imperfect competition, trade costs, and an input-output structure create incentives for firms to locate close to supplier and customer firms. Working against this clustering of firms are the standard 'neo-classical' forces of factor-market and product-market competition, which encourage firms to locate where labour is cheap and where there is little supply from other firms. The outcome of the tension between these conflicting pressures determines whether or not agglomeration occurs, and in this, the level of trade barriers is crucial. Within this framework, trade liberalization changes a country's attractiveness as a base for manufacturing production, and can trigger – or postpone – industrial development.

Puga and Venables used this approach to explore a variety of trade liberalization experiments, and derived a number of conclusions. Unilateral liberalization of manufacturers' imports can promote industrialization by making available cheaper imported intermediate goods. Membership of a preferential trading arrangement (PTA), however, would be likely to create larger gains. South-South PTAs will be sensitive to the market size of member states, while North-South PTAs seem to offer better prospects, at least for participating Southern economies, if not for excluded countries. **Arvind Panagariya** (University of Maryland) pointed out that countries in the South currently have higher tariffs, which would have an effect on the experiments. **Joseph Francois** mentioned that it is possible for a country to affect the outcome by offering high subsidies to attract firms.

Olivier Cadot (INSEAD, Paris) presented 'Can Bilateralism Ease the Pains of Trade Liberalisation?', written with **Jaime de Melo** (Université de Genève and CEPR) and **Marcelo Olarreaga** (World Trade Organization, Genève, and CEPR). Looking at the political economy of integration, they argued that regionalism can help sustain multilateralism by emphasizing the hitherto neglected possibility of compensation. Using the influence-driven approach to endogenous trade-policy determination, they showed that a free-trade agreement (FTA) with rules of origin can work as a device, not available in multilateral negotiations, for compensating losers from trade liberalization.

They considered two symmetric countries, A and B. Each country's government trades off contributions from industry lobbies (conditioned on the adoption of distortionary trade taxes) against the social costs that such taxes entail. Next, they showed how an FTA with rules of origin can enable both countries to selectively reduce external tariffs, while at the same time maintaining producer prices in import-competing sectors at their initial level. This guarantees the political support of the producers. The FTA constructed here is characterized by external tariff structures that are negatively correlated across members, ensuring efficiency gains and, through reduced average protection, compatibility with the multilateral trading system. **Francesca Sanna-Randaccio** (Universitá degli Studi di Roma, 'La Sapienza') remarked that within the model the assured definition of rules of origin is crucial, though it does not match actual practice. **Anthony Venables** noted that production volumes do not change as a result of forming a FTA, but that it would be interesting to add some production effects for measuring changes in welfare. In 'Technology, Trade and Growth: Some Empirical Findings', **Michelle P Connolly** (Duke University) analyzed empirically the role of trade in the international diffusion of technology working with the endogenous growth model presented in one of her earlier (1997) papers. Connolly considered first the role of trade in the process of imitation and innovation, and second the effect that these processes had on growth. Her paper provided empirical analysis, including of some developing countries, based on international patent data for 39 countries from 1970 to 1985. These data were used to create proxies for imitation and innovation. Special focus was given to evidence on the diffusion of technology from developed to less developed nations.

The results from the regressions gave general support to the hypotheses and implications of the earlier model in respect of technological diffusion through trade and imitation. Domestic imitation and innovation both appeared to depend positively on high-technology imports from developed countries, transportation and communication infrastructure, intellectual property rights, and the size of the economy. Imports of non-high technology from developed countries entered negatively. **Maurice Schiff** (World Bank) suggested that this might be explained by the fact that countries that import non-high-technology goods do not have the possibility to imitate them. Connolly's further findings that growth in real per capita GDP was positively related to physical capital-stock growth and foreign innovation, and negatively related to initial GDP levels, were consistent with conditional convergence hypotheses. Interestingly, foreign technology from developed countries appeared to play a greater role in per capita GDP growth than did domestic innovation. Thus the role of high-technology goods from developed countries in the international diffusion of technology was supported by the empirical results. The results were also consistent with the idea that trade with developed countries benefits less developed countries.

Arvind Panagariya (University of Maryland) offered a paper on 'Trade, Wages and all that'. He carefully examined the validity of the factor-content approach, often used in the literature to explain increased wage inequality in the North. Using simple diagrammatic techniques, he offered a detailed critique of empirical and policy studies, supporting the claim of modest to large effects of trade and immigration on unskilled wages. Panagariya first explored the connection between the factor content of trade and factor prices, in order to clarify and make accessible some of the existing results and to derive the demand-for-labour curve more rigorously than had hitherto been done. Next, he discussed the key problem encountered in translating the factor content of trade into a factor-price effect and the problems created by it.

Panagariya also used his paper to offer a critique of some earlier works. First, he argued that the Borjas, Freeman and Katz (1992) methodology for estimating the effects of immigration on wages was seriously flawed, because it ignored the fact that immigration induces trade flows whose factor content nullifies its effect on factor supplies. Second, he claimed that Wood (1994, 1995) was wrong in suggesting that technical change induced by import competition from the South in the unskilled-labour-intensive sector of the North had contributed positively to wage inequality there. He argued instead that the primary effect of technical progress in the unskilled-labour-intensive sector is to raise, not lower, the return to unskilled labour.

Enrique G Mendoza (Duke University) presented a joint paper with **Guillermo A Calvo** (University of Maryland) on the highly topical issue 'Rational Contagion and the Globalization of Securities Markets'. In the aftermath of the Mexican crash of 1994, and also in the current Asian crisis, investors often followed the 'market' rather than taking the time and expense to assess each country's fundamentals. The authors devised a model to demonstrate that contagion can be an outcome of optimal portfolio diversification that becomes more prevalent as securities markets grow. They used a model of international portfolio diversification with incomplete information, in which investors acquire country-specific expertise at a fixed cost and incur variable reputational costs.

They demonstrated analytically that globalization of securities markets reduces incentives for information gathering, producing high volatility in capital flows as a result of optimal contagion among global investors. This occurs because: a) globalization reduces the gains derived from paying fixed costs for country-specific information, and b) in the presence of reputational effects, globalization widens the range of portfolios within which investors find it optimal to mimic arbitrary market portfolios. Simulations based on equity-market data and country credit ratings suggested that this phenomenon could induce large capital outflows from emerging markets. For example, a rumour that reduces the forecast expected return on the Mexico equity market from 22.4% to the OECD mean-return level of 15.3% leads to a capital outflow of $15.3 billion. This would be a large amount for a country whose foreign reserves rarely exceed $20 billion. Finally, these results raised the question of whether globalization is necessarily welfare improving, leading to the suggestion that the merits of abolishing capital controls may deserve further consideration.

In 'Economic Geography and the Fiscal Effects of Regional Integration', **Ian Wooton** (University of Glasgow and CEPR) and **Rodney D Ludema** (Georgetown University, Washington) analysed two related issues which arise frequently in discussions of economic integration but are seldom examined together. One is the erosion of fiscal autonomy that countries may experience when economic integration leads to a more mobile tax base. The other is the possibility that integration will lead to spatial agglomeration of economic activity. Wooton and Ludema examined tax competition between national governments to influence the location of manufacturing activity and asked, in particular, whether economic integration, by intensifying agglomerative forces, intensifies tax competition and leads to lower equilibrium tax yields. They constructed a variant of Krugman's 1991 economic geography model, in which labour is imperfectly mobile and governments impose redistributive taxes.

Regional integration is modelled through either increased labour mobility or lower trade costs.

The authors showed that either type of economic integration might reduce the intensity of tax competition, thus restoring rather than eroding fiscal autonomy. Moreover, in the case of the core-periphery pattern, reductions in trade costs must, under certain assumptions, increase taxes. **Angel de la Fuente** (Institut d'Anàlisi Econòmica, CSIC, Barcelona, and CEPR) pointed out that, in the case of Europe, capital is probably more mobile than labour and therefore tax policy is directed more towards capturing capital instead of labour. With this model, however, the same type of results emerges. The key difference is that when labour is mobile, consumption moves with it, but the same does not necessarily apply to mobile capital.

Marcel Olarreaga (World Trade Organization, Genevè, and CEPR) presented the paper 'Does Globalization Cause a Higher Concentration of International Trade and Investment Flows?', written with **Patrick Low** (World Trade Organization, Genevè) and **Javier Suarez** (World Trade Organization, Genevè, and CEPR). The authors were interested in this question because it is sometimes argued that the globalization process has benefited only a small number of countries, with many others failing to reap the benefits of rapid increases in international trade and investment flows. They used three different concentration indicators to estimate the concentration of world trade and investment flows from 1972 to 1995. Their results revealed no trend towards more concentrated flows. The authors also ranked countries into fast and slow integrators and repeated the calculations for each group. In this case it appeared that the concentration of trade and financial flows had fallen among rapidly-integrating countries, and had increased among slow-integrating countries. This suggested that marginalization is more likely to be explained by domestic policies in relatively closed countries. **Maurice Schiff** (World Bank) noted that it may be that small countries are content with only a 2% increase when the whole-world average increases by 5%.

In Deep Integration, Regionalism and Non-discrimination', **Bernard Hoekman** (World Bank and CEPR) focused on the aspect of 'deep' integration within preferential trading agreements (PTAs). The paper was written with **Denise Konan** (University of Hawaii) and **Keith Maskus** (University of Colorado). They defined deep integration as explicit actions by governments to reduce the market-segmenting effect of differences in national regulatory policies that increase foreign suppliers' costs in contesting a domestic market. In this respect, they noted that traders often complain about the additional costs imposed by differences in, for example, health and safety standards, testing requirements and environmental norms. The authors noted that in Egypt's then current negotiations with the EU to establish a bilateral free trade agreement, matters of deep integration – such as technical assistance and opening up of the service sector – were proving important. They therefore attempted to quantify the importance of deep integration using a CGE model for the Egyptian economy. They simulated 11 PTA scenarios for Egypt, involving various configurations with the EU, the United States and the Arab region. As is often the case with such quantitative analyses, the exercise was plagued by a lack of data for estimating the exact tariff equivalents of the various trade costs. The results nonetheless demonstrated that any of the PTAs would be beneficial to Egypt's welfare, but only very marginally. The paper concluded also that liberalizing the service market, which is rather non-competitive, could have a large positive impact on welfare. **Akiko Suwa-Eisenman** (OECD, Paris, and CEPR) mentioned that non-tariff barriers can also create rents, with important welfare implications.

In 'Changing Attitudes Towards Immigration: A Trade Theoretic Approach', **Sanoussi Bilal** (European Institute of Public Administration, Maastricht), **Jean-Marie Gether** (Université de Genève and University of Neuchâttel), and **Jaime de Melo** (Université de Genève and CEPR) analysed the determinants of voter attitudes towards immigration under 'direct democracy'. Owing to deteriorating conditions in OECD labour markets for unskilled labour, resistance towards immigration had risen sharply in recent times. This had been reflected in a shift in migration requirements towards favouring immigrants with capital and skill ownership – the point system adopted in Canada exemplified this trend. The authors made use of the 'direct democracy' approach, because it captures the fact that attitudes towards immigration are still largely guided by the fear of job losses or wage deterioration. Within this framework, following Mayer, they used the three-factor (low-skill labour, high-skill labour and capital), two-household (low-skill and high-skill households) and two-sector model. Here, households will oppose immigration if their income decreases following the arrival of immigrants. Using diagrammatic

Monetary Policy and The Business Cycle

A joint CEPR/ESRC workshop on Monetary Policy and the Business Cycle was held in London on 23 January 1998. **Michael Wickens** (University of York and CEPR) was the organizer. Papers presented were as follows:

'Risk Sharing by Households Within and Across Regions and Industries', **Gregory D Hess** (St John's College, Cambridge) and **Kwanho Shin** (University of Kansas)

'Sticky Prices and Volatile Output or When is a Phillips Curve Not a Phillips Curve?', **Martin Ellison**

(European University Institute, Florence) and **Andrew Scott** (London Business School and CEPR)

'Staggered Wage Setting and Output Persistence', **Torben Andersen** (Aarhus Universitet and CEPR)

'Optimising Agents, Staggered Wages and Persistence in the Real Effects of Money Shocks', **Guido Ascari** (University of Warwick)

'Can Stabilisation Policy Reduce Long-Run Growth?', **Keith Blackburn** (University of Manchester)

presentations, they showed that the critical level of household capital ownership, which determined households' attitudes towards immigration, depended on endowments and technology. Finally, they examined how changes in product prices, factor endowments and technical progress also affected attitudes towards immigration.

Akiko Suwa-Eisenman (OECD, Paris, and CEPR) presented 'Trade Integration with Europe, Export Diversification and Economic Growth in Egypt', written with **Sébastien Dessus** (OECD, Paris). They focused especially on the export diversification aspect of Egyptian trade integration with Europe. Such diversification had become a major goal for Egypt, which was seeking to overcome the decline of its traditional industries, including oil and gas, tourism and the Suez Canal. In addition, the post-Uruguay Round multilateral liberalizations, and the bilateral agreements between the EU and other Mediterranean countries, were eroding the preferential access to Europe granted to Egyptian products. The paper offered a quantitative analysis, again using a CGE model, of the Partnership Agreement in the long run, and evaluated its outcome in terms of sectoral reallocation.

The Partnership Agreement contained three features. The first was a progressive elimination of Egyptian import tariffs on European industrial goods in a 12 year transition period. The second was a financial transfer of 1% of GDP over four years. The third involved aspects of 'deeper integration' which had been the subject of the Hoekman-Konan-Maskus paper. The results provided some evidence that the agreement could promote the desired diversification of the Egyptian economy. The welfare costs of the trade opening, however, would be overcome only if the agreement was able to provide better market access for Egyptian goods in Europe.

The final paper was also part of a project on regional integration sponsored by the World Bank which focused on dynamic aspects. **Maurice Schiff** (World Bank) presented 'Dynamic Aspects of Regional Integration', written with **L Alan Winters** (World Bank and CEPR). The authors provided an overview of the existing literature on this subject. They described the various types of dynamic effects, including those generated by improving policy credibility, winning capital inflows, promoting investments, affecting the location of industry, promoting technology transfer, accelerating economic growth, and migration. They also examined whether any dynamic benefits could be reaped from regional integration agreements (RIAs). They concluded that RIAs can boost investment by creating a larger market, and, in the case of a North-South agreement, by raising the credibility of policy reform in the South. A good example of this was the increased investment in Mexico as a result of NAFTA. Their concluding comments were that South-South RIAs held little promise of dynamic gains, mainly because – especially for small countries – RIAs were unlikely to result in a sufficiently larger market. North-South RIAs seemed more promising for Southern partners who were able to lock in their policy reforms as well as improve their access to Northern markets. **Joseph Francois** (Erasmus Universiteit Rotterdam and CEPR) remarked that if a country was far away from its steady-state growth level – as was the case for developing countries – increased investment could lead to a higher growth path. The implications of 'identical' policy shocks may therefore be more important for developing countries, even in a classical framework. This issue had not really been sufficiently emphasized in the literature surveyed by the authors.

DISCUSSION MEETINGS

EMU

Exchange rate Policy Options

As part of CEPR's continuing analysis of the implications of the transition to EMU, a new Occasional Paper on the options for future exchange rate policies under EMU was published in February 1998. The paper was written by **David Begg** (Birkbeck College, London, and CEPR), **Francesco Giavazzi** (IGIER, Università Bocconi, Milano) and **Charles Wyplosz** (Graduate Institute of International Studies, Geneva). At a lunchtime meeting on 12 February, **David Begg** (Birkbeck College, London, and CEPR) outlined the main conclusions of the paper, which dealt particularly with the options for the euro in relation to the dollar. Begg argued that future exchange rate policies will have to be determined along necessarily informal, yet supple lines and that this had implications for the current Stability and Growth Pact as well as for the way in which the future European Central Bank (ECB) would adopt its policies.

Begg maintained that, when thinking about the exchange-rate policy for EMU, the first step must be to throw away the small-open-economy spectacles. Past European experience will be largely irrelevant to the authorities of a large and relatively closed economic area. European policy-makers thus have more to learn from the US experience than from any European country's own recent history. This incentive is reinforced by the recent success of the US economy in achieving sustained growth without inflation.

Because Europe will resemble the United States, the ECB will behave much more like the Fed, devoting far less attention to the exchange rate than hitherto has been the case with European central banks. A flexible and adhoc approach to exchange rate management is therefore called for. Begg warns, however, that passive imitation of the United States could be misguided, because EMU will differ from the US case in several important dimensions. First, monetary policy will be run by a new institution, endowed with a strong legal design, but initially lacking a track record of its own. Second, contrary to the Fed, which has developed a fairly good understanding of how the US economy works, the ECB will face substantial uncertainty about the European economy, and particularly about the way in which a common monetary policy will affect prices and output throughout the region.

A third difference is that, although standard measures of openness suggest that EMU will be as closed as the US economy, trade in Europe will be different in nature from that in the United States, particularly as exchanges with the countries in Central and Eastern Europe expand. Fourth, fiscal policy in the monetary union will be run by many independent governments, under the coordination mechanism provided by the Stability and Growth Pact. Finally, the ECB is likely to consider that it must take early action to establish a track record. It is thus widely expected that monetary policy initially will be tight – indeed tighter than normal – as the new central bank attempts to secure its reputation.

It follows, according to Begg, that EMU-wide monetary aggregates will, at least initially, be quite unstable. Consequently, the most desirable monetary policy framework for the ECB would be an inflation target, operated via an interest-rate instrument. An additional initial difficulty will arise from the possibility that the cross-country effects of a common monetary policy might be quite different, on account of the differences that exist in financial structures and, thus, in the transmission channels of monetary policy from one EU state to another. It is important to understand, therefore, that the introduction of a single currency will automatically produce more harmonization, and that this, in turn, will require active policy decisions.

Again, Begg suggests, there are important differences with respect to the United States. One difference is that exchange rate fluctuations between the euro and other European currencies (pre-ins, and the currencies of countries that have not yet joined the EU) will continue to matter. A second is that exchange rate fluctuations vis-à-vis the countries in Central and Eastern Europe will deserve new attention. These exchange rates will become increasingly important as trade relations grow, and as they change in nature (e.g., through more intra-industry trade). A third difference is that fluctuations in the euro-dollar exchange rate will also affect some regions and industries more than others, inducing the risk of a call for protectionist measures.

Notwithstanding all these differences, monetary policy discussions between Europe and the United States will become serious only in the presence of a very large exchange rate misalignment – that is, if and when fluctuations in the euro-dollar exchange rate become large and persistent enough to threaten a trade war. Taken together, these considerations imply that the only feasible exchange rate arrangements between EMU and the United States will be informal in nature. This suggests, in turn, that

there will be a need for institutions that facilitate international dialogue and cooperation among different authorities on the two sides of the Atlantic.

At the same time, there is a danger that EMU will disrupt the operation of the two most important among these institutions – the IMF and the G7 – thus limiting the scope for international policy coordination. At the outset, only national governments will have effective fiscal-policy powers, and this situation is likely to prevail for some time. This set-up implies a two-level coordination problem: between the ECB and the governments taken together and among governments. Two conclusions and one policy implication seem to follow from this.

First, the ECB will be less able to rely on its own rules and credibility to provide adequate discipline incentives to member governments than in the normal case with one central bank and one government. The consequence is likely to be an inefficient policy mix. The ECB may have to abandon any tendency to offset lax fiscal policies, with the result that inflation will end up higher than socially desirable. Second, the lack of coordination among national fiscal authorities will complicate the relationship between the ECB and its member governments.

The policy implication is the emergence of a case for some constraint on national fiscal policies, even if the credibility of the ECB proves unquestioned. Thus the Stability and Growth Pact may have to apply to cyclicallyadjusted budgets, and not to unadjusted budgets that are cyclically dependent. Although the Pact agreed at the Dublin Summit took a small (and ad hoc) step in this direction, by itemising particular cyclical circumstances in which exemptions to normal rules would apply, this was a very incomplete solution. If the result turns out to be excessively tight fiscal policies, the Pact will put the ECB under pressure to opt for a tight fiscal-easy money policy mix. It will therefore impede, rather than assist, the ECB and, eventually, the Pact will have to be replaced by a more supple procedure which brings together the ECB and national governments.

David Begg, Francesco Giavazzi and Charles Wyplosz, 'Options for the Future Exchange Rate Policy of the EMU', CEPR Occasional Paper No. 17, February 1998

European Regional Policy

Lessons from Location Theories

The current arrangements for the EU's main regional policy instrument – the Structural Funds – expire in 1999, at which point new arrangements will be needed to ensure effective regional policy until at least 2006. At a lunchtime meeting hosted by ECARE, and jointly organized by CEPR and ECARE in Brussels on 25 November 1997, **Diego Puga** (LSE and CEPR) described the lessons afforded by recent location theories for the design of the required reforms.

The context for the reform of regional policy will have three components. The first is the expected enlargement of the EU over the next few years. The second is the profound regional income disparity that exists within the Union and which has persisted despite an intense process of regional specialization in different sectors in the EU, and continuing resource transfers. Third, in spatial terms, regional problems have come to be viewed less as large disadvantaged regions and more as concentrated pockets of poverty and unemployment.

Puga reflected on the lessons for all three of these elements. On the challenges posed by enlargement, he noted first that the applicant countries with which negotiations were likely to begin in 1998 have a GDP per capita which is only 30% of the EU average. By contrast, the GDP per capita of Greece, the poorest member of the current union, was 63% of the EU average. Although enlargement will open new opportunities to firms and consumers with potentially large benefits for both East and West, these disparities will have significant implications. In particular, although EU membership must involve the same status for new entrants as for existing members, different aspects of membership may need to be phased in at different speeds.

For example, if full labour mobility were introduced immediately, too large a gap in wage levels between new and existing members could drain the newcomers of their more skilled workers. But although it may be tempting to try to bring applicant country wage levels close to those of the EU as rapidly as possible, such a process should not be rushed. A long transition period before full labour mobility is achieved would be preferable to unjustified wage increases in the new entrants, since this would push the objective of a more cohesive Union further away. German reunification had provided a clear example of how integration can homogenize wages across regions that offer very different degrees of attraction to firms. Between the first quarter of 1990 and October of that same year wages in former Eastern Germany rose by 42%. Half that increase was accounted for by the harmonization of social security contributions alone. Timing the transition to enlargement was thus a crucial issue to be addressed.

On the issue of regional disparities, Puga claimed that over the past 15 years income differences across member states had fallen, but that inequalities among regions within individual member states had risen. This had led the European Commission to propose

decentralizing the administration of Structural Funds to local governments, on the basis that they would have better information on local needs and on the costs of addressing them. The optimal degree of decentralization would involve a compromise between exploiting better information on local conditions – by delegating the decision to a small local jurisdiction – and taking proper account of broader repercussions by vesting powers in a larger jurisdiction. Funds that could be used to attract particular investments should be administered centrally and be subject to clear rules, otherwise firms would probably shop for aid and regional governments compete for activities they consider particularly important. That would not only be inefficient – it would also undermine the credibility of European regional policy.

Controlling the use of European regional funds would not be sufficient, however. Subsidies offered to firms usually conform to the aid practices of individual member states. The EU has set differential ceilings on state aid; in practice, though, the less prosperous states face more restrictive budgetary constraints of their own. Unless tighter ceilings are introduced for wealthier states, a tool justified as a means of helping less developed regions to escape from 'underdevelopment traps' could end up trapping them all the more firmly.

The consequences of increasing regional specialization should also be considered. Over the past 15 years, European regions have become increasingly specialized in different industrial sectors, and this process is likely to intensify with further integration. Specialization can yield large overall gains, as firms can better exploit the positive externalities of being close to firms in related activities and can avoid having to compete with firms in unrelated activities for local factors and services. But workers employed by locally declining sectors would suffer as regions adapted. Given the low propensity of European workers to migrate, adjustment would have to take place mainly through the movement of workers between sectors within each region rather than through the movement of workers between regions within each sector. Greater regional specialization would therefore increase the need for schemes designed to enable workers to move from locally declining to locally expanding sectors. Although training in skills which are not sector-specific might help ease the transition from one sector to another, it is sector-specific skills which could give a region the 'depth' of comparative advantage necessary to withstand shocks.

Finally, Puga drew on work in location theory to convey the importance of understanding the wider effects of individual projects, especially in infrastructure. He took as an example the effects of a road project connecting regions with different levels of industrialization. Some growth economists would regard infrastructure as merely another input into production and, hence, would view the road project simply as a growth-enhancing addition to the infrastructure stock of affected regions. But, in at least two respects, this approach understated the role of transport infrastructure in facilitating the movement of goods and people across space.

First, location theories indicate that better communications can make a less developed region a more attractive location for firms by giving them improved access to the inputs and markets of more developed regions. A rise in the level of activity of one industry in such a region could, in turn, induce another supplying industry to produce at a more efficient scale. Cumulative causation could result in the road project providing wider and stronger positive effects for less favoured regions than would be estimated by traditional cost-benefit analysis. Against this, however, improvements in transport infrastructure would also make it easier for firms in richer regions to supply poorer regions at a distance, and could thus harm the industrialization prospects of less developed areas.

Second, the overall impact of a project depends not only on the nature of the project itself but also on the wider economic environment. For instance, the combination of minimal inter-regional migration with wage-setting at the national sectoral level arguably had led infrastructure improvements to worsen the convergence prospects of the Italian Mezzogiorno. Lacking the industrial base and market size of Northern regions, but having similar factor costs, local firms had lost out to Northern competitors as better communications had lowered the natural protection they enjoyed. Traditional cost-benefit analyses therefore needed to be complemented by a quantification of these wider effects to assess more accurately the impact of projects.

Diego Puga, 'Reforming European Regional Policy: Lessons from Recent Location Theories', work in progress funded by the European Commission DG XVI

Diego Puga and Gianmarco Ottaviano 'Agglomeration in the Global Economy: A Survey of the 'New Economic Geography' CEPR Discussion Paper No. 1699, October 1997

Diego Puga and Anthony J Venables 'Agglomeration and Economic Development: Import Substitution versus Trade Liberalization' CEPR Discussion Paper No. 1782, January 1998

'Jobs For Life'

Is the End in Sight?

Is the era of the ’job for life’ about to end and, as many commentators have suggested, be replaced by a life of employment uncertainty and a succession of dead-end jobs? And are the reasons behind this scenario indeed the usual suspects of ’trade and technology’, namely the expansion and intensification of globalized competition and the pervasive presence of information technology? The received wisdom on these issue was disputed by **Simon Burgess** (University of Bristol and CEPR) during a lunchtime meeting organized by CEPR on 12 December 1997. Drawing on recent research, Burgess claimed that there is no strong tendency for shorter job tenures, and that the facts suggest that fears of a dramatic change in the nature of work, including the emergence of a new ’industrial peasantry’, are overdone.

According to Burgess, the data demonstrate that the average length of job tenure in the United Kingdom is about 12 years for women and 18 years for men. These figures suggest that there is still a large element of stability in the labour market. The averages naturally summarize a very disparate set of experiences: although 24% of men’s jobs had a duration of less than five years, over 40% lasted more than 20 years and 24% more 30 years. For women, the corresponding figures were 41%, 18% and 12%.

These numbers show clearly that, at any particular moment, a substantial percentage of workers are in short-term jobs. A common argument is that this fraction has increased substantially in the past 20 years or so, with a corresponding fall in the proportion in longer-term jobs. The data, however, show that this is not the case. Elapsed job tenure was the same for women in the early 1990s as it was in 1975; for men it had fallen by about one year. The proportion of workers who had been in their jobs for less than a year was the same in 1992 as in 1975. And, while the percentage in jobs for more than five years was lower in the 1990s for men (though not for women) than in the 1970s, the difference was not dramatic.

Furthermore, despite very different labour market regulations and institutions, there is little difference in job tenure between the United Kingdom and Italy; if anything, jobs appear to last slightly longer in the less regulated UK labour market. For a 35 year-old, averagely qualified worker in a medium-sized company, and controlling for other factors, the chance of having a job that has lasted at least five years is 50% for a female manual worker in manufacturing in both countries, and 40% for a female non-manual worker in a service industry in both countries. For men, the corresponding numbers for the same cases are 53% in the United Kingdom and 49% in Italy for manufacturing, and 42% in the United Kingdom and 38% in Italy for the services sector.

Why, Burgess asked, is there this discrepancy between the facts on job tenure and the widespread public concern over insecurity? One possible explanation is that employees in the media sector – perhaps justifiably – have been feeling insecure and have transmitted that fear to the rest of society. Another possibility is that individuals on temporary contracts, or with less formal job protection, may feel insecure even though, as the data suggest, their contracts are generally renewed. Finally, individuals feeling worried about their jobs may take actions to offset the perceived threats. Job insecurity may reveal itself in longer working hours, lower wage claims and the like, all of which may counteract the influences of 'trade and technology' to produce stable job-tenure outcomes.

If the facts suggest that jobs last about as long now as they have done for the last 20 years or so, can anything be said about the 'best' level for average job tenure? In the public debate, the assumption tends to be that, from an individual's viewpoint, the longer a job lasts the better. Although this may, in part, reflect conflation of the distinct question of fear of unemployment, a high chance of remaining in the same job for a long time nevertheless clearly reduces individual risk.

From the viewpoint of the economy as a whole, however, the answer is much less clear. What matters above all for a country in the medium and long run is aggregate productivity growth. Job tenure affects this in two potentially conflicting ways. First, longer job tenures are conducive to training, and provide the right environment for appropriate work incentives. But second, modern economies are continually buffeted by shocks – such as changes in tastes, arrival of new products and production techniques – and short job tenures facilitate rapid reallocation of workers from suddenly less-productive to more-productive businesses. Depending on their circumstances, different countries will have different optimal portfolios of long-term and short-term jobs.

In addition, Burgess offered some interesting information on the determinants of job tenure. First, he argued that there is a significant link between education levels and the length of time spent in a job. But the nature of the link is unexpected: those with some further education are more likely to be in a job which they may have held for only a short time than people who left school early. In particular, people with a degree are far more likely than others to have been in a job for less than a year – implying that they move jobs more frequently. Second, the likelihood that someone will remain in an industry for more than five years varies among industries. Jobs in construction and services tend to have short tenures; jobs in energy and agriculture tend to last longer.

Third, the presence of children in the family has different effects on men's and women's employment patterns. A woman with a pre-school child is twice as likely as a woman with no children to have held her present job for less than one year. With men, the effect on job tenure of having a pre-school child is minimal. Fourth, people whose spouses are in work tend to have held their own job for longer. Finally, white women are more likely to have been in their job for only a short time than non-white women; exactly the reverse, however, applies to men.

In conclusion, Burgess acknowledged that the numbers he was reporting were backward looking and that the world could change tomorrow. The implications of the data, however, were that there was no evidence that such changes are imminent. On that basis, it was his contention that reports of the death of 'jobs for life' appeared to be exaggerated.

Simon Burgess and Hedley Rees, 'A Disaggregate Analysis of the Evolution of Job Tenure in Britain, 1975–93', CEPR Discussion Paper No. 1711, October 1997

Simon Burgess, Hedley Rees and Lia Pacelli, 'Job Tenure and Labour Market Regulation: A Comparison of Britain and Italy using Micro Data', CEPR Discussion Paper No. 1712, October 1997

Simon Burgess, Julia Lane and David Stevens, 'The Reallocation of Labour and the Lifecycle of Firms', CEPR Discussion Paper No. 1713, October 1997

Systemic Pension Reforms

Lessons from Recent Experience

Reform of pension systems has become a major preoccupation of governments around the world. In 1997, for example, systemic pension reforms were undertaken by three more countries in Latin America (bringing the number of reformers in this region to eight) and three transition countries – Kazakhstan, Hungary and Poland – passed new pension laws or started implementing new pension systems. Many other countries, including China, Russia and Brazil, are also preparing to reform their pension systems. At a lunchtime meeting on 11 December 1997, hosted by the Research Centre of the Faculty of Economics at the University of Ljubljana, **Dimitri Vittas** (The World Bank) outlined the progress of these pension reform programmes and the lessons which can be drawn from their experiences for Central and Eastern Europe. The meeting was organized jointly by CEPR and the Institute for EastWest Studies under the auspices of the *Economic Policy Initiative*.

Vittas pointed out that the motives for reform of pension systems are similar across most developing countries. They include serious design faults; poor performance; and (of less relevance) demographic ageing. Design faults include young retirement ages; lax provisions for early-retirement and disability pensions; high targeted replacement rates; high payroll taxes; and widespread evasion. Systemic pension reform programmes are complex, however, and successful implementation requires detailed preparation. The main obstacle is not technical but political, in that reform programmes are highly vulnerable to dilution through the legislative process.

Although no two programmes are identical, they all share two features: the downsizing of public 'pillars'; and the promotion of private pension funds. The multipillar structure is predicated on both theoretical and practical arguments. The theoretical argument is about the alignment of pillars and functions; the practical about the wisdom of diversifying across providers. This is relevant because pension contracts span a period of 60 years or more, while experience with fully fledged and mature pension systems, as well as deep and well-regulated capital markets, is not only shorter but also far from fully satisfactory.

There are many different ways in which either the public or the private pillar can be organized. The choice often reflects local political and historical factors, but it is also shaped by the preferences of reformers and their advisers. For the public pillar, what matters is to reduce the generosity of promised benefits and contain the extent of redistribution. Modest promises are more affordable and hence more likely to be sustained. For the private pillar, the key issue is operational and investment efficiency, rather than the specific form.

Integration of the two pillars is important to avoid inequities and distortions at the margin. The Swiss pension system has an excellently designed public pillar and admirable integration between the two pillars. The efficiency and transparency of the funded private pillar leave much to be desired, but as the pillar is operated with a targeted replacement rate, transparency matters less than it would in other circumstances.

A very important aspect of the reform programme is the regulatory framework for the private pillar. A segmented approach with draconian regulations may be justified at first, but relaxation of regulations and a move towards an integrated system should be undertaken as the system matures. Asset segregation and external custody are, however, essential preconditions for a successful reform.
The main weaknesses in developing countries have been the high marketing intensity, unexpectedly high levels of account switching, and the high operating costs of private pension funds. These seem to be related to uniform pricing rules and the prohibition of

loyalty, group and volume discounts, and perhaps also to structural controls in the form of 'one account per worker' and 'one fund per company'. To contain marketing costs and account switching, Latin American countries have started to allow loyalty and group discounts, while also imposing limits on account switching. Kazakhstan is planning to impose low ceilings on fees, while Bolivia has authorized only two management companies with pre-assigned membership. No country, however, is contemplating removal of the uniform pricing rule.

Progress during the transition phase depends upon initial conditions and upon political and social constraints. Countries with low pension costs, low tax rates, low public debts and ample privatizable assets are in a better position to undertake bold and speedy reforms than countries at the opposite end of the spectrum. The dynamic consequences of the transition process are also relevant. Pension reform may stimulate formalization of employment and capital market development as well as spur saving and growth. The impact on labour and capital markets, as well as on saving and growth, is likely to be greater in developing countries where these markets are less well developed, and where unfunded public pillars suffer from far more serious design faults, and cause far greater distortions in economic incentives.

It is often argued, Vittas noted, that the creation of funded pension schemes should not be encouraged in countries that have underdeveloped capital markets and weak regulatory structures. Although widely held, this view is not fully justified, since it disregards the dynamic interaction that is likely to emerge between pension funds, capital markets and regulatory structures. The main pre conditions for successful pension reform are a strong political commitment, effective external custody and access to foreign expertise. International financial institutions and capital markets can therefore facilitate the implementation of reform programmes by making technical expertise available, by providing financial support, and by developing new instruments to encourage risk diversification and to meet the financial needs of retired workers.

EU Enlargement

Implications for East-West Trade

The radical reforms that have taken place in the economic systems of Central and Eastern European countries (CEECs) in the period since 1990 have also embraced their foreign trade regimes, with striking consequences for trade patterns and volumes. Trade with the EU is the now the largest and fastest growing part of the CEECs' trade with OECD economies. The existing momentum towards a free trade regime between the EU and the CEECs already created by the Europe Agreements will be accelerated by the enlargement of the EU to include some CEECs. In consequence, concerns have been expressed about the effects of this expanding trade on the existing EU economies. Whether these concerns are justified was the question posed by **Alasdair Smith** (University of Sussex and CEPR) at a lunchtime meeting organized by IEWS and CEPR, and held at the Romanian Institute for Free Enterprise on 17 October 1997, under the auspices of the *Economic Policy Initiative.*

Studies of the impact of the transition process on the EU have suggested that apparently high education levels, in quality as well as quantity, in the CEECs will give them a comparative advantage in high-tech products. In addition, the scope for expansion of high-tech production is reinforced by the sharp decline in military employment. These characteristics would seem to underpin the validity of the concerns that have been raised. In fact, however, Smith argued that the published CEEC educational statistics greatly overstated the international competitiveness of CEEC labour, and that this conclusion was clearly supported by the evidence from international comparisons of trade prices and educational statistics.

To illustrate this conclusion, Smith outlined four key features of the emerging EU-CEEC trade relationship. First, notwithstanding the apparent potential for high-tech exports, the rapid growth of overall trade hitherto has been accompanied by only modest overall reductions in CEEC concentration on 'sensitive' products. Moreover, intra-European comparisons of revealed comparative advantage indicate a consistent pattern of CEEC comparative advantage in low-skill and physical capital-intensive sectors, but a comparative disadvantage in high-tech products. (This is a quite different pattern from that of EU trade with East Asian countries, which have a comparative advantage in high-tech products and a comparative disadvantage in the physical capital-intensive sectors.)

Second, there have been significant increases in intra-industry trade. Indeed, the observed levels of intra-industry trade – which is typical of trade in differentiated products among advanced countries – has been higher in the EU-CEEC arena than among Singapore, South Korea and Taiwan. This might suggest that East-West trade in Europe is closer in its nature to West-West trade than to North-South trade. More careful analysis of the nature of the intra-industry trade, however, suggests that there has been trade between low-skill and high-skill products *within* sectors. Third, EU exports to the CEECs in textiles, clothing and footwear have grown faster than imports, even though these sectors have often been taken as an exemplar of the comparative advantage of the low-skilled. The growth of intra-industry trade in textiles and clothing has been encouraged by the

special provisions in the Europe Agreements for outward processing trade, and such trade has grown rapidly in these sectors. Finally, data on the relative unit costs of CEEC exports and imports confirmed that much intra-industry trade was of a 'vertical' character, involving trade in products of the same type but of different quality.

Smith then turned to the labour market effects of EU-CEEC trade. He noted first that dramatic changes in relative wages have taken place in the United States since the mid-1970s, and that almost as dramatic increases have occurred in European unemployment in the same period. Many think the labour market misfortunes of the low-skilled are caused by international competition, as trade with poorer countries has increased. In the European context, therefore, there could be concern that rapid growth of trade with low-wage Eastern European countries will add to the difficulties of less-skilled workers in the EU.

Most international economists, however, oppose the view that there is a strong link between the growth of trade and the growth of labour-market inequality. Calculations of the likely impact of trade with the CEECs on EU labour markets produce very small estimates. This partly reflects the important fact that the CEECs are small economies compared with the EU, with the result that trade with the CEECs is a very small proportion of overall EU economic activity. In these circumstances, even rapid growth of a very small number still produces a small number. Against this, estimates of the impact of trade on labour markets are inherently likely to understate the true effects. This is where interpretation of intra-industry trade becomes very important. If the same product appears in imports and in exports in equal amounts, the estimated labour market impact of trade in this product will register as zero. Jobs displaced by imports will seem to have been replaced by similar jobs producing exports.

If the 'same' products are not really the same, however, either because the statistics lump together different goods into product aggregates, or because different varieties of the same good have different qualities, then the calculations will miss the fact that the jobs displaced by imports may be different from the jobs created by exports. Thus if Poland exports low-priced shoes and clothes to Italy that are largely the product of low-skilled labour, and Italy exports to Poland high-priced shoes and clothes whose production involves high-skilled craft workers, designers and marketers, the net effect on the Italian labour market will be a reduction in the demand for unskilled labour and an increase in the demand for skilled labour.

Finally, Smith considered the policy implications of his analyses. He noted that, although the Europe Agreements had constituted a major step towards trade liberalization, more steps were still to come. The EU had tied the important issue of the future of contingent protection (anti-dumping actions, countervailing duties and emergency protection against import surges) to implementation by the CEECs of the EU's internal market. The Commission's May 1995 White Paper on 'Preparation of the Associated Countries of Central and Eastern Europe for Integration into the Internal Market of the Union' had included the extraordinarily asymmetrical statement that 'once satisfactory implementation of competition and state aid policies (by the associated countries) *has been achieved, together with the wider application of other parts of Community law linked to the internal market*, the Union *could* decide to *reduce* progressively the application of commercial defence instruments for industrial products from the countries concerned' (emphases added).

There was a clear possibility, however, that interest-group pressures within the EU, and the unequal relationship between the EU and the CEECs, would lead the process in directions that responded more to the needs of EU producers than to the priorities of political and economic development in the CEECs, thereby slowing the process of EU enlargement for fear of the impact on existing member economies.

An additional question was whether actions taken by the CEECs would induce a matching response from the EU. Would the implementation of single market measures actually give the CEECs better market access in the EU and bring accession closer? If implementation of the single market measures was to be used as one of the criteria for judging who was ready for accession and when, the White Paper could come to be seen as setting obstacles rather than signposts to accession. Increased trade might also create adjustment problems in the existing EU that may be more significant than economic analysis of the issue had so far exposed, but these problems would be containable. The correct response in the West would be directly to address the distributional and adjustment problems that may arise in existing EU labour markets, and not to drag its feet about completing the process of ending the division of Europe.

ECONOMIC POLICY 25

Public Finance Solutions to the European Unemployment Problem? ***(Peter Birch Sørensen)***

Unemployment in Europe is heavily concentrated among low-skilled workers. It has therefore been suggested that structural unemployment could be reduced by shifting the tax burden away from low-skilled labour and from production of consumer services, which are intensive in the use of such labour. This paper finds that such a shift may raise aggregate employment and welfare, but only if wage formation is sufficiently responsive to changing tax incentives. The analysis also suggests that offering tax concessions to those parts of the consumer service sector which compete most directly with low-productivity home production could bring non-negligible employment and welfare gains.

French Unemployment: A Transatlantic Perspective ***(Daniel Cohen, Arnaud Lefranc and Gilles Saint-Paul)***

The paper compares the French and US labour markets. It shows that differences in unemployment rates are especially acute for young and old workers, but appear to be negligible for middle-aged workers. All French workers, however, experience job flows that are quite distinct from their American counterparts as they are exposed to long spells of infrequent unemployment, which is the opposite to the US case. The paper dispels the view that these differences originate from the behaviour of the unemployed and that this is new to the French labour market.

Concentration and Public Policies in the Broadcasting Industry: The Future of Television ***(Massimo Motta and Michele Polo)***

To assess the likely evolution of the industry, this article decomposes it into a number of components, from conception of programmes to their broadcasting, including distribution, storage and licensing. Contrary to popular expectations, the analysis suggests that the current high degree of concentration will, if anything, increase. The policy implication is that regulation, so far driven by now obsolete technological constraints, should increasingly emphasize the promotion of competition.

The Arms Trade ***(Paul Levine and Ron Smith)***

The arms trade raises highly controversial and difficult policy issues, particularly around the moral, military and political dimensions of arms exports decisions. This article provides a structured economic description of the evolving international arms market in terms of the factors that influence demand and supply and thus prices and quantities. It also reviews the policy issues faced by EU members; in particular, whether a common arms export control regime is needed.

Drugs: Do European Drugs Policies Matter? ***(Aloys Prinz)***

After analysing European drugs policies, this article argues that there is no clear-cut evidence that different national drugs policy approaches really work in the expected direction. However, there are indications that the market mechanism works: prices for heroin and cocaine are positively affected by the quantity seized by police forces, and higher drugs prices moderate death rates of drug addicts. Although repressive drugs policies captured not by prices, but by country-specific effects, do not have these consequences, e.g. the Netherlands has both the lowest drug prices and a comparatively low number of deaths from drugs.

Drugs, Economics and Policy ***(Bruno S Frey)***

This article adduces empirical evidence to argue that there is no necessary link between drug consumption, addiction and social disintegration. A considerable share of the population has consumed illegal drugs during some period of their lives, a substantial proportion of which have a job and home. Many 'mature out' of drug consumption in their 30s. Most drug users are normal consumers responding systematically to relative prices. After the failure of a repressive drugs policy, Switzerland allows cities to pursue a 'third way' between repression and liberalization. The state allows carefully screened heavy addicts to inject heroin at a nominal price, while at the same time raising the cost to potential entrants. The 'experiment' has produced encouraging results. The health of users has improved and crime has been reduced. A homogenized drugs policy in the EU would probably disallow such promising programmes.

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DISCUSSION PAPERS

Privatization

Auctions are Best

Governments that want to privatize a state-owned enterprise can choose from several alternative methods. Most western countries have employed various kinds of auctions to sell to the ghest bidder. Some Eastern European transition countries have simply given away substantial fractions of the shares of state-owned firms to the general population. In Eastern Germany, the Treuhandanstalt bargained with predetermined buyers and negotiated detailed employment and investment guarantees. But which method is most likely to achieve an efficient allocation of ownership rights and maximize revenues?

In Discussion Paper No. 1541, **Klaus Schmidt** and **Monika Schnitzer** survey the burgeoning literature on privatization to evaluate systematically and compare these different methods. The authors claim that recent developments in auction theory, bargaining theory, non-cooperative game theory and contract theory, together with the newly emerging literature on mass privatization in transition economies, offer many important insights into, and point to some of the pitfalls in the way of privatization. They focus particularly on the properties of various kinds of auctions in differing environments and conclude that, although auctions are often designed to maximize revenues, this approach may not always lead to efficiency in allocation of ownership rights. Nonetheless, they argue that, in a wide variety of circumstances, the government should use an ascending open-bid format, such as the traditional English auction. In particular, if there are more than two serious bidders, an English auction is more efficient and yields higher revenues than bargaining with a preselected prospective buyer. Finally, if there is a political imperative for mass privatization, they show that giving away some fraction of all shares to the general population may be more efficient and yield higher revenues than a policy of selling all firms to the highest bidder.

Methods of Privatization: Auctions, Bargaining and Give-Aways
Klaus M Schmidt and Monika Schnitzer

Discussion Paper No. 1541, January 1997 (IO/TE)

Privatization

Achieving Political Sustainability

A major determinant of success in large-scale privatization programmes is the assurance that the government (and its successors) will refrain from discretionary interventions that might lead to an *ex post* expropriation of the returns – or even to effective renationalization – of the industry. As has been demonstrated by experiences in Eastern Europe, where the institutional framework for investor protection is still in its infancy, without this assurance, long-term investments and restructurings do not take place. In the view of **Klaus Schmidt**, the implication is that a reformist government engaging in large-scale privatization should be concerned not only with the economic properties of the process, but also with its long-term political sustainability.

In Discussion Paper No. 1542, Schmidt analyses the case for giving away shares in state-owned enterprises to the general population as a safeguard against future policy reversals. Using a simple median voter model to predict the policy of future governments, he reaches five main conclusions. First, the threat of expropriation is greater the poorer a country, the more skewed its income distribution, the more risk averse the population and the more rigid the labour market. Second, there will be less expropriation the greater the free distribution of shares. Third, it is better to distribute shares equally across the population than to give them to insiders within the firm. Fourth, people should be discouraged from selling their shares for cash. Finally, a mass privatization which includes substantial free distribution of shares may induce more investment, higher expected profits and higher privatization revenues than a policy that relies exclusively on selling shares to the highest bidder.

The Political Economy of Mass Privatization and the Risk of Expropriation
Klaus M Schmidt

Discussion Paper No. 1542, January 1997 (TE)

Productivity and Growth

Explaining Regional Convergence

A negative partial correlation across regions or nations is often found between output per capita (or per worker) and subsequent growth. The strength of this correlation is widely taken as a measure of the speed of productivity convergence. Recent findings, suggesting a faster speed of convergence than was previously indicated, however, are theoretically problematical within a standard neoclassical growth-model framework. In Discussion Paper No. 1543, **Angel de la Fuente** argues that, in order to make sense of these empirical results, it is necessary to think in terms of a broader model which allows for convergence mechanisms other than diminishing returns. Two possibilities are technological diffusion across countries and regions (the so-called 'catch-up effect'), and reallocation of resources across sectors.

De la Fuente thus develops a descriptive model which allows for factor accumulation, technological diffusion and equalization rate effects from human capital, and which includes fixed regional effects to allow for unobserved factors. He applies the model to investigation of the sources of productivity convergence, using panel data on output levels and factor stocks for the Spanish regions. The results indicate that technological catch-up, equalization of education levels and redistribution of employment across regions account for most of the observed reduction in regional disparities. Another finding is that, even after controlling for factor stocks and flows and technological diffusion, there remain significant cross-regional differences in estimated total factor productivity levels, which point to the omission of important variables and to the need for a more disaggregated analysis. The paper also provides some preliminary evidence on the importance of sectoral factors in explaining the evolution of the regional income distribution.

On the Sources of Convergence: A Close Look at the Spanish Regions
Angel de la Fuente

Discussion Paper No. 1543, December 1996 (IM)

Industrial Organization

Endogenous Mergers

In most industries only a few of all legally feasible mergers actually take place. Very little is known about the economic principles that govern merger patterns or about the determinants of the distribution of ownership of productive assets in an industry. Moreover, the existing merger literature almost exclusively considers mergers between exogenously specified firms and focuses on the traditional 'potential profit' criterion for merger incentives. In Discussion Paper No. 1544, **Henrik Horn** and **Lars Persson** develop a model to predict the pattern of mergers when different mergers are feasible.

The main difficulty in formulating a theory of endogenous determination of mergers stems from the seemingly trivial fact that actual merger contracts specify both the participating firms, as well as the financial terms of the merger. Consequently, there is no natural stable solution to the merger game. Horn and Persson solve this problem by borrowing concepts and ideas from cooperative game theory in order to extend the traditional industrial organization approach. Their model suggests that in concentrated markets, equilibrium mergers are conducive to market structures with large industry profits, thus pointing to an inherent conflict between private and socially correct merger incentives. In applying the model, the paper also throws light on formation of research joint ventures, mergers between quantity-constrained firms and tariff-jumping foreign direct investment.

Endogenous Mergers in Concentrated Markets
Henrik Horn and Lars Persson

Discussion Paper No. 1544, December 1996 (IO)

Optimal Inventories

A Portfolio Framework

Most econometric work on inventory holding presents a theory of the optimal inventory in a steady state, and then analyses the adjustment consequent upon any divergence between actual and desired inventories from the inventory in any period. The optimal inventory level is determined by sales, the variance of sales shocks, the real cost of funds and opportunity costs. One factor generally omitted, however, is that the inventory-investment decision is but one of many decisions a firm must make about both assets and liabilities. In Discussion Paper No. 1545, **Jenny Corbett**, **Donald Hay** and **Helen Louri** use a

portfolio framework to model the optimal inventory decision in the context of decisions about real capital investment, short-term and long-term finance, trade debt and credit, and the liquid assets of the firm.

The authors analyse the determinants of the inventory-to-assets ratio in panel-data sets of Japanese and UK firms in the period 1960–85. Investment in inventories in Japan is found to be positively related to sector-specific inflation rates and expected sales, negatively related to expected profits and not much affected by interest rates. By contrast, UK inventories are generally positively related to profit rates and respond to short-term interest rates. Once other variables are taken into account, the coefficient on a time trend is negative for the United Kingdom but positive for Japan – a finding which casts some doubt on the widely held view that Japanese firms have proved innovative in reducing their inventory holdings.

Inventory Behaviour: A Comparative Study of UK and Japanese Firms
Jenny Corbett, Donald Hay and Helen Louri

Discussion Paper No. 1545, January 1997 (IO)

Political Economy

The Effects of Political 'Endorsements'

During political elections, leaders of organized interest groups often publicly 'endorse' one candidate or party. In Discussion Paper No. 1546, **Gene Grossman** and **Elhanan Helpman** investigate the reasons for such endorsements and their role in the election process and in the determination of policy. The authors contend that endorsements are a coarse, but effective, language for communication between well-informed leaders and less-informed rank-and-file members of interest groups. The members, who share some policy concerns, may not fully understand where their interests lie, or where various candidates stand, on certain issues. If their leaders cannot fully explain the issues, they can convey some information by endorsing one political party or the other. Members must interpret the importance of the endorsement in view of their feelings about the parties on other unrelated matters.

Grossman and Helpman develop a model utilizing concepts of asymmetric information to analyse the 'signal-extraction' problem which endorsement presents for interest-group members. They also consider whether special interest groups might fare better in an election with imperfect information and binary endorsements than in one in which they are fully informed. They conclude that the possibility of endorsement can lead legislative contenders to compete for interest groups' backing and that policy outcomes may favour special interests at the expense of the general public. They also examine the conditions under which the ability to make endorsements bestows political power upon the members of special interest groups and the extent to which policy outcomes consequently become skewed.

Competing for Endorsements
Gene M Grossman and Elhanan Helpman

Discussion Paper No. 1546, December 1996 (IT)

European Currency Union

Determining the Optimal Size

What would be the optimal size of the European currency union and what would be the optimal form for the intra-EU exchange rate regime? According to **Fabio Ghironi** and **Francesco Giavazzi**, the answer depends on the interactions both among the fiscal and monetary authorities in Europe, and between Europe and the rest of the world. In Discussion Paper No. 1547, Ghironi and Giavazzi analyse these interactions in a three-country world, interpreted to represent two EU economies and the rest of the world (called the 'US' for simplicity). Their analysis extends some well-known results in the literature on international policy spillovers by investigating the effects of different sizes of the two EU economies. They derive a set of general results, which allows a reinterpretation of earlier findings in the literature on policy-making in interdependent economies.

Given what the authors consider the likely institutional set-up for EMU – frozen fiscal policies and non-cooperative monetary policies under an EMS2 regime their paper analyses the incentives faced by both the governments and the central banks of all three 'countries'. The relative size of the 'US' is found to influence, in different ways, the preferences of the European Central Bank (ECB) and European Council of Finance Ministers (ECOFIN) with regard to the appropriate size of the curruncy union. In addition, the size of the currency union itself not only influences the willingness of the 'US' central bank to cooperate with the ECB, but also raises the potential for conflict between the government and central bank of the 'US' over the optimal size of the currency union. The relative sizes of the currency union and the 'US' are also shown to influence the preferences of policy-makers in all countries with regard to the choice

between a flexible and an EMS2-type regime for the intra-EU exchange rate regime.

Out in the Sunshine? Outsiders, Insiders and the United States in 1998
Fabio Ghironi and Francesco Giavazzi

Discussion Paper No. 1547, January 1997 (IM)

Portfolio Theory

Applicability to Transition Economies

How is enterprise performance in transition economies affected by the international and macroeconomic environments in which they are located? And to what extent are the basic tools of portfolio theory applicable to the problem of optimal investment in transition economies? These questions are addressed in Discussion Paper No. 1548, in which **Willem Buiter**, **Ricardo Lago** and **Hélène Rey** take a systematic look at the portfolio-choice problem faced by investment banks or funds investing in transition economies.

Ignoring enterprise-specific reasons for differential performance, the authors regard an enterprise as being fully characterized by its technology (an input/output matrix) and its balance sheet (which contains domestic and foreign debt). They then simulate the behaviour of identical exporting, import-competing and non-traded goods producers in the distinct macroeconomic and external environments of several different transition economies, and they use this information to evaluate the attractiveness of alternative investment strategies and provisioning rules. They draw three main conclusions. First, that the basic insight of portfolio theory – that the selection of efficient portfolios requires the diversification of risk across sectors, countries and financial instruments – applies also in these economies; second, that bad macroeconomic performance compels enterprises to price themselves back into the efficient portfolios by offering steep discounts on their assets; and third, that the conventional practice of provisioning against portfolio losses in a way that discriminates against equity participations may be misguided in the circumstances of transition economies. An acknowledged limitation of the study is the assumption that enterprise governance and performance are not affected by enterprise capital structure. Extending the analysis to allow for that should thus be a priority for further research.

A Portfolio Approach to a Cross-sectoral and Cross-National Investment Strategy in Transition Economies
Willem H Buiter, Ricardo Lago and Hélène Rey

Discussion Paper No. 1548, January 1997 (TE)

Trade Policy

The Case for Backing Winners

Even casual observation reveals that firms within the same industry differ in market share and performance, and emerging empirical evidence suggests long-run persistence of such inter-firm differences. Much economic theory, however, assumes that these differences are temporary, and subject to elimination by a natural process of diffusion of organizational practices and technical knowledge. Acknowledgement of inter-firm differences raises important questions in the field of trade policy, particularly with regard to optimal intervention. Should governments, for example, reduce firm heterogeneity in an industry by helping the weaker more than the stronger firms? Or should they pursue the opposite policy of picking winners?

In Discussion Paper No. 1549, **Dermot Leahy** and **Catia Montagna** examine optimal strategic trade policy under oligopoly when there are both home and foreign firms with differing levels of efficiency. They conclude that the temptation to subsidize weaker firms, in order to reduce the variability of home exporters' costs, should be resisted. Instead, the first-best policy involves a structure of firm-specific – rather than uniform – export subsidies and taxes in which the government favours the most efficient firms. An exception to this 'pick-the-winners' result arises if the social opportunity cost of government funds is sufficiently high. When constrained to a uniform subsidy, however, the optimal policy depends on the relative number of home and foreign firms and the curvature of demand.

Strategic Trade Policy when Firms have Different Efficiency Levels
Dermot Leahy and Catia Montagna

Discussion Paper No. 1549, January 1997 (IT)

Local Public Goods

’Strategic’ Community Development

Many public goods are local in nature and in many instances are provided by communities competing to attract residents. Traditionally, the community decision-making process is modelled in one of two different ways. The first assumes that taxation schemes and public good quantities are chosen by heterogeneous residents according to the median-voter rule. The second assumes that decisions are made by profit-maximizing land-development corporations which create communities – such as suburban or retirement communities – and then compete strategically to attract or retain residents. The second approach, however, tends to treat consumers as homogeneous or immobile. In Discussion Paper No. 1550, **J Vernon Henderson** and **Jacques-François Thisse** develop a model which incorporates heterogeneous and mobile consumers together with strategic behaviour by communities.

The authors present a model of imperfect competition between land developers offering different public good packages and revenue/fiscal schemes, and competing for residents who are differentiated by income. The numbers and sizes of communities are determined endogenously. Developers have an incentive strongly to differentiate their public good offerings. In terms of pricing strategies, developers exhibit sharply contrasting behaviours. In low-income communities, housing consumption is subsidized once lots are priced; in high-income communities, by contrast, housing is generally taxed.

On Strategic Community Development
J Vernon Henderson and Jacques-François Thisse

Discussion Paper No. 1550, January 1997 (IO)

Sources of Growth

Not Human Capital?

Current growth theory offers two competing explanations for sustained economic growth. One strand – exemplified by the influential 1992 paper by Mankiw, Romer and Weil (MRW) – still sees capital accumulation, broadly defined to include human capital, as the driving force; the second accords a leading role to endogenous technical change. In Discussion Paper No. 1551, **Reinhard Koman** and **Dalia Marin** use time-series data for Austria and Germany to test a standard Solow model, augmented to allow for the accumulation of human capital, and conclude that the evidence is not consistent with such a model.

Koman and Marin's choice of two neighbouring countries with similar political and institutional background is inspired by the assumption by MRW that all countries experience the same rate of technological progress. The authors construct an aggregate measure of the post-war Austrian and German human capital stocks, which they then incorporate into estimates of total factor productivity, to see whether the inclusion of human capital lowers and equalizes the Solow residuals for the two countries. They find instead that factor accumulation, so defined, appears to be less (and not more) able to account for the differences in growth performance. In their view, this finding casts doubt on the notion of a common rate of technical progress and thus on the validity of the results obtained by MRW. The authors conclude that the cross-country differences in growth rates in Austria and Germany are driven by differences in the rate of technical change, thus offering support for models of endogenous technical change. They go on to test an alternative model, however, in which human capital acts as a vehicle for knowledge flows, and they find some support for a positive role for human capital in both countries.

Human Capital and Macroeconomic Growth: Austria and Germany, 1960–92
Reinhard Koman and Dalia Marin

Discussion Paper No. 1551, January 1997 (IM/IT)

Economic Reform

Shock Therapy versus Gradualism

The speed with which policy reform should be undertaken is a perennial question that has been given new impetus by the transition process in Central and Eastern Europe (CEE). In these economies, the focus increasingly has been on the relative merits of ’shock therapy’ and ’gradualism’ as reform strategies. In Discussion Paper No. 1552, **Vivek Dehejia** argues that both the economic policy and political economy literature on this issue have been couched more in ’suggestive metaphors’ than in formal arguments. He therefore seeks to bring the policy discourse within the fold of neoclassical economic analysis, but in a fashion which recognizes the interaction of economics and politics in the reform process.

By focusing deliberately on the narrow case of trade policy reform, an issue which has relevance well beyond the CEE economies, 'shock therapy' can be defined precisely as the instantaneous elimination of tariff distortions at the outset of the reform. Dehejia's theoretical model establishes that, in the absence of any political constraints, shock therapy to 'get the prices right' is the preferred strategy. If the consequent period of adjustment is excessively costly, however, the process will be vetoed by critical agents, alienated by having to bear the brunt of the adjustment costs. In those circumstances, will gradualism work? The author's conclusion is that, in general, there is no *a priori* presumption that gradualism will work when shock therapy does not, because it has conflicting effects in a dynamic general equilibrium. The paper thus represents a significant step towards moving the debate about shock therapy versus gradualism from the domain of rhetoric to that of scientific analysis.

Will Gradualism Work When Shock Therapy Doesn't?
Vivek H Dehejia

Discussion Paper No. 1552, February 1997 (TE)

Work-Sharing

No Cure for Unemployment

Work-sharing has been considered as a solution to unemployment by many European countries. In 1985, for example, (West) German unions began to reduce standard hours on an industry-by-industry basis in an attempt to lower unemployment. The logic behind the belief was that labour is a fixed input, thus if each individual worked fewer hours, the work could be spread over more workers, so raising employment. Theoretically, however, the outcome may be ambiguous, because there may exist forces leading to a reduction in employment. Restricting hours could encourage firms to substitute away from labour, while a scale effect might reduce the quantity of all inputs demanded, as the rising cost of inputs reduces the optimal level of production. Firms could also opt for more overtime instead of employing extra workers.

In Discussion Paper No. 1553, **Jennifer Hunt** tests the work-sharing hypothesis using both individual data from the German Socio-Economic Panel and industry data to exploit the cross-section and time-series hours variation. For the 1984–9 period, she found that, in response to a one-hour fall in standard hours, employment rose by 0.3–0.7%, but that total hours worked fell by 2–3%, implying possible output losses. As a group, however, workers were better off as the wage bill rose. The employment growth implied by the 1.7 hours decline in mean standard hours was, at most, 1.1%. Hunt notes that this was not enough to bring German employment growth close to the US rate. Results for the 1990–94 period were more pessimistic.

Has Work Sharing Worked in Germany?
Jennifer Hunt

Discussion Paper No. 1553, January 1997 (HR)

Specialization and Trade

Effects of Country Size

In Discussion Paper No. 1554, **Johan Torstensson** returns to the age-old issue of the reasons for national specialization in production and trade. Although traditional theory relies on the Heckscher-Ohlin prediction that the pattern of net trade is determined only by relative factor endowments, empirical studies clearly indicate that additional explanations are needed. Recent models have offered differences in country size as one likely explanation. Dynamic endogenous growth models, for example, suggest that an abundant absolute endowment of skilled labour will generate net exports in R&D-intensive industries, while 'new economic geography' models predict that countries with a large domestic market will have net exports in scale-intensive industries. Hitherto, however, these hypotheses have not been tested empirically. Torstensson sets out to test them against net trade data for the OECD countries.

The hypotheses are tested first for every OECD country individually. Thereafter, the data are pooled into one regression by introducing, simultaneously, country and industry characteristics. The results offer relatively strong support for the absolute skilled labour hypothesis and some support for the market-size effect hypothesis. Indeed, both absolute and relative endowments of skilled labour affect trade patterns as predicted. Germany, France, Japan, the UK and the United States all have both abundant absolute and relative endowments of skilled labour, and all have net exports in R&D-intensive industries. These results not only are confirmed by the pooled data, but are robust with respect to a number of potential econometric problems. The evidence on the second hypothesis is mixed, but there is some support for the prediction that large countries, or countries with good market access through regional integration, are net exporters of scale-intensive goods.

Country Size and Comparative Advantage: An Empirical Study
Johan Torstensson

Discussion Paper No. 1554, January 1997 (IT)

Fiscal Deficits

The Role of Political Systems and Institutions

Two current literatures in political economy argue that differences in political systems can explain differences in public spending and deficits across countries. One strand focuses on electoral systems and the types of governments they produce as a source of excessive spending and deficits. The other focuses on institutions shaping the government budget process as mechanisms for containing excessive spending and deficits. In Discussion Paper No. 1555, **Mark Hallerberg** and **Jürgen von Hagen** argue that the two approaches can be linked. Specifically, they show that electoral systems determine the choice between alternative institutional mechanisms in the budget process. Thus the two arguments should be viewed as complements rather than alternatives.

Using a model of the budget process, Hallerberg and von Hagen show that the structure of the bargaining process within the cabinet affects the size of the budget. If ministers are left to determine their own budgets, the total will exceed the collectively optimal level for the government in power. All solutions to this problem involve the use of selective punishments or incentives and effective monitoring of the actors. There exist two institutions which can provide the necessary punishment/incentive and monitoring functions: a strong finance minister; or negotiated spending targets for each ministry. The model indicates a strong relationship between one-party governments and strong finance minister solutions on the one hand, and multiparty or minority governments and the use of formal budget targets on the other. Examination of the use of such institutional constraints within the current 15 EU member states from 1981 to 1994 confirms this relationship. Finally, pooled time-series regressions indicate that the presence or absence of these constraints, rather than the electoral system *per se*, is the crucial variable which affects the size of the budget deficit. Nonetheless, electoral institutions matter, because they restrict the type of budgetary institution a state has at its disposal to solve the coordination problem involved in the budget negotiations.

Electoral Institutions, Cabinet Negotiations, and Budget Deficits within the European Union
Mark Hallerberg and Jürgen von Hagen

Discussion Paper No. 1555, January 1997 (IM)

Asset Prices

Extracting Useful Information

Central banks have several reasons for extracting information from asset prices, among them the fact that these prices will reflect market participants' expectations about the future. In Discussion Paper No. 1556, **Paul Söderlind** and **Lars Svensson** undertake a selective survey of new techniques for extracting market expectations about interest rates, exchange rates and inflation from asset prices. The techniques – made feasible by the development of deeper and more sophisticated financial markets – are increasingly used by central banks for monetary policy purposes.

Traditionally, current interest rates have been used to extract expected means of future interest rates, exchange rates and inflation. More recently, these methods have been refined to rely on implied forward interest rates, so as to extract expected future time-paths. Most recently, methods have been designed to extract not only the means, but also the whole (risk neutral) probability distribution, from a set of option prices. The authors argue that these techniques seem capable of shedding light on many issues of concern to central banks (and others). Market expectations for short interest rates for the next 6–9 months, say, can be seen as market expectations of future monetary policy, when a short interest rate is used as the instrument. Estimated probability distributions within the same horizon will also be useful in indicating the degree of market uncertainty about future monetary policy. Similarly, in small open economies with floating exchange rates, it is natural to extract exchange rate expectations for the same horizon, and use these together with interest rate expectations to construct expected future monetary conditions indices (MCIs). Again, estimated exchange rate distributions will indicate the uncertainty in the market's expectations, which – together with the distribution of interest rate expectations – allow estimates of the distribution of future MCIs.

New Techniques to Extract Market Expectations from Financial Instruments
Paul Söderlind and Lars E O Svensson

Discussion Paper No. 1556, January 1997 (IM)

Income Persistence

US Macropolicy Feedbacks

The issue of persistence of aggregate income, i.e. the degree of permanence of income shocks, has been much studied by econometricians in the 1980s and 1990s. Over short frequencies, real per capita aggregate income in the United States seems to follow a random walk quite closely. If income followed a random walk, income shocks would be permanent. If consumer spending were governed by the permanent income hypothesis, the empirical smoothness of data on consumption compared with income would then be a puzzle, as discussed in the 'excess smoothness' of consumption debate.

In Discussion Paper No. 1557, **John Muellbauer** draws out properties of the data at longer frequencies by working with annual data and by examining income determination in a multivariate context, in which policy-feedback rules have been endogenized, instead of the univariate approach common to earlier work. Muellbauer draws four main conclusions. First, aggregate real per capita income is subject to significant trend reversion. Second, there is significant evidence for the 'Lucas-Haavelmo critiques'; in the United States, there appears to have been a shift in the structural macropolicy reaction function causing a corresponding shift in the reduced-form income-forecasting equation. This is associated with increased concern in the late 1980s over the size of US budget deficits. Third, allowing for this shift, useful real income forecasts can be made as far as three years ahead. Finally, Muellbauer provides empirical evidence for the effectiveness of monetary policy on real output or income. The change in the short-term interest rate is highly significant in forecasting income growth up to three years ahead.

Income Persistence and Macropolicy Feedbacks in the United States
John Muellbauer

Discussion Paper No. 1557, February 1997 (IM)

EMU

Business Cycle Asymmetries

The impending adoption of a single currency among some EU countries has raised concerns about the ability of EMU to deal with region- or country-specific shocks. The assumption is that national business cycles in Europe are fairly pronounced and that the existing system of exchange rates provides countries with an efficient stabilizing tool. Together with low labour mobility and the lack of a system of automatic fiscal transfers, this assumption gives rise to fears that asymmetric shocks might lead to deep regional recessions and politically unacceptable social burdens for governments.

In Discussion Paper No. 1558, **Antonio Fatás** argues not only that national borders do not play a large enough economic role to justify some of these fears, but also that their economic significance has been reduced in the last two decades. The paper examines the asymmetries in European business cycles, and changes in these asymmetries over time. Based on regional (sub-national) data, divided into two sub-periods to assess the impact of European integration and the creation of the European Monetary System, the analysis reveals a clear pattern where correlations within countries have been decreasing over time while cross-country correlations have increased. Overall, the results support the hypothesis that European integration has favoured specialization at the regional, rather than at the national level and that the discipline of the EMS has helped reduce the national component of business cycles. Fatás concludes that assessing the costs of EMU on the basis of past data can be misleading, and that the continuous increase in European integration is likely to lead to a reduction in these costs.

EMU: Countries or Regions? Lessons from the EMS Experience
Antonio Fatás

Discussion Paper No. 1558, January 1997 (IM)

Disability Benefits

Incentive Effects

Over recent decades, the United States has witnessed a declining trend in male labour-force participation, accompanied by a rise in male receipt of disability benefit. An extensive literature has argued that the fall in participation is the result of the disability retirement programmes, which allegedly have reduced work incentives. In Discussion Paper No. 1559, **Regina T Riphahn** and **Brendt Keider** investigate the determinants of applications for US disability benefits between 1986 and 1993 using a semiparametric discrete factor procedure. Approximating a dynamic optimization model, their

estimation carefully accounts for a variety of potential biases that were not addressed in previous studies.

The authors concentrate on two of these issues. First, they attempt to redress the methodological weaknesses arising out of the strong distributional assumptions on person-specific unobserved heterogeneity, which can lead to serious estimation bias if the assumptions do not hold. Second, they use a new panel data set, the Health and Retirement Survey (HRS), which provides more detailed and recent information on respondents' health, financial status and employment history. Previous studies were restricted to using data from the 1960s and 1970s, with investigation limited to analysis of the participation decision alone. Their results indicate vast differences in the responses of men and women to variations in policy measures. The main conclusion confirms earlier evidence that benefit amounts have a strong positive incentive effect on the application behaviour of men. The simulated response to a 20% benefit cut is a 19% reduction in male applications. The effect on women's behaviour, however, is very different: the simulations indicate only a 4% decline in applications with the same benefit reduction. Past labour earnings and fringe benefits, as well as benefit eligibility and benefit amounts, are also shown to affect application behaviour.

Applications to the US Disability Programme: A Semiparametric Approach
Regina T Riphahn and Brendt Keider

Discussion Paper No.1559, January 1997 (HR)

North-South Migration

Links with Trade Policy and Population Growth

The markedly large and widening differential in rates of population growth in the North and South has significant implications for the patterns of trade, migration and distribution of gains from economic activity both within and among nations. The trend is given added significance by the fact that Northern public opinion appears increasingly convinced that the impetus for the recent growth in inequality of earnings in the United States and rising unemployment levels in Europe originates, at least in part, in falling Southern living standards. The supposed transmission mechanisms include the deteriorating trade balance for Northern labour-intensive industries, and/or perceived surges in immigration.

In Discussion Paper No. 1560, **Joseph Francois** and **Douglas Nelson** focus directly on the theoretical linkages between population growth, trade policy and migration. In the context of a stylized dynamic general-equilibrium model, they identify the key connecting channels as direct effects of population growth on factor markets, terms-of-trade effects and induced scale effects. If protection increases home (Northern) country welfare through induced terms-of-trade effects, this has the effect of increasing the relative wedge between the home and foreign country. Boosting welfare at the expense of trading partners, however, may have the unintended consequence of inducing more migration from those same trading partners. 'Beggar-thy-neighbour' then implies 'invite-thy-neighbour'. The addition of scale economies may magnify this incentive effect since protection at home can reduce the economies of specialization for the foreign country. The authors illustrate their argument with numerical examples that highlight issues not immediately evident from marginal analysis, including variations in the impact of policy over different time horizons.

Population Growth, Trade Policy and Migration Incentives
Joseph F Francois and Douglas Nelson

Discussion Paper No. 1560, January 1997 (IT)

Monetary Union

A Contract Theory Justification

The temptation for European countries to play beggar-thy-neighbour monetary policy games – such as competitive devaluations or excessive inflations – with each other requires a search for ways of avoiding the problem. If transfers among countries are possible, one solution might be monetary policy cooperation – for example, in the form of negotiated inflation rates – among countries, but without a monetary union. Such contracts could be monitored and enforced by a European system of central banks and by the Council of Ministers. In Discussion Paper No. 1561, **Anne Sibert** draws on concepts from contract theory to argue that such cooperation could generate perverse incentives with the surprising effect of lowering welfare, and that monetary union may provide a better option.

The monetary policy coordination problem arises from spillover effects. *Ex ante*, policy-makers can undertake politically costly but inflation-reducing economic reforms which, if implemented, would generate positive spillovers by improving the outcome of the monetary policy game. Because countries know in advance that their inflation rates will be the result of a bargaining process, however, they have an

incentive to improve their bargaining positions by ensuring that failure to reach agreement will be more costly for other countries. This leads them to commit themselves to suboptimal reform policies, leading to negative spillovers via excessive inflation. Sibert argues that the inability to negotiate complete contracts over reform may provide the justification for delegating monetary policy to a common central bank. Monetary union would not be preferable under all circumstances. Provided countries have sufficiently similar reform costs, however, monetary union would lead to greater reform and higher welfare than would country-specific currencies.

Monetary Integration and Economic Convergence
Anne Sibert

Discussion Paper No. 1561, January 1997 (IM)

Central Banking

Inflation Targets versus Inflation Contracts

Reform of monetary institutions, including the role of central banks, is high on both the policy and research agendas. In particular, recognition that failure to commit to an announced monetary policy may result in a inflation bias has led to a search for solutions to the problem. Appointing a 'conservative' central banker can reduce the inflation bias, but at the cost of suboptimal stabilization of supply shocks. Two alternative approaches are adoption of inflation targets and inflation contracts. Since an 'inflation performance' contract for a central banker raises the marginal cost of higher inflation, an appropriate contract eliminates the systematic inflation bias without affecting the stabilization capacity of monetary policy. The problem with the contracting approach, however, is that – with the possible exception of New Zealand – it is hardly ever observed in practice. Although the imposition of an optimal inflation target can be shown to achieve the same result, the equivalence breaks down when there is uncertainty about the central banker's preferences over inflation and output – an important practical limitation.

In Discussion Paper No. 1562, **Roel Beetsma** and **Henrik Jensen** show, within a standard model of monetary delegation, that the optimal linear inflation contract performs strictly better than the optimal inflation target in the presence of such uncertainty. Neither arrangement, however, eliminates all the variability not associated with economic shocks. The authors argue that an optimal combination of a contract and a target exists, which eliminates both the inflation bias and any variability not associated with supply shocks. Since variability due to shocks is enhanced by uncertain central banker preferences, this suggests the need for alternative incentive mechanisms. Quadratic contracts are shown partly to overcome the problem. Even so, the advantages of delegation may be dominated by the 'excess variability' due to shocks.

Inflation Targets and Contracts with Uncertain Central Banker Preferences
Roel M W J Beetsma and Henrik Jensen

Discussion Paper No. 1562, January 1997 (IM)

Mutli-Tasking

Implications for Wage Bargaining

In Discussion Paper No. 1563, **Assar Lindbeck** and **Dennis Snower** examine the implications of an important aspect of the ongoing reorganization of work – the move from occupational specialization towards multi-tasking – for centralized wage bargaining. The reorganization of work within firms in advanced market economies has been widely documented, with a multitude of case studies in both the manufacturing and service sectors indicating that the introduction of computer technology and programmable multi-task equipment has made organizational change profitable for many firms. Traditional work arrangements have increasingly given way to ones where much of the workforce performs several tasks, in what amounts to a reversal of a trend that began with the industrial revolution.

The authors show how, on account of this reorganization, centralized bargaining becomes increasingly inefficient and detrimental to firms' profit opportunities, since it prevents firms from offering their employees adequate incentives to perform the appropriate mix of tasks. They also show how centralized bargaining inhibits firms from using wages to induce workers to learn how to use their experience from one set of tasks to enhance their performance at other tasks. The paper thus offers a rationale for the increasing resistance to centralized bargaining, and the corresponding rise in decentralized bargaining, in various OECD economies.

Centralized Bargaining, Multi-tasking and Work Incentives
Assar Lindbeck and Dennis J Snower

Discussion Paper No. 1563, January 1997 (HR)

Game Theory

Analysing Wars of Attrition

Much of the existing literature on 'wars of attrition' focuses on games with only two players, or on the straightforward generalization to N+1 players competing for N prizes. Multiplayer wars of attrition, however, have numerous practical applications. Examples include winner-takes-all markets, originally contested by more than two firms, but in which only one firm is likely to survive; negotiations among firms in industry standard-setting committees; and building voting majorities in narrowly balanced situations. In such games, except in the final stage, a player's departure will not end the game, and players may continue to incur at least some costs even after they have conceded.

In Discussion Paper No. 1564, **Jeremy Bulow** and **Paul Klemperer** generalize the model to allow for N+K firms competing for N prizes, so K players must exit for the game to end. Two special cases are of particular interest. First, if firms continue to pay their full costs after dropping out (as in a standard-setting context), each firm's exit time is independent both of K and of the actions of other players. Second, in the limit in which firms pay no costs after dropping out (as in a natural oligopoly problem), the field is immediately reduced to N+1 firms. Furthermore, there is perfect sorting, so it is always the K–1 lowest-value players who drop out in zero time, even though each player's value is private information to the player. The authors apply their model to politics, using the example of the 1993 US Congressional budget battle. Their model explains why rounding up most of the necessary votes for a bill might take very little time, but gathering the last few votes may be time consuming and costly.

The Generalized War of Attrition
Jeremy Bulow and Paul Klemperer

Discussion Paper No. 1564, January 1997 (IO)

Anti-Dumping

Strategic Behaviour Incentives

The growing trend towards greater trade liberalization under WTO/GATT procedures has given added significance to anti-dumping measures as one of the few remaining legal means by which a country or trade bloc can protect domestic industries from import competition. This is reflected in the increasing number of anti-dumping cases that have been initiated in both the United States and in the EU. In Discussion Paper No. 1565, **Wilfried Pauwels**, **Hylke Vandenbussche** and **Marcel Weverbergh** consider the effects of European anti-dumping policy on firm behaviour and domestic welfare under conditions of imperfect competition.

The authors present a theoretical model which, they claim, is the first to complement the recent European empirical literature on anti-dumping policy, and which can usefully be compared with recent papers dealing with the effects of US policy. They use a two-period Cournot duopoly model with a European and a foreign firm that differ in costs and products. European anti-dumping policy differs from its US counterpart mainly in terms of injury-margin calculation and the derivation of the anti-dumping duty. European anti-dumping rules provide the home firm with incentives either to induce or to feign injury. The authors' results indicate that when the level of protection is endogenous, the strategic trade policy argument for protection need not apply. Their findings also suggest that US anti-dumping rules perform better than European rules in terms both of welfare and of protecting domestic value added and employment.

Strategic Behaviour Under European Anti-dumping Rules
Wilfried Pauwels, Hylke Vandenbussche and Marcel Weverbergh

Discussion Paper No. 1565, February 1997 (IT)

Urban Unemployment

Multicentric Cities

It is commonly observed that unemployment is unevenly distributed between and within cities. In US cities, unemployment is typically higher in the city centre than in suburbs; in European cities, the opposite pattern prevails. In Discussion Paper No. 1566, **Tony Smith** and **Yves Zenou** build on some of their earlier work on this issue by developing a two-sector model of urban unemployment, which focuses on the formation of a secondary sector under conditions in which a demand shock in the primary sector leads to a sharp increase in unemployment. The primary sector consists of a large number of small firms providing high-skill jobs, whereas the secondary sector comprises a large assembly-line operation offering low-skill, low-wage jobs. Primary firms are located mainly in the inner city, and the small initial unemployment level prevents a secondary sector company from entering the market. Following

the demand shock, however, the secondary sector has an opportunity to enter the market.

The model suggests that the optimal location for the new entrant is at the edge of the city, giving rise to a multicentric urban spatial structure in which the remaining unemployed reside between the employed in the primary sector and those in the secondary sector. Within this spatial structure, the authors establish conditions under which the new labour-market equilibrium involves not only a decrease in unemployment, but also an increase in net income for the unemployed. The results are extended to the case in which all unemployment benefits are financed by local taxation of firms. In this context, it is shown that when taxation discourages entry of a secondary sector, there may be profit incentives for the primary sector to subsidize the entry of a secondary sector.

Dual Labour Markets, Urban Unemployment and Multicentric Cities
Tony E Smith and Yves Zenou

Discussion Paper No. 1566, January 1997 (HR)

Money Neutrality

The Relevance of Menu Costs

One contribution of New Keynesian economics was to show that, in conditions of imperfect competition, the existence of menu costs – the lump-sum costs of deciding upon and implementing price changes – can explain observed price rigidities. Rigid nominal prices, in turn, imply that an increase in nominal demand can lead to an increase in output. In a general equilibrium framework, however, and assuming competitive labour markets, higher output will generate more employment. Unless labour supply is highly elastic, this will require higher real wages and, hence, much higher nominal wages, thus putting severe pressure on output prices. Since empirical evidence points to very low labour-supply elasticities, menu costs must be very high for prices to remain unchanged, and the usefulness of the menu-costs argument thus appears limited.

In Discussion Paper No. 1567, **Huw Dixon** and **Claus Hansen** argue that the relevance of these models can be revived by modifying the traditional assumption that all industries have the same structure. With heterogeneous sectors – some monopolistic, some competitive – the possibility arises of the increased output and employment being concentrated in the high-price, low-output monopolistic sector, causing relative outputs in the two sectors to move towards the optimal ratio. The authors demonstrate two propositions. First, even with low elasticities of labour supply, the level of menu costs in a mixed economy needed to lead to monetary non-neutrality can be small. This devalues the relevance of the low elasticity of labour supply to the end outcome. Second, following a monetary expansion, the ratio of social welfare gains from price rigidity to profit forgone for the monopolistic firms can be up to 200 times larger than in the 'standard' models. The implication is that menu costs may indeed be significant in real world economies.

Industrial Structure, Menu Costs and the Non-neutrality of Money
Huw David Dixon and Claus Thustrup Hansen

Discussion Paper No. 1567, January 1997 (IO)

International Trade

Structural Breaks?

Since the second World War, many countries have attempted to make their economies more open by removing impediments to trade. In Discussion Paper No. 1568, **Dan Ben-David** and **David Papell** make use of recent time-series techniques to determine whether the consequent rise in the share of output traded has been uniform throughout the post-war period, or whether there have been structural breaks in the volumes that countries have imported and exported.

Using data on total trade/GDP, export/GDP and import/GDP ratios for 48 countries for the period 1948–93, the authors reach three findings. First, they identify one significant structural break for the trade-to-output ratios. For most countries, the break came during or after 1968, the implementation year for the Kennedy Round agreement of the GATT – the largest global attempt to reduce formal trade barriers – and was followed by a rise in the scale of trade flows. Second, the timings of the import- and export-trend breaks did not appear to be closely related. For imports, the most frequent break year was 1973, the year of the first oil embargo. For exports, however, 1973 was not a particularly common break point. Third, the extent of the increase in imports after the break did not exhibit a particularly strong relationship with the extent of increase in exports in most of the countries studied. Thus, although improvements in the global trade climate were successful in increasing the level of international trade, this trend does not seem to have followed a continuous path in most cases.

Structural Change and International Trade
Dan Ben-David and David H Papell

Discussion Paper No. 1568, February 1997 (IT)

International Capital Markets

Accounting for Nominal Risk

A substantial proportion of trade in international financial markets involves assets that are exposed to both inflation and exchange rate risk. Most of the literature on open-economy general-equilibrium macroeconomic models, however, does not take into account the widespread exposure to nominal risk, assuming instead the presence of a risk-free asset. In Discussion Paper No. 1569, **Philippe Bacchetta** and **Eric van Wincoop** employ a specification of preferences that allows for a distinction to be made between risk aversion and intertemporal substitution.

In a standard two-period, two-country analysis with optimizing individuals who trade two assets – nominal bonds and equities – internationally, Bacchetta and van Wincoop conclude that the presence of nominal risk reduces the scale of all net capital flows. The degree of this dampening effect depends on the degrees of risk exposure, risk aversion and intertemporal substitution. The authors thus identify a trade-off between consumption smoothing and risk avoidance. Their approach also allows them to separate exchange rate from price-level uncertainty, and they argue that the former may have a larger dampening effect than the latter, under the assumption that individuals are better informed about the domestic than about the international economy. They use their results in an attempt to explain empirical puzzles, such as the fact that net capital flows are smaller than simple models would predict and the Feldstein-Horioka finding of a high correlation between national saving and national investment. Finally, they conjecture that exchange-rate uncertainty is probably the main source of nominal risk in an international context, and offer some preliminary evidence showing that net capital flows are larger for countries with smaller exchange rate fluctuations.

Trade in Nominal Assets and Net International Capital Flows
Philippe Bacchetta and Eric van Wincoop

Discussion Paper No. 1569, February 1997 (IM)

Personal Taxation

The Hungarian Way

Personal taxation systems comprise complex sets of instruments that have differential impacts on the wide variety of households in any economy. Understanding and describing the effects of such systems requires careful choice of suitable methods of data compression and representation. In Discussion Paper No. 1570, **David Newbery** and **Tamás Révész** develop a variety of numerical, analytical and graphical techniques for analysing the effects on Hungarian households of changes in the tax system from the start of the transition in 1988 up to 1996.

The authors use the Hungarian household budget survey to measure the average indirect taxes paid and subsidies received by both active and inactive households as a percentage of expenditure. They find that the original indirect tax system fell more heavily on active households and, in that respect, was quite progressive. They develop a sophisticated measure of the redistributive impact of the indirect tax system and conclude that the reforms adopted were regressive. Indirect taxes, however, are only a small part of the total tax burden which they estimate varied from just under 40% to nearly 60% of gross labour cost over the income deciles in 1991. They also develop procedures for computing the marginal direct and indirect tax rates. They find that for the median family both the average and marginal rates have risen over the period examined, the main cause being the large share of social security payments. The authors agree that proposed changes to the pension system should reduce the disincentive effects of the current tax system. Finally, they claim that their methodology could be usefully applied to comparative studies of other transition economies that have sought to transform a former Soviet-style tax system into one appropriate for a market economy.

The Burden and Disincentive Effects of Hungarian Personal Taxes, 1988–96
David M G Newbery and Tamás Révész

Discussion Paper No. 1570, April 1997 (TE)

Labour Markets

Explaining Employment Protection

Many economists argue that high and persistent unemployment in Europe is caused by labour market rigidities. Little work has been done, however, to explain why and how the relevant labour market institutions developed in Europe, but not in the United States, and why attempts to reform them have proved rather unsuccessful. In Discussion Paper No. 1571, **Gilles Saint-Paul** argues that employment protection legislation can be understood as a 'rent-protection device'. When employment status yields sufficiently large welfare relative to unemployment, political support for employment protection will be higher when employment rents are higher, i.e. when the labour market is uncompetitive. Such support reduces in a more mobile labour market, which may explain the relative absence of employment protection in the United States.

Saint-Paul's model also implies that employment protection legislation creates its own constituency, namely employees in the least productive firms whose jobs would otherwise disappear. Hysteresis (or *status quo* bias) thus emerges in that political support for removing rigidities depends on employee rents falling to a level lower than that at which the rigidities arose. In other words, political support for rigidity is larger when rigidity is the *status quo*. This, in turn, explains why reform has been difficult in many countries, and was typically confined to allowing the use of temporary contracts for specific purposes and types of workers, while leaving the degree of job protection for incumbent workers largely unaffected.

The Rise and Persistence of Rigidities
Gilles Saint-Paul

Discussion Paper No. 1571, February 1997 (HR/IM)

Wage Dispersion

Market Failure?

The fact that, in market economies, identical workers seem to receive very different wages, is often viewed as an instance of market failure, violating the Walrasian 'law of one price'. In Discussion Paper No. 1572, **Daron Acemoglu** and **Robert Shimer** argue that this need not be the case. In the real world, in the absence of the Walrasian invisible hand, wage dispersion is necessary for a decentralised economy to avoid a highly inefficient resource allocation. Without wage dispersion, the incentive to find 'better' jobs is reduced, and workers will tend to take the first job they encounter. But reduced search intensity depresses wages, and low wages, in turn, distort the allocation of resources in that all the rents from the employment relationship accrue to firms. Enticed by these rents, firms enter in excessive numbers, thereby creating a negative externality through a reduction in each firm's probability of finding a worker in a crowded market.

Search and wage dispersion also play interesting roles arises when firms are potentially heterogeneous, e.g. choosing from a menu of technologies of different costs and productivities. High-productivity firms would like to pay higher-than-average wages which increase the likelihood of them filling their vacancies. But higher wages attract more workers only when workers search. Without wage dispersion, high-productivity firms are unable to attract workers any faster than other firms, and this reduces the relative profitability of better technologies. As a result, firms' technology choices are distorted and labour productivity is reduced.

Efficient Wage Dispersion
Daron Acemoglu and Robert Shimer

Discussion Paper No. 1572, February 1997 (IM)

Training

The Benefits of Trade Union Power

Over the past decade, there has been increasing emphasis by governments on the importance of employer-led training in providing the skilled work-force necessary for improving competitiveness, adaptability and economic growth. Recent research, however, has questioned the view that the unassisted free market will produce efficient training outcomes. This research predicts that training may confer market power upon firms, leading to workers being paid less than their marginal product and so producing an inefficient number of trained workers. In Discussion Paper No. 1573, **Alison Booth** and **Monojit Chatterji** use a two-period model of hiring, training and production to explore whether non-governmental institutions – such as trade unions – may produce a partial solution to these problems.

The central result is that a trade union can increase social welfare by counterbalancing the *ex-post* monopsonistic power in wage determination that the firm derives from imparting those skills that are specific to itself. Local union-firm wage bargaining ensures that the post-training wage is set sufficiently high to deter too many inefficient quits, and thus to

ensure that the number of trainees the firm takes on is nearer the socially optimal number. Therefore union presence is associated with fewer quits, longer job tenures, higher post-training wages and more trained workers. Stylized facts from the empirical literature on firm-provided training with trade union presence are consistent with these predictions. A decentralised union thus helps achieve a partial solution to the problem of training inefficiency.

Training and Unions
Alison Booth and Monojit Chatterji

Discussion Paper No. 1573, February 1997 (HR)

Trade Protection

Influential Lobbies

In the Grossman-Helpman model of influence-driven trade-policy determination, different industry lobbies simultaneously submit financial contributions conditioned on the incumbent government's trade policy decisions. In equilibrium, the government balances the marginal benefit of net aggregate contributions against the marginal welfare cost of distortionary trade taxes. In Discussion Paper No. 1574, **Olivier Cadot**, **Jaime de Melo** and **Marcelo Olarreaga** study the consequent structure of protection and extend the model to include general-equilibrium effects on the supply side resulting from labour-market interaction and intermediate goods.

Three main predictions follow. First, final goods are likely to obtain higher tariffs than intermediate goods because they face no counter-lobbying from downstream industries. Second, union lobbying on behalf of workers in an industry group raises the equilibrium rate of protection obtained by the industries in that group. Last, increased intra-industry trade reduces the equilibrium rate of protection, a prediction also consistent with empirical regularities. All three predictions are consistent with empirical regularities. Moreover, numerical simulations carried out for archetypal 'rich' and 'poor' economies reveal that the endogenously determined structure of protection is broadly consistent with the observed patterns of protection in such economies. For example, the model generates an equilibrium tariff structure in which incentives are biased towards manufacturing in the poor economy and towards agriculture in the rich one.

Lobbying and the Structure of Protection
Olivier Cadot, Jaime de Melo and Marcelo Olarreaga

Discussion Paper No. 1574, February 1997 (IT)

Economic Geography

Regional Inequalities

Economic activity is less geographically concentrated in the EU than in the United States. Income disparities among EU members are, however, much wider than among US states. In Discussion Paper No. 1575, **Diego Puga** develops a model to study how the degree of regional integration affects regional differences in production structures and income levels. The underlying question is whether closer European integration will bring a US-style narrowing of income differentials and widening of differences in production structures.

The analysis highlights the importance of labour mobility in determining the degree of agglomeration and the associated spatial distribution of income. With high transport costs, industry is spread across regions to meet final consumer demand. As transport costs fall, increasing returns interact with labour mobility and/or input-output linkages between firms to promote agglomeration. This, in turn, tends to raise local wages in locations with many firms. If higher wages lead workers to relocate towards more industrialized regions, agglomeration intensifies while wage differentials are reduced. If workers do not move across regions, however, wage differentials persist. Reductions in transport costs make firms increasingly sensitive to such differentials and may lead industry to spread across regions again. The model suggests that the combination of moderate integration with low responsiveness of migration to wages – and of wages to employment – could leave Europe with large regional differences in terms both of income and of levels of activity.

The Rise and Fall of Regional Inequalities
Diego Puga

Discussion Paper No. 1575, February 1997 (IT)

Regionalism

Domino Effects in Western Europe

The recent, and unprecedented, development of regionalism in Western Europe through the European Union and the European Free Trade Association (EFTA) has generated considerable

interest in the phenomenon among economists and policy-makers. Discussion has centred on the 'dynamic time-path' question of whether preferential trading arrangements, once formed, tend to expand or stagnate, and whether they should be seen as 'building blocks' or 'stumbling blocks' in the process of multilateral trade liberalization.

In Discussion Paper No. 1576, **André Sapir** uses a standard gravity equation to test the hypothesis of 'domino effects' in Western Europe, i.e. whether increased integration within the EC has had a negative impact on non-members, thereby prompting their application for EC membership. In particular, he studies the effect on EFTA members of the introduction and development of the EC. Sapir's first finding is that, between 1960 and 1972, EFTA countries that shipped more than 50% of their Western European exports to the EC began to suffer from their non-preferential status. This may well have provided the impetus for the United Kingdom and Ireland to join the EC. His second conclusion is that the introduction of the EC's Internal Market programme in 1989 probably led to investment diversion in the economies of EFTA. He notes that, since 1989, Austria, Finland, Norway, Switzerland and Sweden have all applied for EC membership, and that Eastern European countries are now doing likewise. These observations support the hypothesis of a 'domino effect'.

Domino Effects in Western European Trade
Andre Sapir

Discussion Paper No. 1576, February 1997 (IT)

Capital Controls

Reducing the Output-Inflation Trade-Off

Developing countries that have experienced a sharp drop in inflation without large output losses commonly make extensive use of capital controls. In Discussion Paper No. 1577, **Prakash Loungani**, **Assaf Razin** and **Chi-Wa Yuen** study the effect of such controls on the output-inflation trade-off. Using IMF data on restrictions on international capital mobility, the authors devise measures of capital controls which they incorporate into two models. The first model, based on the new classical approach pioneered by Lucas, emphasizes the variability of nominal GNP growth as a main determinant of the trade-off. The second, based on the new Keynesian approach, emphasizes the role played by menu costs in determining the trade-off. In both cases, greater restrictions on capital mobility are found to reduce the output-inflation trade-off.

The authors argue that a useful concept for the understanding of disinflation episodes is the sacrifice ratio, which they define as the percentage decline in the rate of unemployment with a 1% fall in the rate of inflation. The lower this ratio, the less painful is disinflation. Thus, the relatively small output losses experienced by many developing countries during disinflation episodes, in the presence of capital controls, indicate low sacrifice ratios. The paper therefore provides strong empirical and theoretical evidence for the role of capital controls in improving the sacrifice ratio.

Capital Mobility and the Output-Inflation Trade-off
Prakash Loungani, Assaf Razin and Chi-Wa Yuen

Discussion Paper No. 1577, March 1997 (IM)

South-North Migration

The Role of Development

Since the end of the Cold War, a major aim of EU development policy has been to enter into partnerships with less-developed countries (LDCs) in order to contain South-North migration by enhancing socio-economic conditions in the sending countries. This concept – exemplified, for example, in the Mediterranean Agreement of 1995 – is based on certain expectations about the effects of development on migration. In Discussion Paper No. 1578, **Ralph Rotte, Michael Vogler** and **Klaus Zimmerman** question the empirical validity of these assumptions.

Rotte, Vogler and Zimmerman use a panel of German asylum applications from 17 sending countries in the period 1985–94 to study the effects on migration of the absolute and relative economic performances of the sending and receiving countries, of the political situation in sending countries and of legal measures in Germany. They find that – at least in the short to medium term, and in contrast with expectations – strengthening political rights and civil liberties in LDCs cause more, rather than less, migration, as do the improvement of absolute and relative living conditions in sending countries and the extension of trade relations. Restrictive legal measures in Germany, by contrast, are successful in significantly reducing the number of asylum applications. The authors acknowledge that the policy may have more success in the long term. The low levels of intra-EU migration suggest there may be a level of political and

economic development that reduces migration to a negligible amount.

South-North Refugee Migration: Lessons for Development Cooperation
Ralph Rotte, Michael Vogler and Klaus F Zimmerman

Discussion Paper No. 1578, February 1997 (HR)

Multinationals

North-South R&D Partnerships

North-South transfers of technology are generally depicted as hierarchical processes, based on the fact that most R&D activities are clustered in the North. Empirical findings, however, show that international R&D networks sometimes include facilities located in developing countries. Although cooperation in production, marketing and distribution may be explained by the desire to internalize knowledge spillovers, such R&D cooperation requires further explanation. Relevant factors include the multinational's desire to create long-term binds to stabilise earlier arm's-length agreements, access by the Southern firm to cheaper talent and technological skills, and closer proximity to the market of the manufacturers of the final product.

In Discussion Paper No. 1579, **Giorgio Barba Navaretti** and **Carlo Carrara** analyse the mechanics of R&D cooperation between northern and southern firms, and the institutional format that it might take. They develop and test a theoretical model which brings together some of the central assumptions of the literatures on R&D cooperation and on hierarchical transfer of technology. The empirical results support the theoretical predictions. R&D agreements are particularly likely to take a non-hierarchical format in knowledge-intensive industries, and when technological asymmetries between home and host countries are not excessively large. In addition, R&D can be carried out via arm's-length agreements, even between partners with asymmetric endowments of knowledge.

From Learning to Partnership. Multinational R&D Cooperation in Developing Countries
Giorgio Barba Navaretti and Carlo Carraro

Discussion Paper No. 1579, March 1997 (IT)

International Trade

New Patterns in Eastern Europe

The disintegration of the Council for Mutual Economic Assistance (CMEA) has led to a collapse in trade among former CMEA countries in Eastern Europe, and a reorientation of trade flows towards Western markets. In Discussion Paper No. 1580, **Mathilde Maurel** and **Guillaume Cheikbossian** analyse the effects of this reorientation. They establish two gravity equations on a data panel of 14 years, from 1980 to 1993, to give a picture of CMEA trade before and after disintegration. They find that, if CMEA is considered as a customs union, the increasing volume of trade flows with the West has been insufficient to compensate for the loss of regional markets.

This approach, however, ignores the fact that under CMEA much trade was planned and centralized – whereas, for a customs union to be profitable, it must reinforce existing commercial ties. Revising their model to permit analysis of CMEA as a commercial arrangement, under which quantitative restrictions are treated as equivalent to world prices augmented by normal tariffs, they find that the regional trade reduction was not welfare decreasing. The authors conclude that the true picture lies somewhere between these two results. They note the weakness of the regional market in the East, and the importance of Western trade in sustaining production, but also point to the perverse effects of hub-and-spoke bilateralism. They suggest that high Eastern European transport costs offer little room for an increase in East-West trade, but that considerable scope exists for developing Eastern regional trade through new trade agreements and increased cooperation.

The New Geography of Eastern European Trade
Mathilde Maurel and Guillaume Cheikbossian

Discussion Paper No. 1580, April 1997 (TE)

Stock Market Systems

Brussels versus London

In 1985, the London stock exchange started SEAQI (Stock Exchange Automated Quotation International), a screen-based price-quotation system devoted to shares of non-UK companies. SEAQI captured considerable trading volumes in non-UK equities from the continental exchanges. Since

1990, shares of some major Belgian companies have been quoted on SEAQI. In Discussion Paper No. 1581, **Hans Degryse** uses transaction, quotation and limit-order-book data for trades in 25 Belgian stocks (of which 13 are cross-listed) to investigate competition between the quote-driven SEAQI and the order-driven Brussels CATS (Computer Aided Trading System). Degryse compares total trading costs on the two systems. These include direct costs, such as commission and taxes, as well as indirect costs, such as price impact. Indirect costs are determined by studying the quoted spread – which reflects the cost of immediacy – and the effective spread, which is based on transaction prices.

Degryse's principal conclusion is that in June 1994, when the Brussels data set was gathered, CATS was cheaper than SEAQI for small trade sizes, whereas the opposite was true for larger trades. This may explain the observed displacement of financial activity towards London, as larger deals would take place at SEAQI. Since 21 October 1994, however, commission rates have become fully negotiable at the Brussels stock exchange – as they have always been at SEAQI – allowing brokers to compete more easily with SEAQI dealers for larger trade sizes.

The Total Cost of Trading Belgian Shares: Brussels versus London
Hans Degryse

Discussion Paper No. 1581, February 1997 (FE)

Training

Effects of Work-Related Training

Governments in OECD countries have increasingly been emphasizing the importance of work-related training in providing the skilled workforce necessary for improving competitiveness, adaptability and economic growth. It has also been suggested that work-based skills acquisition will reduce the growing earnings inequality observed in some countries since the 1980s. In Discussion Paper No. 1582, **Wiji Arulampalam**, **Alison Booth** and **Peter Elias** use count models to estimate the determinants of the number of work-related training courses received by a group of young men over the decade from 1981 to 1991. The data set used is the British National Child Development Study, which includes information about the number of training courses of at least three days duration attended by the cohort of all individuals born in the United Kingdom in the first week of March 1958. The authors estimate the impact of training events on expected wages growth (as a proxy for individual productivity). Uniquely, they control for training endogeneity by estimating the impact on expected wages growth of additional training events for young men who experienced at least one training event over the period.

The principal findings are that training does increase expected wage growth, and that, after controlling for self-selection, it is apparent that those with a higher previous educational background are both more likely to be trained, and more likely to receive substantially higher wages growth as a result. An implication of the observed positive correlations between education and subsequent training, and between training and wage growth, is that individuals entering the labour market with low educational attainment have limited training opportunities in the workplace, and face lower wage-growth prospects.

Modelling Work-Related Training and Training Effects Using Count Data Techniques
Wiji Arulampalam, Alison L Booth and Peter Elias

Discussion Paper No. 1582, February 1997 (HR)

Foreign Investment

Tax Competition

Firms based outside regional economic groupings such as the EU and NAFTA, where external trade barriers are high relative to internal trade barriers, and wishing to trade with countries inside the region, will have an incentive to invest in production facilites within the region. Governments within the region may then use subsidies and tariffs to induce such firms to choose their country over rival member states.

In Discussion Paper No. 1583, **Andreas Haufler** and **Ian Wooton** examine this tax competition. They consider a regional economy comprising two countries of different sizes. Intra-regional trade is costly, but much less costly than trade with countries from outside the region. Both countries wish to attract

investment from an extra-regional foreign firm. Haufler and Wooton examine the results of competition, first, when countries can provide direct subsidies (or impose taxes) only on the operations of firms that invest within their national frontiers, and second, when countries are also permitted to use tariffs (or impose consumption taxes) on goods imported from a production plant in the rival nation. In both cases, they show, the foreign firm will choose to invest in the larger country. A greater differential in country size, and the ability to tax consumption of the foreign-produced good, will work to the advantage of the larger country, to the extent that it may even be able to tax rather than subsidize the foreign firm. Wooton and Haufler point out that their results, which show that the effects of trade costs are crucial to multinational firms' investment decisions, imply that commodity tax alignment in Europe may have the unexpected consequence that large countries will lose some of their competitive advantage relative to smaller states, and may be more likely to subsidize investments of foreign-owned firms.

Tax Competition for Foreign Direct Investment
Andreas Haufler and Ian Wooton

Discussion Paper No. 1583, February 1997 (IT)

International Trade

Product Standards Coalitions

With the progressive elimination of tariff barriers in integrated markets such as the European Union, attention is now focused on national differences in standards and regulations. Traditional analyses of standards in international trade identify them as government regulations, chosen by a central national authority and applying within the perimeter of the national state. In Discussion Paper No. 1584, **Alessandra Cassella** describes an alternative model for standard creation. In Cassella's account, three different actors participate in the development of a standard. Central government will establish general guidelines. Private coalitions of firms, working on the basis of a mutual interest determined by technology and market conditions, will then develop exact specifications, and a certification mechanism. International standards organizations, manned by representatives of national industry organizations, will, in turn, provide non-binding recommendations to national governments, and act as focal points for international coordination.

Cassella points out that in an open, integrated market consisting of a number of national states, it is likely that coalitions of firms will be both more international, and more specialized in terms of economic activity, than in an isolated state. Harmonization of standards therefore is likely to occur 'from the bottom' through the coordinated actions of private firms operating across borders, more quickly than through international treaties and bureaucrats' interventions. Standards will also be more finely differentiated than in closed national markets. Empirical analysis from the United States and the EU, although mostly anecdotal, supports this analysis.

Product Standards Coalitions in a Market without Borders
Alessandra Casella

Discussion Paper No. 1584, February 1997 (IT)

The Labour Market

A Case for Fundamental Reform

The rigidities in many European labour markets, often considered to be a determinant of high European unemployment, spring from a variety of sources: welfare-state entitlements, job-security legislation, job-search costs, minimum wages, cost of human capital acquisition and others. In Discussion Paper No. 1585, **David Coe** and **Dennis Snower** analyse how a broad range of such rigidities, maintained by different labour-market institutions, can be complementary to each other in their influence on unemployment. They show that, given that such institutional complementarities exist, policies intended to reform these institutions will also be complementary. This implies that partial labour-market reform is unlikely to achieve significant reductions in unemployment rates. For example, 'active' labour market policies, such as job counselling and retraining schemes, may be less effective in the presence of substantial 'passive' policies, such as generous unemployment benefits and stringent job-security provisions.

Coe and Snower contend that the existence of these complementary effects may be an explanation for the failure of the piecemeal labour-market reforms enacted in many European countries over the past decade and a half to have a significant effect on long-term unemployment. They put a case for more fundamental labour-market reforms involving substantial changes to many complementary policies, which should be combined with measures to address the distributional objectives of the pre-reform policies more efficiently. They acknowledge that, given the diversity of labour-market institutions and policies

across Europe, these fundamental reforms will differ widely from country to country.

Policy Complementarities: The Case for Fundamental Labour Market Reform.
David T Coe and Dennis Snower

Discussion Paper No. 1585, February 1997 (HR)

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Does EMU Need a Fiscal Federation? ***(Antonio Fatás)***

This chapter addresses the claim that, without a fiscal federation, some EU member states will be unable to deal adequately with asymmetric shocks under a single currency because prices and wages are insufficiently flexible and European labour mobility too limited to compensate for the loss of the exchange rate tool. Fatás explores the US example, where the automatic interregional transfers that take place through the federal budget play an insurance role that compensates for the lack of internal exchange rates. Although estimates of the benefits of these transfers in the United States are large, Fatás finds the benefits from a European fiscal federation would be too modest to compensate for the problems that such an arrangement would create.

The Stability Pact: More Than a Minor Nuisance? ***(Barry Eichengreen and Charles Wyplosz)***

The authors examine the rationale and likely effects of the Stability and Growth Pact for the EU and conclude that it is both unnecessary and potentially harmful. The objective of preventing excessive public debt levels can be achieved through alternative mechanisms. The Pact's main drawback is that it shifts the attention of policy-makers away from much-needed structural reforms in dealing with unemployment and the effects of an ageing population on the welfare system.

Immediate Challenges for the European Central Bank ***(Rudiger Dornbusch, Carlo Favero and Francesco Giavazzi)***

The authors question previous estimates of asymmetries in monetary transmission across potential EMU members, relate their own estimates to differences in financial structure, and discuss the implications for a common monetary policy. This will involve three challenges: treading the narrow path between an institutional revolution and continuity of the Bundesbank's approach; stabilizing prices on a broad European – rather than a national or regional – front; and getting to grips with the cross-country differences in financial and wage-price structures and processes.

Asymmetric Shocks under EMU ***(Maurice Obstfeld and Giovanni Peri)***

This chapter draws on comparative analyses of internal North American (United States and Canada) and European adjustment patterns to asymmetric macroeconomic shocks for indicators to the future handling of similar shocks under EMU. Changes in regional real exchange rates are found to be small in all countries, but outside the United States there is more reliance on inter-regional transfer payments than on labour migration, and the pace of regional adjustment appears to be slower. The authors propose a strategy for achieving income redistribution within the EU and suggest measures which might make EMU more attractive to its detractors.

Euro versus Dollar ***(Richard Portes and Hélène Rey)***

This chapter provides an analytical framework for assessing the potential international role of the euro. Portes and Rey use a new model and new data to assess how far the euro will assume 'reserve currency' status. They measure the effects of alternative scenarios on welfare in the main world regions, consider the implications for the financial asset and forex markets as the international monetary system adjusts to the euro, and propose policies for dealing with the potential for instability during the transition period.

Foreign And Underground Demand For Euro Notes: Blessing Or Curse? ***(Kenneth Rogoff)***

Although the potential for the euro to challenge the global dominance of the dollar in the denomination of international trade in goods and financial assets has been much discussed, hitherto little attention has been paid to its likely role *vis-à-vis* the dollar in the global market for a safe, reliable vehicle currency. Rogoff argues that there are good reasons why citizens in developing countries will find the euro an attractive alternative currency to the dollar, but that there may be hidden dangers for Europe in playing this role, not least because the issue of large-denomination euro notes may facilitate tax evasion and illegal activities at home.

Stability Without a Pact? Lessons from the European Gold Standard 1880–1914 ***(Marc Flandreau, Jacques le Cacheux and Frédéric Zumer)***

This chapter seeks to draw lessons for EMU from the European experience of the gold standard. The authors conclude that, under the gold standard, debts mattered and stability depended on the underlying price trend. Their analysis highlights the potential dangers of an overly restrictive policy stance by the ECB; the fragility of institutions in the face of deep public finance difficulties; the risks for the single market of leaving out countries that have not fully converged; the existence of a virtuous cycle of low interest rates, fast growth and debt reduction; and the importance of finding a proper balance between discipline and incentives.

EMU: Prospects and Challenges for the Euro is published by Blackwell Publishers for CEPR, CES and DELTA. ISBN: 0631 209972. Price £39.50/$64.95. Available From: Marston Book Services, Direct Sales Department, PO Box 269, Abingdon, OXON, OX14 4YN, UK, Fax: (44 1865) 381 381 and Blackwell Publishers, 350 Main Street, Malden, Cambridge MA 02148-9933, USA. Fax: (+718) 388 8210.

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Conferences and workshops are indicated in grey and attendance is *by invitation only*. Participation is, however, limited. If you would like more information please contact Toni Orloff (email: torloff@cepr.org).

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1998 ▼

8 OCT — *ESRC Workshop: Finance Network* (with the Economic and Social Research Council (ESRC)), London.

14 OCT — *Telecoms in Europe: The Conflicting Priorities of Regulation and Competition Policy*, London.

16/17 OCT — *Twenty-Eighth Economic Policy Panel Meeting* (Conference hosted by the Oesterreichische Nationalbank), Vienna.

23 OCT — *ESRC Workshop: Monetary Policy* (with the Economic and Social Research Council (ESRC)), London.

27 OCT — *Trawling for Minnows: Agreements between Firms* (with the London Economics Consulting Group (LECG)), London.

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.

4 NOV — *ESRC Workshop: Unemployment Dynamics* (with the Economic and Social Research Council (ESRC)), London.

5/6 NOV — *European Venture Capital: Financing of Innovation for Long-Term Growth* (Workshop with the CONSOB and the IGIER), Milan.

6/7 NOV — *Regionalism in Europe: Geometries and Strategies after 2000* (Conference with the Zentrum für Europäische Integrationsforschung, Universität Bonn and the Yrjö Jahnsson Foundation), Bonn.

19 NOV — *ESRC Workshop: Transition Economics* (with the Economic and Social Research Council (ESRC)), London.

20/22 NOV — *Economic Policy Initiative: Monetary and Exchange Rate Policies in Central and Eastern Europe and EMU* (with the Institute for EastWest Studies (IEWS)), Brussels.

3 DEC — *ESRC Workshop: Finance Network* (with the Economics and Social Research Council (ESRC)), London.

18/19 DEC — *The Political Economy and Fiscal and Monetary Stability in the EMU* (with CREI and European University Institute), Barcelona.

1999 ▼

10/11 JAN — *Rethinking the Welfare Society* (Conference with the Instituto de Estudios Económicos de Galicia, Pedro Barrié de la Maza), La Coruña.

28/31 JAN — *Core Competencies, Diversification and the Role of Internal Capital Markets* (Conference), Naples.

26/28 FEB — *The New Economics of Inequalities* (Conference hosted by the Instituto de Estudios Económicos de Galicia, Pedro Barrié de la Maza), La Coruña.

19 MAR *Review of Financial Studies Conference on Price Formation* (Conference by the Chazen Institute, Columbia University and the European Union Network in Finance), Toulouse.

26/30 MAY *European Summer Symposium in Macroeconomics* (hosted by the Banco de Portugal), Evora, Portugal.

4/5 JUN *International Seminar on International Trade (ISIT) – New Issues in the World Trading System* (Conference, ISIT with the National Bureau of Economic Research (NBER)), Cambridge, MA.

28 JUN/ 9 JUL *European Summer Symposium in Economic Theory* (hosted by the Studienzentrum Gerzensee), Studienzentrum Gerzensee.

12/23 JUL *European Summer Symposium in Financial Markets* (hosted by the Studienzentrum Gerzensee), Studienzentrum Gerzensee.

10/11 SEP *Foreign Direct Investment and The Multinational Corporation* (hosted by the IMOP, Athens University of Economics and Business), Athens.