

## FOCUS

### ■ *The Outlook for World Demographic Change and Growth to the Year 2030*

*The rise of working populations will slow across the globe over the next thirty years. But, global economic growth (at 3%) is likely to be similar to the last thirty years, thanks to higher productivity and the greater weight of the more dynamic emerging countries. The shift of the world's economic centre of gravity to developing Asia will continue. But, there is likely to be little catch-up of the world's poorest regions, especially sub-Saharan Africa.*

The growth forecast conducted by the CEPII, through to 2030 is based on the neo-classical concept of conditional convergence of a closed economy: each country is assumed to converge on its own long term state of equilibrium, which is conditioned by its rates of investment in physical and human capital and by the demographic growth rate. During the transition period, growth depends on the rate of investment and on demographic growth, as well as on technical progress. Technical progress then becomes the only engine of growth, once equilibrium has been achieved.

This growth model is applied to all countries, apart from the petroleum producers (whose growth depends on the oil price and world growth). Production functions are assumed to be identical. The pace of technical progress is as it has been over the last thirty years, except in the United States, Western Europe and developed Asia, where it will

be a little more rapid. The demographic outlook is based on the central forecast by the UN<sup>1</sup>. The projections for investment rates in physical capital depend, in a non-linear way, on levels of productivity and, in certain cases, on hypotheses established "outside the model". Investment in human capital is linked to the level of development. The main results are given for 11 major regions (see Table).

The characteristics of the demographic trends over the next thirty years play a key role in the forecasting results.

The growth of working populations will slow down in all regions of the world. At the global level, growth of the world's working population will fall from 2% between 1970 to 2000, to 1.1% for 2000 to 2030. However, economic growth will be more or less the same as it has been during the last thirty years: 3% on average for the period running from 2000 to 2030, compared to 3.3% for 1970 to 2000. Such global growth will be sustained by stronger productivity growth in many countries, due to higher investment. It also stems from the increasing weight in the world economy of fast-growing emerging economies.

These projections confirm that the world's economic centre of gravity is shifting rapidly. Between 2000 and 2030, the share of world GDP produced by North America, Western Europe, Japan and the developed zones in the Pacific will fall by 15 percentage points (from 55% to 40%), whereas developing Asia will see its share of global

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(1) United Nations (2000), Department of Economic and Social Affairs, Population Division, *World Population Prospects*, the 1998 Revision.

Table: Factors Contributing to Growth and per Capita Income - Average Annual Growth Rates, in %

	Working population <sup>1</sup>		Productivity <sup>2</sup>		GDP ppp		Population		GDP ppp per capita	
	1970-2000	2000-2030	1970-2000	2000-2030	1970-2000	2000-2030	1970-2000	2000-2030	1970-2000	2000-2030
North America <sup>3</sup>	1,2	0,4	1,8	1,6	3,0	1,9	1,0	0,6	2,0	1,3
Western Europe	0,8	-0,2	1,8	2,1	2,6	1,9	0,5	0,1	2,0	1,8
Japan, Pacific region	0,8	-0,3	2,4	2,0	3,2	1,6	0,8	0,0	2,4	1,6
Eastern Europe	0,5	-0,4	1,9	3,2	2,5	2,8	0,4	-0,2	2,1	3,0
Former-USSR	0,8	0,0	-0,7	3,5	0,1	3,5	0,6	0,0	-0,5	3,4
Latin America	2,6	1,3	0,9	1,9	3,5	3,3	2,1	1,1	1,4	2,1
South-East Asia <sup>4</sup>	2,7	1,0	3,5	2,9	6,3	3,9	1,9	0,9	4,3	3,0
China	2,1	0,5	4,2	4,5	6,4	5,0	1,4	0,5	4,9	4,5
Indian sub-continent	2,5	1,6	2,2	2,9	4,7	4,6	2,1	1,2	2,6	3,3
North Africa & Middle East <sup>4</sup>	3,3	2,1	0,6	0,9	3,9	3,0	2,8	1,6	1,0	1,4
Sub-Saharan Africa	2,8	2,7	-0,4	1,1	2,4	3,8	2,7	2,1	-0,3	1,7
World	2,0	1,1	1,2	1,9	3,3	3,0	1,7	1,0	1,6	2,0

1 Population of working age (15-64 years old). 2 GDP PPP per capita of the working population. 3 Excluding Mexico, which is included in Latin America.

4 Excluding some countries, which have not been included in the model, for lack of data.

Sources: UN, CHELEM and projections by the CEPII.

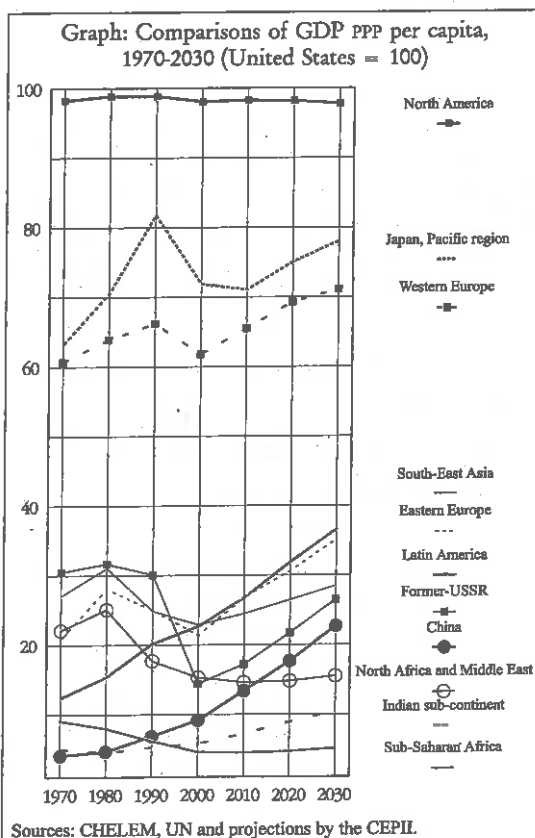
GDP rise by 14 percentage points (up from 24% to 38%). Per capita GDP in this latter region will rise rapidly, with South-East Asia's GDP per capita attaining 36% of the US level in 2030 (see Graph). In contrast, the catch up of the poorest regions of the world will be limited.

South-East Asia and China have especially benefited from this demographic opportunity, over the last thirty years. But for China, the lag between the change in the working population and that of the total population will switch round in the period 2000-2030, as it will for the former-USSR and Eastern Europe. The significant rise in per capita GDP levels in these regions will stem from the productivity gains.

In the Indian sub-continent, North Africa and the Middle East, the lag will remain positive and important, before disappearing towards 2030. Sub-Saharan Africa is the region which is expected to benefit the most from this phase of the demographic transition. Nevertheless, for the poorest regions, the gap in GDP per capita with the rich countries will remain considerable in 2030. Africa's decline will not be reversed before 2010 and GDP per capita in sub-Saharan Africa is set to remain extremely low, according to the assumption used here (at only 5% of the American level in 2030). The GDP per capita level of the Indian sub-continent is expected to rise to only 10% of the US level and that of North Africa and the Middle East to stagnate at 15%.

The experience of several regions over the last decades indicates that the demographic factors, which have helped South-East Asia and China, may remain insufficient to boost growth, if investment levels are too low and do not substantially improve the productivity of the working population.

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All regions of the world will experience demographic ageing as birth and adult death rates slow simultaneously. In the rich countries, such ageing will lead to a fall in the working population and a rise in the number of older people. In contrast, in the poorest countries, demographic ageing will lead to an increase in the size of the working population, as the share of the under-15s declines. This is an especially favourable phase in the demographic transition, during which per capita income rises faster than productivity. Levels of GDP per capita should therefore converge.

FOR FURTHER INFORMATION SEE:

- 'DÉMOGRAPHIE ET CROISSANCE MONDIALE À L'HORIZON 2030', N. KOUSNETZOFF, LA LETTRE DU CEPII, N° 208, JANVIER 2002.
- 'CROISSANCE ÉCONOMIQUE MONDIALE : UN SCÉNARIO DE RÉFÉRENCE À L'HORIZON 2030', N. KOUSNETZOFF, CEPII WORKING PAPER, N° 2001-21, DÉCEMBRE 2001.

(Available at [www.cepii.fr](http://www.cepii.fr))

# RESEARCH SUMMARY

## ■ *MIRAGE - A Model for Trade Policy Analysis*

*In order to provide a thorough quantitative assessment of the consequences of trade policies, the CEPII has built a computable general equilibrium model called MIRAGE. It incorporates imperfect competition, foreign direct investment and a simple notion of product quality. The adjustment period is described in a sequential dynamics setting, where installed capital is immobile, and where the changes in the number of firms are progressive. For the benchmark, and for building evolution scenarios, MIRAGE uses the very detailed measures of protection provided by the MACMaps database. A simulation of trade liberalisation between the EU and the MERCOSUR is presented for the sake of illustration. It suggests that both regions will gain from free trade, provided that barriers to trade come down in both, especially those for European agricultural products.*

A new round of multilateral trade negotiations has now been launched, and various new bilateral or regional trade agreements have been signed recently, or are currently being studied. In this context, thorough analysis of the consequences of trade policies is necessary for policy-making and useful to the public debate. This has been the main motivation which has led the CEPII to develop the computable general equilibrium model MIRAGE (Modelling International Relationships in Applied General Equilibrium). Special attention has thus been paid to trade flow determinants and to the channels through which they may impact on the economy. The key features of the model are the following.

First, products originating in developing countries and in developed countries are assumed not to belong to the same quality range. Their cross-substitutability is therefore far weaker than is the case of products in the same quality range. Within each quality range, the model also accounts for horizontal product differentiation between varieties, and for the domestic bias of preferences.

Second, MIRAGE incorporates imperfect competition à la Cournot, with variable mark-ups, allowing the pro-competitive effect of trade to be described. The zero-profit condition holds in the base year and in the long run, but not during the adjustment period, consecutive to a shock. The speed of adjustment of the number of firms varies across sectors, according to their market structure (fragmented vs. segmented). Moreover, a new calibration procedure is used, allowing a more consistent and exhaustive use of the available information on concentration, product differentiation, and mark-up ratios.

Third, capital is assigned a putty-clay nature within each sector, a necessary assumption in order to understand the adjustment costs associated with any trade liberalisation. Investment thus plays a crucial role, as it is the only possible factor which

allows adjustment of the sectoral capital stock. The same modelling technique is used to set domestic and foreign investment, based on the sector-specific return to capital in the recipient sector, on savings and on the shadow-price of capital in the country of origin.

Lastly, the inertia and cost of adjustment are described through the constraints on factor accumulation and on the adaptation of the number of firms by sector, given the sectoral immobility of installed capital. The dynamic setting is thus of a sequential nature, and it may also account for different timings in the liberalisation process itself.

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The model pays special attention to trade flow determinants and to the channels through which they may impact on the economy.

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In order to describe trade protection accurately, a unique database, called *MACMaps* (Market Access Maps, see page 8 of this *Newsletter*) is used. This database allows scenarios to be constructed at the most detailed level, before re-aggregating the changes in tariff equivalent protection in the model's classification.

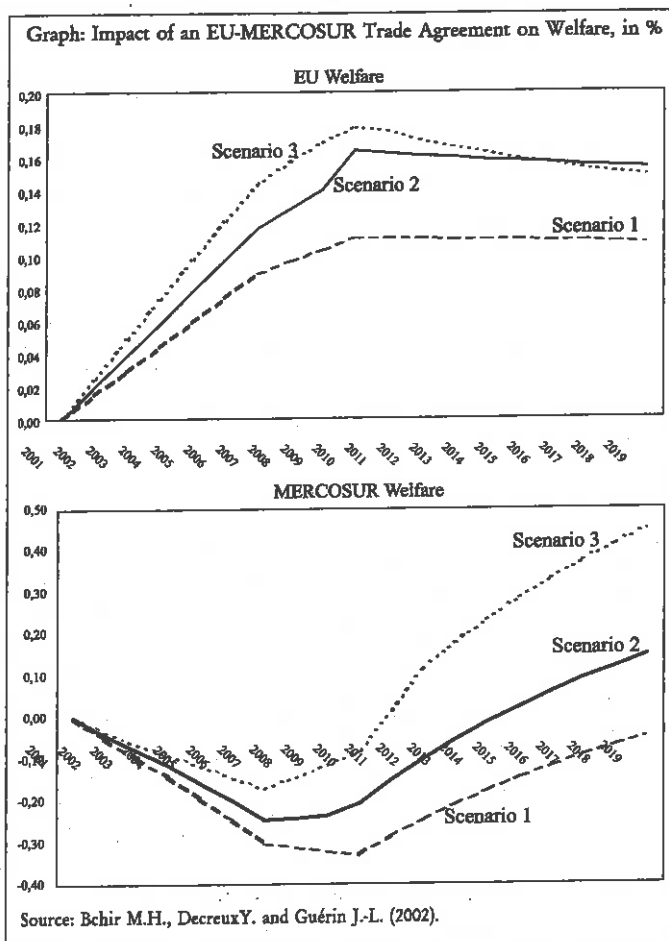
For data other than protection, the calibration of MIRAGE is based on the GTAP5 database, which describes all internal flows and trade flows in 1997, for 66 regions, 5 production factors and 57 sectors<sup>1</sup>. Given the resource constraints, a well-suited aggregation has then to be chosen for each study. Besides the study mentioned below, the model has been used so far to study several topics, such as EU enlargement, trade relationships between the EU and the Mediterranean countries, or the perspectives of multilateral trade negotiations.

(1) See Dimaranan Betina V. and Robert A. McDougall (2002), "Global Trade, Assistance and Production: the GTAP 5 Data Base", Center for Global Trade Analysis, Purdue University. As a complement, FDI data come from the *World Investment Directory* of the UN, and demographic projections are taken from the *World Population Prospects* of the UN.

The EU and the MERCOSUR have stressed repeatedly their willingness to establish a preferential, bilateral trade agreement. Assessing the consequences of such an agreement first requires building realistic scenarios. From this perspective, a few "sensitive" agricultural products, protected by the

agreement. In contrast, a complete liberalisation in these products in the EU leads the MERCOSUR to enjoy a significant gain (around half a percent of GDP). Interestingly, however, the gains for the EU are weaker when sensitive products are not liberalised. This illustrates the fact that trade liberalisation is not a zero-sum game.

Bilateral trade flows are predicted to increase strongly (by between 20% and 60%, depending on the scenario and the direction), but only the third scenario (complete liberalisation) appears to provide balanced benefits for both partners. Sectoral disparities are strong, and export creation mainly stems from vehicles for Europe (as well as from electronics and, to a lesser extent, chemicals), and from agricultural and food products for the MERCOSUR, especially meat products, when their trade is liberalised. When it does not exclude sensitive products, agriculture liberalisation is the main source of gains for both partners, but it leads to clear conflicts of interest between production factor holders. Under each scenario, the agreement leads to trade diversion. However, the competition effect is felt differently according to the quality range producers belong to. As developed countries' products are close substitutes to European products, their exports to the MERCOSUR are affected more strongly. Developing countries, in contrast, suffer stronger diversion effects on their exports toward the European market.



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EU, deserve special attention, because they may well be the main obstacle to reaching an agreement. These goods are identified as those agricultural products for which the *ad valorem* equivalent tariff applied by the EU on MERCOSUR imports is higher than 25%. Three scenarios are studied, where initial tariffs applied by the EU to imports from the MERCOSUR for these sensitive products are assumed to be, respectively, unchanged (scenario 1), halved (scenario 2) or removed (scenario 3). For all other products, the protection is assumed to be completely removed in each scenario, but with longer delays, the higher the initial level of protection. The tariff equivalent for each scenario is obtained by applying these rules separately to 5,000 products, and then by aggregating (into 19 sectors, in this case).

Such an agreement involves non-negligible adjustment costs, in all cases, as witnessed by the time profile of the impact on welfare (see Graph). When sensitive agricultural products are not liberalised in the EU, MIRAGE simulations show that the MERCOSUR suffers a net welfare loss from the

FOR FURTHER INFORMATION SEE:

- 'MIRAGE - A MODEL FOR TRADE POLICY ANALYSIS',  
M. H. BCHIR, Y. DECREUX, J.-L. GUÉRIN AND S. JEAN,  
CEPII WORKING PAPER, FORTHCOMING.
- 'CONSEQUENCES OF A FREE-TRADE AGREEMENT BETWEEN EU  
AND MERCOSUR: A STUDY WITH MIRAGE',  
M. H. BCHIR, Y. DECREUX AND J.-L. GUÉRIN,  
CEPII WORKING PAPER, FORTHCOMING.
- 'MULTILATERAL TRADE LIBERALIZATION: SCENARIOS FOR THE NEW  
ROUND AND ASSESSMENT',  
L. FONTAGNÉ, J.-L. GUÉRIN AND S. JEAN,  
CEPII WORKING PAPER, FORTHCOMING.
- 'IMPACTS ÉCONOMIQUES ET SOCIAUX DE L'ÉLARGISSEMENT POUR  
L'UNION EUROPÉENNE ET LA FRANCE',  
M. H. BCHIR AND M. MAUREL,  
CEPII WORKING PAPER, N° 2002-03, AVRIL 2002.

# ON THE RESEARCH AGENDA

## THE SURVIVAL OF INTER-MEDIATE EXCHANGE RATE REGIMES

Conventional wisdom of international policymaking currently holds that economies open to capital flows should not try to fix their nominal exchange rate, unless they adopt a currency board, move to full dollarisation/"euroisation", or adopt a currency union. This advice is rooted in the experience of the collapse of the European exchange rate mechanism in 1992-1993, and in the crises of emerging markets in 1997-1998.

On closer inspection, the issue is much less clear cut. First, the "two corner" approach has no undisputed theoretical foundations. No existing theoretical model produces hard pegs or free floating as optimal solutions of a welfare-maximizing exercise, where the full range of exchange rate regimes are available as policy options. Second, there is growing empirical evidence that intermediate exchange rate regimes are still alive, as dirty floats or unofficial soft pegs.

This study starts from a simple model for choosing an exchange rate regime from a continuum ranging between a free float to a hard peg. It is found that the optimal choice depends on the country's structural characteristics and governmental preferences, namely: the instability of domestic and foreign demand, exchange rate pass-through, trade openness, the magnitude of the interest-rate channel, the reputation for inflation, and the government's time preference and aversion to inflation. The study then examines the costs for a government committing itself to the optimal regime.

The relevance of this theory is assessed on a cross-section of 126 countries before and after the 1997-1998 crisis in emerging markets. A non-ordered, trinomial logit model is used to account for intermediate regimes independently from corner solutions. The estimations show that the probability of a free floating regime is lower for more open economies, whereas the probability of a hard peg is higher for less industrialized, more dollarized and politically stable countries. Finally, the probability of an intermediate regime is higher, the lower the debt ratio.

The model is then used to assess the probability of each regime for every country of the sample. Taking the highest probability as the prediction of the model, the model correctly explains the "hollowing out" of intermediate rate regimes which was indeed observed between 1996 and 1999. For a number of emerging countries (in particular Brazil, Chile, China, Indonesia, South Korea, Morocco, Poland, and Thailand), the model predicts a soft peg in 1996 but a free float in 1999 (the probability of a free float rising to 94% for China!). Mexico is a notable exception, as the model predicts a hard peg in 1999.

Generally, the predictive capacity of the model improved between 1996 to 1999, and although its results are clearly not prescriptive, the model does identify discrepancies in cross-section regularities.

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## BRITISH BUSINESS AND THE EURO

This workshop, organised by the CEPII's Business Club and the NIESR in London, 6th February, gathered leading academics, businessmen and politicians to discuss the UK's possible adoption of the euro. The main conclusions were: i) the government's "five tests" on the economics of joining are sufficiently open to make joining essentially a political decision, ii) Britain will likely join EMU, at some point, and iii) the exchange rate is less of a problem now than in the past, given the structure of the UK economy. The discussion was oriented around three main themes: macroeconomic issues, the importance of the exchange rate, and the likely impact of EMU on the City and vice-versa.

On the macroeconomics, the session provided mixed views. While the UK's business cycle is probably closer to that of the US than the main European economies, its integration with the EU is similar to its partners, and would probably be enhanced by full membership. But asymmetries remain significant, especially for short term interest rate changes which have a stronger, more immediate effect on the UK economy, as mortgage lending and household borrowing are at variable rates. But the UK's wage flexibility and shrinking manufacturing sector should reduce the costs of membership. Empirical evidence is mixed and depends on *ad hoc* hypotheses. Thus, the Cardiff Business School's model, which assumes significant convergence in labour laws, predicts that EMU membership will reduce GDP growth by a fifth. On the other hand, for the NIESR model, EMU membership is likely to enhance price stability, but at the expense of GDP growth becoming more volatile.

Weighing up the advantages of exchange rate stability for half of British trade against the disadvantages of a one-size-fits-all monetary policy is a difficult exercise. But participants emphasised that the importance of the exact exchange rate for joining is not so crucial, provided that it remains within a reasonable range. It was also suggested that the financial markets believe the UK will have joined EMU by 2006, with a probability of 100%, and by 2005 with a probability of 60%.

The issue of EMU and Britain as a location of economic activity, with special focus on the City, was addressed. Given the size and cohesion of the City and its light regulation, EMU membership would provide opportunities for the City to exploit its comparative advantages. However, concerns were also expressed about the problems of congestion in the City and the associated unevenness of economic growth and income, linked to the growing importance of the share of financial services in the economy. Overall, the City's and more generally Britain's economic activity should benefit from currency stability within the euro-zone, given the UK's low labour costs, pro-business tax policies, cross-sectoral links between banks and their clients etc.

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## Recent Publications

### ECONOMIE INTERNATIONALE, QUARTERLY

No 88, 4TH QUARTER 2001

• 'Volatilité des changes et investissement'

J.-L. Guérin, A. Lahrière-Revil

• 'Les concepts de revenu et de richesse au sens de Barro-Ricardo et de Hicks-Keynes dans la coordination'

F. Capoen, P. Villa

• 'Les démocraties sont-elles plus ouvertes à l'échange ?'

C. Granger, J.-M. Siroën

• 'L'insoutenable légèreté de l'euro'

L. Boone, V. Koen, A. de Serres, N. Fuchs

Forum: "Does Money Still Matter?"

• 'Presentation'

E. Girardin, L. Fontagné,

H. Pagès

• 'No Money, no Inflation - The Role of Money in the Economy'

M. King

• 'Comments'

Z. Eckstein

• 'The Role of Banks in Diffusing Money - A Practitioner's Point of View'

P. Werner

No 87, 3TH QUARTER 2001

Agriculture et commerce international (special issue)

• 'L'Accord sur l'Agriculture de l'Uruguay Round fonctionne-t-il ?'

S. Tangermann

• 'Cultures transgéniques et commerce international'

K. Anderson, C.M. Pohl Nielsen

• 'L'environnement, nouvel obstacle au commerce de produits agricoles et alimentaires'

L. Fontagné, M. Mimouni

• 'Agricultural Tariff Rate Quotas as a Development Instrument'

A. Matthews, C. Laroche

Dupraz

• 'Quantitative Policy Analysis of Sanitary, Phytosanitary and Technical Barriers to Trade'

J.C. Beghin, J.-C. Bureau

• 'L'évaluation de la protection commerciale : une utilisation critique des Trade Restrictiveness Indexes'

A. Bouët, E. Dhont-Peltrault,

X. Pichot

No 86, 2ND QUARTER 2001

• 'Stratégie de promotion des exportations et ajustement macroéconomique'

T. A.-D. Tran

• 'Choc des termes de l'échange et balance courante. Une estimation des effets de substitution en France (1972-1998)'

Z. Mehoumoud Issop

• 'Théorie de la croissance et taux de change réel : une approche néoclassique'

I. Briones

• 'Privatisation et croissance dans les pays de l'Est'

D. Labaronne

• 'L'effet d'un choc boursier sur les dépenses des ménages américains'

J. Baude

• 'Dette publique et investissements privés : le cas de la Turquie'

B. Gürbüz, M. Raffinot

• 'Marmotte, un modèle multi-national de 17 pays industrialisés'

S. Déés, A. Kadareja,

J.P. Laffargue, B. Rzepkowski

Publisher: la Documentation française.

Price: € 18.50 per issue, € 65.50 annual subscription in Europe, and € 68.50 outside Europe.

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### LA LETTRE DU CEPII, MONTHLY

• 'Pension Schemes: Limiting PAYG to Increase Savings?'

F. Legros

No 212, MAY 2002

• 'Market Access: The Objectives After Doha'

L. Fontagné, J.-L. Guérin, S. Jean

No 211, APRIL 2002

• 'The Competitiveness of French Industry: Lessons from Europe'

G. Gaulier, J. Milgram, L. Nayman,

D. Ünal-Kesenci

No 210, MARCH 2002

• 'Can the Argentine Peso Resist Competition from the Dollar?'

J. Sgard

No 209, FEBRUARY 2002

• 'The Outlook for World Demographic Change and Growth to the Year 2030'

N. Kousnetzoff

No 208, JANUARY 2002

LA LETTRE DU CEPII is published in French.

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Price: € 47.50 outside France.

The English version of this French publication is available on the CEPII's web-site, one month after publication:  
[www.cepii.fr](http://www.cepii.fr)

### BOOKS BY CEPII RESEARCHERS AND THE CEPII'S ANNUAL REPORT

• LA MONNAIE ENTRE VIOLENCE ET CONFIANCE

M. Aglietta & A. Orléan,

March 2002, 378 p.,

Editions Odile Jacob,

15, rue Soufflot,

75005 Paris.

Price: € 26.70.

• ECONOMIE DE L'EURO

A. Bénassy-Quéré & B. Coeuré,

March 2002, La Découverte,

Coll. Repères, Paris. Price: € 7.95.

### CEPII WORKING PAPERS

• 'Brazil and Mexico's Manufacturing Performance in International Perspective, 1970-1999'

N. Mulder, S. Montout, L. Peres Lopes

No 2002-05, MAY.

• 'The Impact of Central Bank Intervention on Exchange-Rate Forecast Heterogeneity'

M. Beine, A. Bénassy-Quéré,

E. Dauchy, R. MacDonald

No 2002-04, APRIL.

• 'Impacts économiques et sociaux de l'élargissement pour l'Union européenne et la France'

M. H. Bchir, M. Maurel

No 2002-03, APRIL.

• 'China in the International Segmentation of Production Processes'

F. Lemoine, D. Ünal-Kesenci

No 2002-02, MARCH.

• 'Illusory Border Effects: Distance Mismeasurement Inflates Estimates of Home Bias in Trade'

K. Head, T. Mayer

No 2002-01, JANUARY.

The full text of Working Papers is available on the CEPII's web-site:  
[www.cepii.fr](http://www.cepii.fr)

## Events

### SEMINARS AND MEETINGS

#### • The Impact of Alternative Policy Rules

The Workshop was organised by the European Network of Economic Policy Research Institutes (ENEPRI).  
30th June, 1st - 2nd July 2002

• Structural Factors Underlying German Economic Lethargy  
P. Artus (CDC-IXIS), J. Pfister (Commerzbank), E. Wurzel (OECD).  
24 June

• Economic Outlook and Financial Markets  
R. Lescure (CDC-IXIS).  
20 June

• America's Economic Foreign Policy: Unilateralism or Multilateralism  
H. Nau (George Washington University).  
24 May

• Intellectual Property Rights: Pharmaceutical Products  
V. Ameye (Aventis), P. Chirac (MSF), J. Tessier d'Orfeuil (DREE), P. Vandoren (EU Commission), J. Sgard (CEPII).  
23 May

• Argentina and the Outlook for Adjustment

F. Schwartz (Renault), F. David (COFACE/Business Club), L. Trupin (Carrefour).  
8 April

• EFN Economic Outlook Spring Report 2002: Economic Policy in the Euro-zone  
A. Bénassy-Quéré, S. Capet, L. Fontagné, F. Legros, P. Zanghieri, J.-P. Laffargue (CEPII).  
3 April

• Is The Money Supply Still Important?  
Jointly organised by the CEPII, the Banque de France, the Fondation Banque de France, the IDEP  
J.-C. Trichet (Governor, Banque de France), M. King (Deputy-Governor, Bank of England), Z. Eckstein (University of Minnesota), P. Werner (BMS), D. Henriot (IDEP), L. Fontagné (CEPII).  
13 March

• What Ails China? A Long-Run Perspective on Growth and Inflation (or Deflation) in China  
Xiadong Zhu (University of Toronto).  
7 March

• Key Issues in International Trade: The New WTO Cycle, Transatlantic Relations and Regionalism  
Organised with the French Planning Agency  
J. Schott (IE), J.-M. Charpin (CGP).  
1 February

• Exchange Rate Regimes in a Regional Context  
H. Reisen (OECD), B. Coeuré (French Ministry of Economy and Finance), T. Ito and E. Ogawa (Hitotsubashi University), A. Bénassy-Quéré (CEPII).  
31 January

• Franco-German Economic Forum: Competition Between European Stock Markets

J. von Hagen (ZEI), F. Champarnaud (Deutsche Bank), A. Brender (CPR), R. Riess (Deutsche Börse).

*Fiscal Federalism in Europe*  
L. Fontagné (CEPII), R. Vaueble (University of Mannheim), M.-A. Lacroix (French Ministry of Economy and Finance), C. Weise (DIW).  
21-22 January

### CONFERENCES

#### • ASIA 2000: ASIA AND THE RISE OF CHINA

Paris, 9 April 2002

Jointly organised with the French Centre for Foreign Trade (CFCE) and BNP Paribas, this conference examined China's economic and political outlook, and issues arising from China's membership of the WTO, as well as China's position within the development of Asia as a whole. Speakers included: J. Despoints, G. Longueville, J.-F. di Meglio (BNP Paribas), J.-D. Gardère (CFCE), C. Pigott (OECD), D. Dilley (European Commission), D. Escande (Escande

Développement), F. Godement (IFRI, INALCO), J.-M. Bouissou (CERI), F. David (COFACE), M. Fouquin and F. Lemoine (CEPII).

#### • TOWARDS REGIONAL CURRENCY AREAS

Santiago, Chile, 26-27 March 2002

Jointly organised with the CDC, CEPII, ECLAC, the Fondation Banque de France, and the *Revue Economique*, this conference included more than 30 presentations by over 50 researchers. It covered: Exchange Rate Regimes and Optimum Currency Area Theory; Exchange Rate Regimes in Emerging Countries; International Capital

Markets and Regional Currency Areas; EMU's Experience and the Birth of the Euro; Exchange Rate Regimes and Eastern and Central European Countries' Integration in the European Union; Dollarisation; Optimal Currency Areas, International Trade and Labour Markets; What Policy Mix in a Monetary Union?; Regional Currency Areas and Financial Systems; Towards a Regional Currency Area in Asia and in Africa; Regional Currency Unions and International Macroeconomic Coordination, and; Towards a Regional Currency Area in Central and Latin America. The proceedings will be published in the *Revue Economique*.

### NEWS IN BRIEF

• Stéphane Capet joined the CEPII, in January. He holds a PhD from the University of Paris XIII, and will work on the MARMOTTE model.

• Paolo Zanghieri also joined the MARMOTTE team, having previously studied in Spain, and having worked for Prometeia (in Italy) and Oxford Economic Forecasting (in the UK).

• Claudie Meyers, who is currently completing her doctorate at INRA, came to the CEPII in April, to work on a joint project with the INRA,

applying the MIRAGE model to agricultural trade liberalisation.

• Soledad Zignago joined the CEPII at the beginning of July. She will work on the "new economy" and on trade policy analysis. Nanno Mulder left the CEPII in April, to join the OECD.

• Laurence Nayman has taken over Nanno's responsibilities as joint-editor of *The CEPII Newsletter*.

• The CEPII has joined the Global Trade Analysis Project (GTAP) consortium. The GTAP database is

now a reference in economy-wide, trade policy analysis, to which the CEPII is currently, heavily committed. By joining the consortium, the CEPII is seeking to take an active part in defining the directions and priorities of empirical research in this field. The Centre's participation has been supported financially by the National Institute for Agronomic Research (INRA) and by the French Ministry of Finance.

### FORTHCOMING

• The CEPII's annual "*L'Economie mondiale*" for 2003 will be presented 12 September at the CFCE conference. The book makes the Centre's research available to a general readership.

• A special, double issue of *Economie Internationale*, the Centre's academic journal, will be published for the 4th quarter 2002 and 1st quarter 2003, dealing with trade policies.

• The CEPII is organising a conference with the IBD in Washington, the 10-11 April 2003, on "Trade Negotiations after Doha".

# THE CEPII'S MODELS AND DATABASES

## ■ MacMaps: A Bilateral Measure for Market Access

The trade regimes of countries which participate in international trade are often discriminatory. Yet, measuring protectionism is difficult, and raises numerous problems of methodology, information and data. The MacMaps (Market Access Maps) database has been developed jointly by the CEPII and the International Trade Centre (ITC in Geneva) to measure market access by stressing two points: the quality of information and bilateral relations.

MacMaps was indeed constructed to integrate major protectionist instruments and preserve information that is as detailed as possible relating to them (*ad valorem* or specific duties, tariff quotas, prohibitions and anti-dumping rights), at the HS10 sectoral level and at a bilateral level (which takes into account all discriminatory regimes). This database results from the processing of primary data from the UNCTAD's TRAINS database, of its harmonisation with the COMTRADE database of the UN, of the processing of the AMAD database, and of the integration of national notifications to the WTO of anti-dumping procedures. MacMaps measures market access to 147 countries for 223 exporting countries, for products in the HS10 and HS8 classification. All the measures are then re-aggregated to the 6-digit level of the HS (Harmonised System) (about 5000 products), the level from which it is possible to carry out any type of geographic or sectoral aggregation, according to a procedure which minimises the bias of endogeneity, while at the same time respecting the importance of products in world trade.

Tables 1 and 2 provide a good illustration of the kind of estimates MacMaps permits. In both these sectors, the database evaluates the rate of overall protection by the importing country *vis-à-vis* each

Table 1: Trade in Cereals - Equivalent Total Tariff (in %)

Exporting country	Importing country							
	Australia	Japan	Morocco	EU	US	Brazil	Switzerland	China
Australia		20.9	18.6	20.6	1.6	7.7	61.9	89.3
Japan	0		18.6	25	1.1	7.7	85.6	89.3
Morocco	0	20.9		27.6	1.6	7.7	94.7	89.3
EU	0	20.9	18.6		1.2	7.7	67.3	89.3
US	0	20.9	18.6	20.4		7.7	43.8	89.3
Brazil	0	20.9	18.6	21.1	1.6		93.9	89.3
Switzerland	0	20.9	18.6	25.5	1.6	7.7		89.3
China	0	20.8	18.6	24.1	4.3	7.7	93.7	

Source: ITC Agreement - CEPII & UNCTAD.

Table 2: Textile Trade - Clothing - Equivalent Total Tariff (in %)

Exporting country	Importing country							
	Australia	Japan	Morocco	EU	US	Brazil	Switzerland	China
Australia		20.7	28.7	10.9	12.8	19.7	13.7	24.8
Japan	17.8		28.7	10.9	12.8	19.7	12.2	24.8
Morocco	17.8	20.7		0	12.8	19.7	5.8	24.8
EU	17.8	20.7	28.7		12.9	19.7	2.2	24.8
US	17.8	20.7	28.7	10.9		19.7	8	24.8
Brazil	17.8	20.7	28.7	6.2	13.1		5.8	24.8
Switzerland	17.8	20.7	28.7	10.9	13.1	19.7		24.8
China	17.8	20.7	28.7	31	41.3	19.7	5.2	

Source: ITC Agreement - CEPII & UNCTAD.

exporting zone. The European Union, for example, has an overall tariff of 20.6% for imports of cereals from Australia, 25% for imports from Japan etc.

Protectionism continues to be strong, including in the industrialised countries. But more striking is the fact that trade discrimination is the rule rather than the exception. The multilateralism of the World Trade Organisation, which is based on the Most-Favoured Nation clause, is not as sound as is usually believed.

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### CEPII

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