18 January 2000
Version 1.4

REPORT ON THE MEETING OF THE EXPERT GROUP ON THE WORLD ECONOMIC SITUATION AND PROSPECTS
(PROJECT LINK)

ATHENS, GREECE, NOVEMBER 1-5, 1999

Economic Assessment and Outlook Branch

Development Policy Analysis Division

Department of Economic and Social Affairs

United Nations, New York

CONTENTS

1. Introduction

The fall 1999 meeting of the Expert Group on the World Economic Situation and Prospects (Project LINK) was held at Athens, Greece, 1-5 November 1999, hosted by the Centre of Planning and Economic Research of Greece and co-sponsored by Bank of Greece, the Commercial Bank of Greece and the Bank of Attica. Some 120 participants from about 60 countries and several international organizations attended the meeting.

The agenda consisted of four main topics. 1. The world economic outlook, including the global outlook as assessed by the Economic Assessment and Outlook Branch of the United Nations Secretariat and by other international organizations and regional outlooks presented by the Secretariat, United Nations regional commissions and country participants; 2. International economic policy issues, including monetary policy targeting, labour market questions, international financial issues, monetary policy of the European Monetary Union, and policy issues related to the Asian financial crisis; 3. Topics in econometric modeling and applications, including new macroeconometric models for a number of economies and applications of econometric techniques to the analysis of specific economic questions; and 4. Special sessions on the Greek economy, from general perspectives on the economy to in-depth analyses of structural and sector issues.

The agenda, list of participants and list of documentation presented to the Expert Group are given in annexes. A summary of the main features and results of the pre-meeting LINK world economic forecasts, including detailed country forecasts, model simulations, and assessments of prospects, are given in the report on the world economic outlook prepared by the Economic Assessment and Outlook Branch of the Development Policy Analysis Division of the United Nations Secretariat.[1] Country reports and discussion papers presented at the meeting are available on websites of both the United Nations and University of Toronto (www.un.org/esa/analysis/link/ and www.chass.utoronto.ca/link/).

2. World Economic Outlook [2]

An improved outlook for world economic growth

According to the *LINK World Economic Outlook*, presented by Mr. Jozef van Brabant (United Nations), a solidifying and broadening recovery is now under way in the global economy, with an estimated increase in gross world product (GWP) of 2.6 per cent

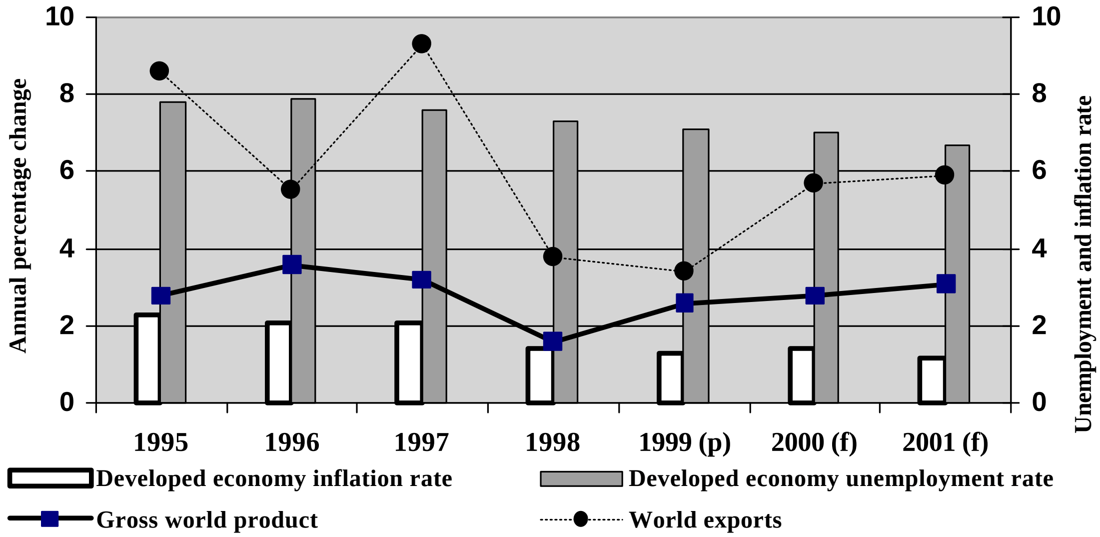
---

[1] See Economic Assessment and Outlook Branch, *World Economic Outlook*, paper presented at the Project LINK meeting (Athens, Greece, 1-5 November 1999).

[2] This assessment of world economic growth and its distribution in this report draws on papers submitted to the Expert Group and discussions at the meeting. Although quite similar at the global level in their broad outline, there are some differences at the national and region levels between assessments prepared in advance of the meeting and those give here. See below for a comparison of the pre-LINK and post-LINK assessments of world economic growth.

in 1999, up from the slow 1.8 per cent rate posted for 1998.[3] Given the current momentum for growth in the developed market economies, rising confidence in East and South Asia and a return of stability to Russia and Brazil, the forecast for GWP suggest that world economic growth will return to an annual rate of increase of about 3 per cent in 2000-2001 (see Chart 1).

Chart 1. Key World Economic Indicators, 1995-2001



As world economic activity strengthens, rising import demand is expected to lead to a rebound in the growth of international trade from the slow rate of expansion of recent years. The recovery in merchandise trade volume growth should encompass all main categories of primary commodities and manufactured goods, with the expected rise in world trade in manufactures exceeding 6 per cent in both 2000 and 2001. However, the upturn in trade is unlikely to reduce the wide external imbalances that have characterized the international accounts of many countries during the 1990s.

While inflation worldwide is expected to remain benign, the current global upturn has already had an impact on commodity prices, with posted and futures prices for crude oil and related energy products rising strongly in 1999. A rebound in prices of some industrial metals and minerals, notably aluminium, nickel and phosphate rock, has also been underway. Prices of agricultural commodities, on the other hand, have not experienced any significant recovery to date. The employment situation in many economies continues to be a major policy concern, with some improvement in developed countries but with no notable improvement in emerging economies where the international financial crisis pushed up unemployment rates considerably.

Three other sets of global forecasts reviewed at the meeting shared the same fairly optimistic assessment as the United Nations view. Mr. Dominique van der Mensbrugghe (World Bank) presented the Bank's *Global Economic Prospects and the Developing*

---

[3] All growth rates for composite groups of countries are averages of country results weighted by GDP in 1995 dollars (see annex of *World Economic and Social Survey, 1992*.

Countries, with emphasis on trends in the developing economies. Mr. Peter Richardson (OECD) presented the OECD's *International Economic* O*utlook*, focusing on issues of concern to the developed economies. In a final presentation on the global outlook, Mr. Ray Barrell (National Institute of Economic and Social Research) presented the *NIESR International Economic Outlook*, accentuating risks and policy responses in the global economy.

There was a consensus among the participants that many uncertainties and downside risks exist in the global economy. Mr. Van Brabant emphasized the large imbalances both across countries and within domestic economies, and the pattern of asynchronized growth among major regions that arose as a result of the international financial crisis. Mr. van der Mensbrugghe pointed out that recovery in Asia was still fragile as the restructuring in the corporate sector and banking system remains incomplete in many countries. Mr. Richardson highlighted the risks related to current conditions in financial markets of OECD countries, such as the high valuations in US equity markets and the appreciation of Japanese yen. In his presentation, Mr. Barrell reviewed a series of alternative scenarios based on model simulations that show how different risks, shocks and policy responses could change the outlook for the world economy.

All forecasters agreed that monetary policy in the major countries was undergoing a shift from easing to tightening, led by a rise in interest rates in the United States and other major developed economies. This shift in policy effectively reverses the global monetary easing that began in the autumn of 1998 in response to the world financial turmoil of 1997 and 1998. Now that world financial conditions have stabilized and signs of a strengthening recovery in the world economy are evident, many central banks are returning monetary policy to a more neutral stance focused on domestic conditions, with interest rates back to pre-crisis levels. Participants also stressed that the widening fiscal deficits in some economies, such as Japan and many emerging economies, caused by the financial crises would face a necessary consolidation in the years to come

Finally, there was a similar outlook for commodity prices reflected in the various global forecasts, namely, a moderate rebound in prices for non-oil commodities along with a high but stable oil price. Mr. Robert Young (University of Missouri), who presented the *Outlook for World Agricultural Markets: A FAPRI Perspective*, confirmed the view of the global forecasts of a moderate rebound in the prices of agricultural commodities. But Mr. Robert Kaufman (Boston University), who presented the *Forecast for World Oil Markets,* warned of upside risks to the forecasts for oil prices. He was of the view that there had been a reversal in market fundamentals that would call for little or no gains in non-OPEC production, a slow but steady increase in oil demand and a revitalization of OPEC as an organization. In this event, it would be possible for the prices of oil to be higher than what was implied in the LINK baseline outlook and in other global outlooks.

On a technical matter, during the discussions, it was noted by participants that the statistical residual between estimates for the total of world merchandise exports and estimates for the total of world merchandise imports, which must by definition be equal when compiled on full and consistent information, was unusually large in recent 1999 and made forecasting exercises more difficult. Historically, there has been an annual statistical discrepancy in estimates of world trade, representing an excess of reported world exports over reported world imports, of $120 billion and more. However, partly because of the large and uneven adjustments in external balances that have taken place across many countries during the past few years, this residual has become unstable, and all global forecasts for trade reflected difficulties reconciling estimates for total world exports and imports.

Comparison with the pre-meeting forecast

The global and regional outlooks presented in the pre-meeting documentation represent an interim exercise prepared by the Economic Assessment and Outlook Branch to serve as a basis for discussion and comment.[4] The forecasts are based on inputs from national LINK centres and information from other sources, and is supplemented by individual LINK country reports prepared by national LINK centres that contain additional estimates and forecasts. After the meeting, the pre-LINK forecast is updated by taking into account discussions at the meeting and other information available to the Secretariat. A comparison of the pre-meeting and post-meeting forecasts is given in Table 1.

Revisions to the forecasts for gross world product and its main region detail are quite modest and do not change the broad picture of an expected pick-up in world economic activity in 2000 centred in Western Europe, developing countries and economies in transition. In the case of the developing countries, the upturn in growth in 2000 is somewhat weaker than forecast in November, mainly due to a downward revision in the growth prospects for China to 7 per cent from 7½ per cent for the year. Other notable reassessments of the prospects for growth can be seen in the forecasts for the United States and Germany (where stronger growth is now expected) and in West Asia and Indonesia (where slower growth is now expected). Some small upward revision has also been introduced to the forecast for 2000 in the case of the economies in transition, where a stronger upturn is now expected from what is seen as a weak growth during the past year.

An emerging pattern of more balanced growth among the world's main regions

The recent upturn and gathering momentum for more rapid world economic growth has not been and is not now evenly spread over all its national economies, although from the presentations and discussions at the meeting it would appear that the emerging pattern of growth within and between major economic regions is more coincident than that of the past few years (see Table 2 and Maps 1 and 2).

[4] The main assumptions, risks and uncertainties, and features of this preliminary forecasting exercise are summarized in the report listed in footnote 1.

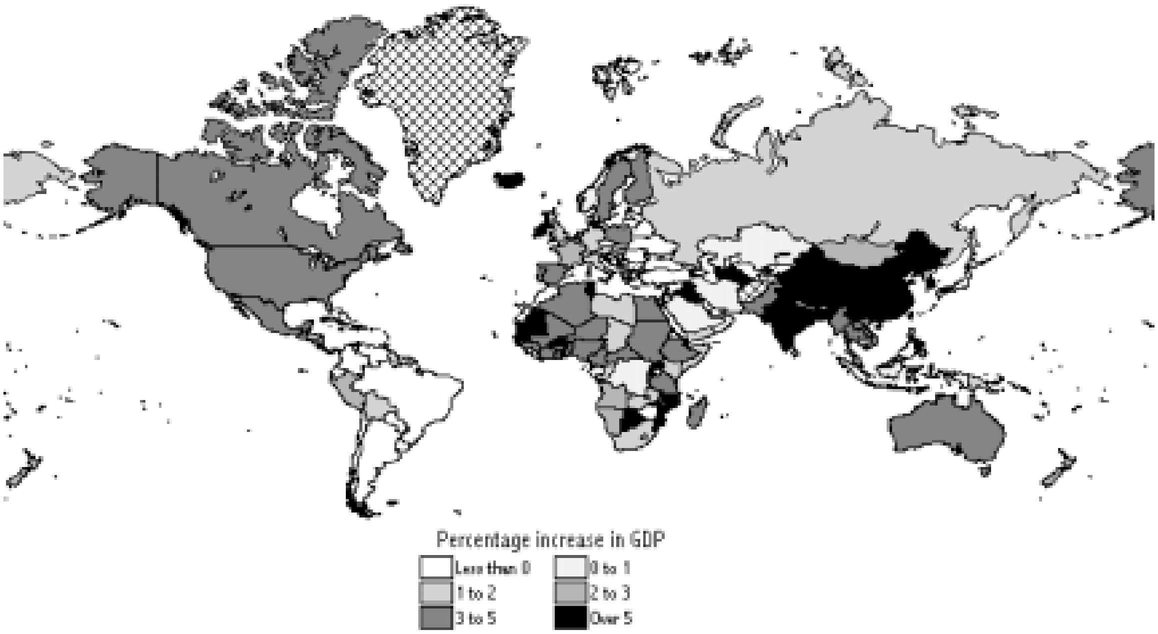
Table 1. Growth of gross world product and world trade, estimates and forecasts, 1999-2001

	Post-meeting report a			Pre-meeting report b		
	1999	2000	2001	1999	2000	2001
Gross world product	2.6	2.9	3.2	2.6	2.8	3.1
Developed market economies	2.5	2.4	2.7	2.5	2.2	2.5
Canada	3.6	2.9	3.3	3.6	2.9	3.3
France	2.3	2.8	3.0	2.4	2.9	3.0
Germany	1.7	2.8	2.1	1.7	2.4	2.1
Italy	1.1	2.0	2.6	1.1	2.0	2.6
Japan	0.8	1.0	1.7	0.9	1.0	1.7
United Kingdom	1.4	2.5	3.4	1.4	2.6	3.4
United States	3.9	2.9	2.8	3.9	2.4	2.8
Economies in transition	0.6	2.4	3.2	1.6	2.2	3.0
Developing countries	3.1	4.9	5.1	3.3	5.1	5.3
Latin America	-0.2	3.5	4.5	-0.4	3.5	4.5
Argentina	-3.6	2.9	4.4	-3.6	2.9	4.4
Brazil	0.2	3.3	5.1	-0.2	3.3	5.1
Mexico	3.5	4.9	4.4	3.5	4.9	4.4
Africa	3.0	4.4	4.5	3.0	4.4	4.5
North Africa	…	…	…	3.4	5.6	5.1
Sub-Saharan Africa (excl. South Africa)	3.8	4.9	5.1	3.2	4.4	4.6
South Africa	1.7	2.4	3.1	1.7	2.4	2.9
South and East Asia	6.0	6.1	6.1	5.1	5.6	5.6
India	6.1	6.4	6.4	6.2	6.3	6.4
Indonesia	0.5	3.4	3.9	1.3	4.1	4.6
Korea, Republic of	10.0	7.0	6.2	9.0	6.7	6.2
Malaysia	4.3	7.0	7.2	4.3	7.0	7.2
Philippines	3.4	4.9	4.2	3.4	4.9	4.2
Singapore	5.7	6.7	6.8	5.7	6.7	6.8
Taiwan Province of China	5.3	6.4	6.2	5.3	6.4	6.2
Thailand	4.1	5.1	6.2	3.8	5.1	6.2
China	7.1	7.0	6.8	7.4	7.5	7.2
West Asia	0.4	3.8	3.5	3.8	4.3	4.0
World merchandise export volume	3.4	5.9	6.1	3.4	5.7	5.9

Source: Economic Assessment and Outlook Branch of the Development Policy Analysis Division.

a January 2000.
b November 1999.

Map 1. Geographic Pattern of World Economic Growth in 1999



Map 2. Geographic Pattern of Change in World Economic Growth, 1999-2000

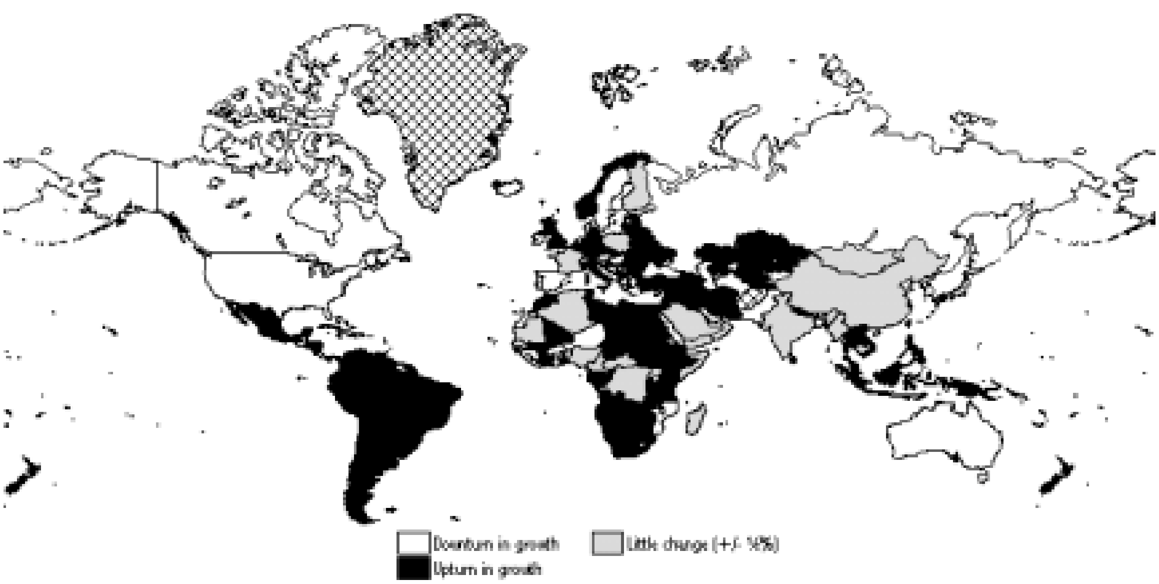


Table 2. Growth of gross world product by major economic region, actual and forecast, 1995-2001

	1995	1996	1997	1998	1999 (p)	2000 (f)	2001 (f)
World	2.8	3.6	3.5	1.8	2.6	2.9	3.1
Developed market economies	2.4	3.2	3.0	2.0	2.5	2.4	2.7
Economies in transition	-0.6	-0.1	2.2	-0.8	0.6	2.4	3.2
Developing countries	5.0	5.7	5.4	1.3	3.1	4.9	5.1

Source: Development Policy Analysis Division of the United Nations Secretariat, based on estimates from national and international sources, forecasts of Project LINK and Secretariat assessments..

Economic growth among the world's largest economies had become highly dependent on North America in recent years, especially on the United States, where output and trade have been experiencing a prolonged expansion; in contrast, growth in other developed market economies lagged, notably in western Europe and, especially, in Japan, as these countries experienced intermittent phases of expansion and slowdown. As presented by participants in Athens, a forecast slowdown in North America and Oceania and pickup in economic activity in western Europe and Japan should lead to a more even distribution of economic growth among these countries as it provides a more buoyant international economic environment supporting growth in other major economic regions during the next two years.

Output growth in the developing countries and economies in transition, which had been slow or declining in many of these countries and characterized by wide differences among them in their rate of economic expansion, also seems to have strengthened and become more balanced since the middle of 1999. The sharp downturn in the developing countries caused by the effects of the financial crisis in Asian emerging market economies, while more short-lived than initially expected, was nonetheless quite uneven in its impact on different groups of developing countries; similarly, the Russian financial crisis affected the countries of the Commonwealth of Independent States much more than those in Central and Eastern Europe. However, the anticipated recovery in these countries that emerged from presentations at the meeting reflects a strong degree of convergence of trends among these countries, except in the case of Russia, where the increase in real economic activity is expected to slow in 2000.

The turnaround and more even distribution of world economic growth expected to take place over the course of the next two years can be seen in Map 2. When the separate assessments made by the participants are combined into single portrait of world economic growth, the picture presented shows that some of the more rapidly growing areas of recent years -- North America, Oceania and China -- are forecast to moderate their current rates of expansion and some of the more slowly growing areas -- Europe, Latin America and the Caribbean, Africa, western Asia and the economies in transition -- are expected to record faster rates of economic growth. In the case of South and East Asia, where the countries of the region had been growing rapidly and recovering quickly from the effects of the financial crises, output growth is forecast to continue at a rapid rate.

Improved prospects for the developed market economies. As presented to the Expert Group, the outlook for the economically advanced countries as a group shows noticeable improvements from the preliminary assessment of their performance made at the spring meeting of the Expert Group. At that time, the prospects for GDP growth for this group were assessed to be quite modest, with output forecasted to increase less than 2 per cent during 1999 and by only 2 per cent in 2000. The current evaluation of growth prospects for these countries is more sanguine, with the aggregate GDP of these countries increasing 2½ per cent in 1999 and a revised forecast for growth in 2000 of about the same rate. It was noted at the time that the forecasts presented at the spring meeting were surrounded by a considerable degree of uncertainty because of the difficulties inherent in the ongoing process of adjustment to the financial turmoil of the period.

Several factors help account for the improved growth prospects of these countries since they were assessed earlier in the year. The upturn in growth in Japan has proven stronger than expected and the slowdown in growth that Western Europe experienced in early 1999 has turned out to be brief, if perhaps more protracted than earlier expected in Germany and Italy. The long expansion in North America has also proven to be more durable than anticipated. These considerations led the Expert Group to revise its forecasts for GDP in most developed market economies upward, with the possibilities for increases in trade and employment correspondingly enhanced.

An exception to this general improvement in the outlook for growth in these countries is the forecast for North America, where the extraordinary current pace of economic growth in this region is seen as likely to slow markedly next year and remain slow in 2001. This is particularly the case with the United States, where weak consumer demand and slowing business spending are seen in the LINK forecast as moderating growth significantly. However, the view that the eight-year economic expansion of the *United States* will undergo a considerable slowdown in 2000 and 2001 was not shared by all analysts at the meeting.

Relying on two forecasting tools, a high-frequency model of the US economy and WEFA's medium-term forecast, Professor Lawrence Klein saw no sign of a significant slowdown in the United States economy on the horizon. At its most pessimistic, the WEFA scenario suggests a short-term blip in economic activity stemming largely from concerns about the impact of the Y2K computer problem: the corporate sector and, perhaps, consumers have been building up significant inventory accumulations in the final quarter of 1999 or are advancing purchases originally intended for the first quarter of 2000. In his view, without a significant Y2K problem, there is likely to be an equally significant decumulation in early in 2000 and perhaps weaker consumer demand. Professor Klein mentioned, however, that he was not overly concerned about the Y2K problem, and did not consider it a critical issue that required the full attention of policy makers. In his view, economic growth in the United States would remain at the 2½-3 per cent a year rate, possibly until 2005 or 2006, as indicated in the WEFA forecast, with a downside possibility of a 'soft landing'.

One factor mentioned by Professor Klein that could markedly change the outlook for the United States economy is widespread disorder and fear of contagion in financial markets. Will there be turmoil in United States financial markets, how large might it be, and when might it occur? While Professor Klein did address these questions directly, and turbulence in world financial markets has abated, any recurrence, particularly in the United States where equity markets have experienced a prolonged boom, would in his view greatly change the possibilities for growth not only in the United States but for the world economy.

On the reason behind the continuing good economic performance of American economy, Professor Klein underlined the critical importance of increasing returns to scale made possible by the contribution of new technology, especially information technology, to bolstering productivity in traditional segments of low-technology sectors. He firmly believes, however, that, to use a technical explanation, production functions are non-linear, leading to a period of increasing marginal productivity followed by a period of decreasing marginal productivity, in accordance with a S-shaped functional form. Corporate mergers and acquisitions such as those that have taken place in recent decades, in his view, capture these economies of scale. But measuring this phenomenon properly has remained exceedingly difficult and complicates problems of forecasting.

Professor Klein also noted that analysts should pay attention to the re-estimation of United States national accounts data by the Commerce Department, which involves shifting the base year of the constant price data from 1992 to 1996 and the introduction of several definitional changes. He underlined, in particular, the switch that has occurred in the treatment of corporate software expenditures and the discrepancy between this and corporate accounting, which is driven by tax rules. The Commerce Department no longer treats corporate expenditures for software as a current expense or direct input into production and revenue. They are now treated as capital expenditures to be amortized over several years. Since for tax purposes the corporate sector is not necessarily following this treatment, corporate data on profitability are not necessarily comparable with those issued by the Commerce Department. There may therefore be a difference between sentiment prevailing in financial markets, which rely overwhelming on corporate disclosures, and that consistent with Commerce Department's releases.

This may affect the outlook for any downturn in United States equity markets as financial analysts rely overwhelmingly on corporate-sector releases and these fuel the formulation and dynamics of market expectations. This is not a minor matter as, for example, according to the Commerce Department data there was a slowdown in corporate profits in 1998 and slow growth in 1999. But corporate reports appear to suggest a higher growth of profits. The latter appears to have been propping up market sentiment. Should attention shift to the Commerce Department data, it could markedly change expectations in financial markets.

On *Canada*, Professor Thomas Wilson (University of Toronto) pointed out that real GDP increased at healthy annual rates of 4 per cent and 3.2 per cent, respectively, in the first and second quarters of 1999, and the country's competitiveness remains strong, higher rates of inventory accumulation indicate the Y2K effect on expenditures may be stronger than previously anticipated. While this is good news for growth in 1999, after the beginning of 2000 lower-than-normal investment spending is likely to dampen growth in the first quarter of 2000. Developments in monetary and fiscal policy should also tend to slow the economy. In this regard, Professor Wilson suggested that any uptick in the core rate of the consumer price index to the midpoint of its desirable range is likely to lead the Bank of Canada to follow any further move to tighten interest rates by the U.S. Federal Reserve.

Professor Peter Pauly (University of Toronto) presented the overview for *Western Europe*. While the current outlook is broadly in line with that reviewed at the spring LINK meeting in New York, the most recent assessment indicates that economic growth in the region's economies strengthened during 1999 as the effects of the slowdown induced by the world financial crisis dissipated. A number of positive factors are supportive of continuing growth in Western Europe, such as a low inflationary environment, a highly simulative monetary policy and the increased competitiveness of the euro. For Western Europe as a whole, GDP is expected to increase by 2 per cent in 1999, and then expand at a faster pace of over 2½ per cent in the next two years.

With regard to developments in individual country, Professor Pauly pointed out that growth has been weaker in *Germany* and stronger in the *United Kingdom* than previously expected; in both countries, growth should be stronger in 2000 and 2001 than it was in 1999. The consensus view is that Europe is now at the beginning of a broad-based period of stronger growth associated with the early part of its business cycle, with output expected to increase at an annual rate in the 2½ - 3 per cent range. Professor Pauly questioned whether this upturn was a de-coupling of growth cycles, as the United States was in the middle of a late-term cycle. Minimal inflation risks were forecast for Europe with the harmonized index of consumer prices currently rising at a rate of 1½ per cent and ample slack in the labour market limiting wage pressures.

In terms of the prospects for growth in other large European countries, the outlook for *France* and *Italy* also foresees an upturn in growth, with exports picking up, especially to the rest of Western Europe. Growth should rise throughout much of the euro area where increases in demand are likely to support higher levels of economic activity in many countries. One exception is the smaller rapidly growing countries of *Ireland* and *Spain,* where the pace of increase in output has been very high but is likely to moderate as these countries begin to experience capacity constraints. Unemployment has varied significantly within Europe, with some countries in the 3-5 per cent range but many others above 9 per cent of the labour force. It has become clear that the cyclical element in European unemployment is less important than the structural. Spain, Professor Pauly pointed out, is one country that has made considerable progress in reducing unemployment, but it still remains high. Over the forecast horizon, rates of inflation stay in the 2-2½ per cent range for all countries, but the individual country assessments show a fair amount of variability, with Ireland at the high end and Spain, once again, making progress in this area.

The policy assumptions behind this sanguine outlook for Europe include a tightening of interest rates at the end of 1999, with a cumulative increase of about 100 basis points by the end of 2000. Some appreciation of the euro has also been assumed. And with a more simulative fiscal policy expected in some countries, the forecast assumes a change in the current mix of fiscal and monetary policies pursued by some countries in Europe.

In the medium term, deregulation and cost and price harmonization promoted by Economic and Monetary Union (EMU) should lead to increasing productivity. In addition, there were many forces, such as the EMU and the aging of populations, that were encouraging increasing competitivity among these countries, so that structural rigidities in the economy were loosening. In many areas, the private sector was far ahead of the public sector and the question was whether the public sector could follow through with a number of important changes in public policy, including tax reforms, benefits reforms, and labour market reforms.

Finally, he noted that there was a great deal of uncertainty in intra-European trade. Looking at the bilateral trade between France and Germany, there was a 20 per cent difference between measured exports from France to Germany as compared to measured imports of Germany from France.

In the general discussion on Europe, Mr. Adrian Cooper (Oxford Economic Forecasting) noted that in the United Kingdom there had been a change in sentiment regarding the prospects for growth. It had been thought that there would be a recession, but instead the economy bounced back strongly during the first half of the year. Short-term interest rates coming down from 7½ to 5 per cent boosted the housing market, which supported strong consumption growth. Growth was further boosted by the rebound in world demand. Of particular surprise was that unemployment went down, despite the stall in growth in the fourth quarter of 1998. But the performance of productivity had been poor. However, low unemployment, still low rates of interest and increased borrowing from mortgage finance meant that strong consumption was expected to continue. So an acceleration of GDP growth was foreseen over the medium-term. At the same time, there were some worries on the inflation front, particularly from wage growth, helping to explain the recent rise in short-term rates. This had the unwanted side effect, however, of leading to continuing strength in sterling, which has been a major drag on manufacturing production, as well as making it more difficult for the EMU convergence process. It was suggested that fiscal policy would be a better tool at this juncture, but politically difficult to do.

Mr. Barrell commented on some key issues in the European outlook. Of some concern was that growth in Germany and Italy continued to be very slow, as these two countries had been particularly vulnerable to the Asian crisis. Second, there was still no major concern for inflation despite accelerating EU growth. There were some worries in Denmark, Ireland, the Netherlands and Spain, but no worries about overall EU inflation. Why was there such dispersion in inflation rates? One reason was that countries catching up to euro-zone average levels of productivity should experience higher inflation because of changes in relative prices. Also, if a country entered with an undervalued real exchange rate, such as Spain, inflation would be higher than average until convergence to its equilibrium rate, while a country such as Germany, which had entered overvalued, would have to experience a period of lower than average inflation for convergence. In some countries, excess demand was a problem, particularly in Ireland, but since it was a small country, it wouldn't affect aggregate euro-zone inflation. Finally, on fiscal policy, he said that Germany and France should tighten fiscal policy because of their high budget deficits and noted that it was ironic that Denmark, Sweden, and the United Kingdom, which were not part of the euro-zone, were all running budget surpluses.

Carlo d'Adda (University of Bologna) attributed the low rates of growth in Italy to the severe contraction of fiscal policy, with both cuts in government expenditure and increases in taxes, and expected this to have lasting consequences. In addition, labour-market reform in this view would take a long time and, together with high labor costs, meant that investment in the Italian economy would continue to be low and/or it would go elsewhere.

The discussion of the economy of *Japan* was introduced by Professor Kanemi Ban (Osaka University). The country is now enduring its worst recession in 50 years, with output growth faltering and unemployment rising. Output started to decline in the second quarter of 1997 in response to lower private domestic demand, and the slowdown worsened as the Asian financial crisis and turbulence in the domestic financial system adversely affected household sentiment and business conditions. As a consequence, GDP fell 2.8 per cent in 1998. Following five consecutive quarters of decline, however, output rose at an annual rate of 8 per cent in the first quarter of 1999 and a small increase in GDP was also recorded in the second quarter. Professor Ban pointed out that the recovery in demand of the first half of 1999 was due to special circumstances (imputed housing costs and strong sales of small-sized motor vehicles because of temporary tax reasons), and expected a small contraction in real economic activity during the second half, yielding at best a very modest increase in GDP of less than a percentage point for the year as a whole. In his forecast, there is some slight growth in 2000 and somewhat stronger growth in 2001 but income and employment remain weak.

In his presentation, Professor Ban also emphasized that large increases in base money have apparently not raised the broader money supply basically because the demand for loans by the corporate sector has remained tepid. There are several reasons for this, including high real interest rates because of the deflationary environment and an incomplete restructuring of the banking sector, which complicates the process of corporate borrowing. In this situation, base money was injected into public-sector activities as the private sector remained very risk averse. When asked why the Bank of Japan cannot bring down high real interest rates Professor Ban answered simply because the Bank does not fully control inflation -- the Bank has already lowered the nominal rates of interest to zero.

In the case of the two major economies of Oceania, Australia and New Zealand, economic activity in 1999 was in very different phases of their respective economic cycles. While Australia sustained above-trend growth in the first half of 1999, New Zealand, which had been recovering from a short-lived recession in the first half of 1998. However, the economy of Australia is expected to slow significantly in 2001, when the stimulus effects related to the Olympics fade, while the recovery in New Zealand is expected to continue.

Mixed prospects for the economies in transition. The economies in transition performed poorly and very unevenly in 1999. The increase in the aggregate GDP of the region taken as a whole was less than 1½ per cent for the year, although this rate was far better than the contraction recorded the previous year and a few countries continued to grow at rates in excess of 3½ per cent. Forecasts presented to the Expert Group indicate that growth in 2000-2001 should be in the range of 2 to 3 per cent, but the dispersion in rates among these countries is likely to remain marked. Notably, the Russian economy has grown faster in 1999 than the average for the group but the rate of GDP growth is forecast to slow in 2000. Performance in the Baltics and in other members of the CIS in 1999 was affected by the 1998 financial crisis in Russia, and these areas will continue to remain highly affected by developments in that country. The Baltic countries and some members of the CIS, however, appear to be recovering with good prospects for the near term. The economic outlook for Central and Eastern Europe is mixed, with 3 to 4 per cent growth in 2000-2001 for the group, with Hungary and Poland leading.

Professor W. Welfe (University of Lodz) commented on the growth slowdown in Central and Eastern Europe in 1998 and 1999. In his view, there was a question whether this was due to Russia and the slowdown in the European Union, or whether it was due to the restrictive fiscal and monetary policies in place in these countries that restrained demand. With external demand increasing but domestic policies still restrictive, economic growth in the region could still be restrained, particularly in the Czech Republic and Slovakia. In contrast, in Poland domestic demand was stronger and policy less restrictive so that growth was expected to be higher.

Better prospects for the developing countries. The economic outlook for the developing countries shows noticeable improvements. The aggregate gross product of all these economies taken together is estimated to have increased about 3 per cent in 1999, a significant improvement on the depressed 1.3 per cent increase recorded for 1998 and considerably above the forecast prepared in May 1999. More encouragingly, an upturn to a pace of growth on the order of 5 per cent is forecast for 2000-2001, marking a return to the high average rates of expansion recorded by the developing countries in the early and mid-1990s.

In his review of prospects for Latin America and the Caribbean, Mr. Pedro Sainz (ECLAC) presented a cautious outlook for the region. While the LINK World Economic Outlook forecast indicates an economic growth rate of 3½ per cent in 2000 for the region, ECLAC presented a forecast of only 2.9 per cent, similar to the forecast of 2.7-2.9 per cent prepared by the World Bank. He noted, however, that ECLAC was considering an upward revision of its forecast.

Two extreme examples of policy response to the international financial crises were also highlighted. On the one hand, Mexico has not defended its currency since the Tequila crisis of 1995. The Mexican peso was allowed to float, even at high social cost, and the economy has grown. On the other hand, Argentina and Chile defended their currency. The recessions in these countries were severe, although inflation has remained under control. There were also debates about whether the costs of adjustment have been too high. In Chile, in spite of the crisis, the Government has been very reluctant to use fiscal policy to reactivate the economy, and it was not until September that a relatively small package introduced.

Perspectives for the region are mixed. First, many commodity markets remain depressed and only a moderate improvement in prices is expected in 2000. Second, access to capital flows remains constrained. Moreover, at the end of 1999 and in 2000 maturing bonds and will have to be refinanced, but interest rate spreads for Latin America are very high and private banks are reluctant to extend credit. Finally, in many countries the process of privatization has reached its limits and can make only a limited contribution to financing fiscal and foreign deficits. On the other hand, despite these concerns, output growth in most countries is forecast to rise during the course of the next two years.

Contrasting with the general situation, Alfredo Coutino from CIEMEX-WEFA remarked that Mexico could have grown over the estimated 3.5 per cent in 1999 if the economic policy had not been restrictive and announced positive perspectives for 2000. In the case of Argentina, Alfredo Calcagno from ECLAC signaled the peculiarity of its currency board and the current discussion in Argentina about the exchange-rate policy in a context of low growth and high unemployment and decreased competitiveness within the Mercosur after the Brazilian devaluation. Regarding the situation of a floating Brazilian real and a fixed Argentine peso within the Mercosur, Eustaquio Reis from IPEA advocated the flotation of both currencies. He also mentioned the need to reform Social Security in Brazil as a requirement for fiscal consolidation, which is essential to sustain the economic recovery. Cristina Rodriguez from METROECONOMICA forecast growth of 2-3 per cent in 2000 for Venezuela, although some distortions persist such as overvaluation of the exchange rate and problems in the banking system. Finally, Maria Angelica Arbelaez from FEDESARROLLO stressed the fiscal deficit as the main problem affecting the Colombian economy. However, she said that the agreement with the IMF is likely to facilitate the implementation of some structural reforms that will help to reduce it.

In its review of prospects for Asia, Mr. J. Malcolm Dowling (University of Melbourne) informed the Expert Group that his forecasts about the region were a bit lower than the LINK baseline. But he did share the optimistic outlook of LINK. Indeed, he pointed out that Asia's recovery was faster than anticipated. What factors caused the dramatic downturn of the recent past? Although, exports did fall, in his view, it could not fully explain the decline in economic activities. Rather, the general downturn was a result of a combination of the withdrawal of short-term lenders, the collapse in the exchange rate, and bankruptcies caused by the burden of unhedged foreign debt. Despite the on-going recovery, there are significant downside risks. Unemployment is still high and domestic demand remains weak. Why has the recovery come so fast? Among other reasons, Mr. Dowling cites the shifts from tight to more relaxed monetary policies (except in Taiwan Province, which did not tighten monetary policy), a gradual relaxation of fiscal restraints, which started in 1998 and continued into 1999, and a strong recovery in exports. With the exception of India, current-account balances shifted to surpluses in most countries in 1999 -- even though there was a revival in import demand, which had collapsed in 1998. Inflation has declined in all countries in 1999; but India, Indonesia and the Philippines are expected to experience inflation at more than 5.0 per cent.

Mr. Jean Thisen (ECA) described economic performance in Africa in 1998-1999 and the outlook for 2000. He stated that the region's increase in GDP in 1998 has been revised by ECA down to 2.7 per cent from the previously estimated 3.3 per cent. This estimate is closer to the estimate of 2.5 per cent by DESA reported at the spring LINK meeting. The weak growth in 1998 reflected partly the Asian financial crisis that affected some African countries, mostly South Africa – the region's largest economy. Growth is likely to have decelerated to 2.5 per cent in 1999, implying a fall in per capita income as the region's population growth has been estimated at 2.6 per cent per annum. But, in the view of ECA, economic growth may well accelerate to 4.5 for the year 2000, significantly higher than the increase in population. Thus, Africa may end the century with a rate of per capita income growth of about 2 per cent. Despite this brighter outlook, the challenge faced by African policy makers remains economic diversification and poverty. Improvements in the agricultural and service sectors have been the major sources of growth, but there has yet to be a spillover effect into manufacturing and other sectors. The extent to which sustained growth may be attained varies from one country to another, depending on its domestic policy stance. Many African countries are expected to reap benefits from fiscal consolidation, reduced inflation rates, the adoption of more realistic exchange rates, and greater private-sector participation in their economies.

Economic diversification is a challenge that still must be addressed if rates of output growth that yield sustained increases in per capita incomes are to be attained in many countries. According to the ECA, sustained growth rates above 7 per cent per year are needed in order to make significant gains in arresting and reversing the spread of poverty. It is estimated that 44 per cent of Africans and 51 per cent of those in sub-Saharan Africa now live in abject poverty. Accelerating economic growth to this rate or even higher is achievable, as a number of countries have already demonstrated, but will require deeper reforms in order to bolster investment rates and productivity.

Studies of Current Policy Issues

Several sessions at the meeting were devoted to a variety of issues affecting policy development in many countries, such as monetary targeting and labour markets, and the international economic and financial environment. In addition, a special session was held on perspectives on the Greek economy, which focused on recent developments and policy issues with their implications for the prospects for Greece.

Targets for monetary policy

Mr. Gunnar Bardsen (Norges Bank) introduced a paper entitled "Econometric Inflation Targeting”. Given the significant lag between policy changes and their effect on target variables, inflation targeting of necessity has meant targeting the conditional inflation forecast. To do this, a central bank needs to know the transmission mechanism from policy instruments and economic shocks to inflation. A model of the inflation process in Norway was developed consisting of a core conditional model of the wage-price mechanism. This model was then embedded in a larger model, containing marginal sub-models for the conditioning variables designed to capture the key aspects of the transmission mechanism. The wage-price model is based on the theory of conflicting claims and contains all important sources of shocks to the inflation process, including those originating from domestic demand and supply, foreign inflation, exchange rates and tax changes. The econometric validity of this conditional model depends crucially on exogeneity assumptions, which were tested and accepted. The forecasting ability of the full model was assessed and a simulation performed, finding that short-term interest rates could permanently affect the rate of inflation in the economy.

A second paper on the benefits of central bank transparency, entitled "Managing Monetary Policy Under Uncertainty: The Value of Publishing Official Central Bank Forecasts”, was presented by Mr. David Mayes (Bank of Finland). Historically, central banks have resisted publishing their internal forecasts and few do, with the exception of Finland and New Zealand. Typical reasons given as to why central banks do not publish their forecasts are that the forecasts were always wrong, the conditionality assumptions under which they were prepared would be ignored, they were based on private information that couldn’t be published and publication would limit discretion and reduce clarity. By clarity was meant the conveyance of a clear and simple message (which may be contrasted with transparency, where the central bank explains exactly what it is doing and why). Finally, there is the issue of history: publication simply was not done in the past so it should not be done now.

But there were also good reasons why central banks should publish their forecasts. It would reduce the uncertainty surrounding what the bank was trying to accomplish and would help with policy coordination. Also, it added to credibility, reducing the cost of policy implementation while increasing accountability, by making it clear what the bank was trying to do and what it expected to happen. Finally, it would encourage consistent reasoning among analysts and commentators. The types of information that could be revealed include a full forecast or at least forecasts for some key variables, scenarios of what might happen under different policy measures, and so-called fan charts that assign probabilities to possible scenario outcomes.

Uncertainty about the current state of the economy, how it responds to shocks and policy changes, and about the probability distribution of future shocks was a key fear preventing the publication of forecasts. To examine some aspects of this uncertainty, a simple three-period model was presented that allowed the central bank and private agents to hold expectations about the future that might not coincide, necessitating that the central bank form expectations about private-sector expectations when deciding about policy. Errors in these expectations could cause fluctuations in output. However, the private sector could optimally adjust if it knew what these errors were, even without knowledge of the shocks to the system. The benefit of a transparent policy were then seen to be the reduction in the variance of output resulting from allowing the private sector to predict monetary policy to the best extent possible. Using the same model, it was found that revealing the conditional forecast of the target variable, conditional on policy being set to achieve the target, was superior to revealing the forecast of the target variable conditional on unchanged policy.

Labour market issues

Mr. Hans Timmer (Central Planning Bureau, The Hague) summarized results of a study by a team of researchers at the Central Planning Bureau on the Dutch labour market. The study tried to explain the good performance of the economy in terms of job creation and the reduction of unemployment. He explained the causes of the so-called 'Dutch miracle' (the exceptional employment performance of the Dutch economy) and discussed its implications for the modeling of labour markets. Mr. Timmer concluded that macroeconomics is still important in analysing the labour market and that flexibility in this market is broader than just wage flexibility. Replying to a question, Mr. Timmer argued that macroeconomic policy had been restrictive in Netherlands and not quite supportive of growth and employment, but it helped to turn a vicious circle into a virtuous one. In addition, social benefits were reduced considerably for many people, especially youth, but there was a general sentiment that some further steps had to be taken in the Netherlands to reduce the rate of unemployment.

Mr. Loic Cadiou (CEPII) presented a paper to the Expert Group, "Labour market institutions in Europe and the transmission mechanism", which analysed the possibility of national macroeconomic adjustments through the specific labour markets within the European Union (EU) in the context of the functioning of the Economic and Monetary Union (EMU). In this paper, wage and employment equations in a bargaining model are estimated for the countries with available data for the 1990s. Simulations are run to highlight the responses of EU countries to economic shocks, both symmetric (affecting all countries) and asymmetric (affecting only one country). The results suggest that EU countries show very low wage flexibility and that economic agents will adapt to the EMU environment but within an institutional labour framework that is still country-specific. As a policy implication, the paper concludes that in the case of symmetric demand shocks, the efficiency of a common policy is not diminished by labour diversity and therefore a common policy is relevant for EU countries. Additionally, the paper is supportive of national fiscal policies because EU labour markets are too rigid to make up for the loss of the national adjustment mechanism of exchange-rate movements caused by the creation of the EMU.

International financial issues

A paper by Messrs. Peter Richardson, Ignazio Visco and Claude-Giorno (OECD), " Predicting the evolution and effects of the Asia crisis from the OECD perspective", was presented to the Expert Group during the session on international financial issues. The paper examines a transmission mechanism that might explain how OECD countries were affected by the Asian crisis. In the mechanism, the direct trade-related effects on countries outside five Asian countries affected by the crisis were expected to operate through four main channels: 1) a collapse in domestic demand in the crisis countries and a general weakness elsewhere in the region, reflected in sharp reductions in import demand within the region and slower export market growth for countries outside it; 2) exchange rate depreciations in most economies in emerging Asia, affecting price and cost competitiveness vis-à-vis other economies; 3) depressed levels of domestic economic activity, possibly encouraging business in emerging Asia to give higher priority to exporting than cost and price considerations alone might justify; and 4) weak oil and primary commodity prices, reducing incomes of important oil or commodity-exporting countries, but also improving the terms of trade faced by the major OECD countries.

The authors gave a brief summary of their findings. First, the initial underestimation of the scale of the crisis and its effects on the rest of the world economy reflected in good part a lack of recognition of the importance of international capital flows, as opposed to trade flows. Second, substantial credit-market inefficiencies, both in the affected Asia region and in Japan, played an important role in amplifying the effects of the initial financial shocks on the real side of the economy. Third, confidence effects in financial markets interacted with major balance-sheet adjustments of institutional investors, leading to the international transmission of contagion, and therefore necessitating monetary-policy responses in countries far from the main crisis countries themselves.

Monetary issues in the Economic and Monetary Union

Mr. Leonidas Zarangas (KEPE) presented a paper entitled, "Measuring Core Inflation", where he looked at the concept of core inflation and how it can be estimated. Indices of core inflation attempt to measure the underlying trend in prices by removing those items most subject volatile fluctuations in their prices, such as those for oil and other primary commodities. The first group of techniques he examined could be labeled *ad hoc* adjustments. These include assigning zero weights to transitory components or identifying problem series, for example, excluding food and energy. Another in this class was adjusting price changes for shocks, such as changes in direct taxes and subsidies. Finally, the use of statistical methods, such as smoothing, seasonal averaging, functional forms such as ARIMA or filters such as the Hodrick Prescott or Band Pass filter, was discussed. The disadvantages of this class of techniques were noted.

Another possible approach was to make more use of economic theory. Here, estimating a structural vector autoregression (SVAR) model was suggested. Core inflation could then be defined as that component of inflation that did not affect output in the long run, which would lead to restrictions on the coefficients of the SVAR. Mr. Zarangas then compared these various approaches using inflation data for the Greek economy, finding that the estimates of core inflation differed in both volatility and strength.

Ms. Amina Lahreche-Revil (CEPII), presented a paper entitled, "Pegging the CEEC's to the Euro", in which the exchange-rate strategy of Central and Eastern European countries (CEECs) was discussed. The origin of the topic was the debate on the role of the euro in the international arena. Like any currency, the euro could serve as a means of payment, a store of value, and a unit of account. This last function had been neglected in the literature and was the focus of the present study. The implications were that the euro could be used as monetary anchor for some countries, which would be a boost for the euro. Reserves would be held in euros, intervention would be in euros, its use as a vehicle currency would increase, and agents would use euros for private transactions.

One question was whether the euro could be an anchor currency. A natural place to start was Central and Eastern Europe, with the question of whether there were incentives. Currently, a number of exchange rate regimes were in use in the CEECs, managed floating, crawling pegs, and currency boards. Two approaches were examined. The first used the theory of an Optimal Currency Area (OCA) to assess the conditions under which the euro would be an optimal anchor currency. The conditions were that most shocks to real output were symmetric with respect to the potential anchor country, foreign trade represented a large share of GDP for the home country, bilateral trade between the two countries was important, and, finally, that asymmetric shocks could be adjusted to by factor mobility, real flexibility, and/or fiscal federalism. Using a methodology similar to that of Baiyoumi and Eichengreen, a cross-country estimation was performed. This related the variance of the bilateral exchange rates against each of the three potential anchor currencies (the US dollar, the DM, and the yen) to the asymmetry of the business cycle with respect to these three countries, to the share of intra-industry trade in bilateral trade with each anchor area, and to the relative size of each country with respect to the anchor area. It was found that from an OCA point of view these currencies were relatively too stable to the US dollar and, in fact, should have had a more stable relationship to the euro. The second approach proposed a theoretical model for the choice of an optimal real basket peg when the exchange rate policy focused on the external balance, and again showed that the euro should be prominent in the basket.

In this session, Professor Pauly presented a paper entitled "Monetary Policy Targets in EMU – Review/Assessment of the System", where he discussed the basic principles of monetary policy and the experiences of the last few months within the euro zone. The European Central Bank (ECB) had declared that it was following a twin pillar policy. First, a prominent role was to be given to money, and, second, a broadly based outlook for price developments was to be monitored together with the risks to price stability. This could be viewed as some kind of weak monetary targeting or at least an explicit rejection of strict monetary targeting.

In looking at the literature of the European Monetary Institute, the pre-cursor to the ECB, some of the thinking that must have gone into the design of the system could be seen. Exchange-rate targeting was rejected because it could be inconsistent with the inflation goal. Nominal-income targeting was rejected as being too far from the instrument, leaving only two possibilities, money or inflation targeting and the question of strict versus flexible targeting. Using a central bank loss function, these various possibilities were described. One advantage of inflation targeting was that it allowed a central bank's rhetoric to be consistent with policy. Professor Pauly also noted that the output gap was still important because it was an important determinant of inflation. Strict monetary targeting had problems. While money was an important direct determinant of prices, it also affected other things that, in turn, affected prices. In the long run, money and inflation were highly correlated but in the short run the correlation was low. It was currently hard to assess this relationship for the euro area. There were not enough data for the post-EMU period, while the pre-EMU period was a different regime.

In concluding, Professor Pauly noted that the euro system was a hybrid policy with some flexibility. It gave prominence to a monetary indicator but also looked at inflation expectations. However the latter was not defined or published. There was some theoretical structure underlying the official policy. This policy was implemented with a strategy of some ambiguity that left room for discretion. Bt being vague, some of the potential gains from this strategy could be lost. Finally, he speculated that the reason for this choice of policy strategy was an attempt to inherit the credibility of the Bundesbank by mimicking its official policy.

Studies of the Asian financial crisis

In the session on the Asian financial crisis, Mr. Muthi Samudram (Institute Loyal ITA) reported to the Expert Group a paper on "Capital controls and their effect on the Malaysian economy". The liberalization of the Asian financial markets had attracted substantial capital flows into Asia. However, in his view, the policy responses to these financial inflows were inadequate and caused the crisis. The inability to manage the excessive inflows of capital, weaknesses in the banking regulations, over-investment in speculative real property and external borrowing without concomitant risk management of the debt were problems identified as the probable causes of the crisis.

The crisis that started in Thailand in 1997 spread throughout South-east Asia and Malaysia was affected as well. Prior to the crisis, economic fundamentals in Malaysia were thought to be sound, and there was strong economic growth, stability in prices and financial markets, a high saving rate, and significant inflows of foreign direct investment. But the crisis exposed the weakness of recent macroeconomic policy, where attention was focused more on the infrastructure-related construction sector than on sectors such as the agriculture and manufacturing. With a heavy reliance on imports, these policies led to higher current account deficits and increases in external debt. Responding to the crisis, some policy changes were adopted. The government shifted the fiscal policy stance from restraint to expansion to revive the economy. Domestic interest rates were lowered and a differential emerged between on-shore and off-shore ringgit interest rates, creating incentives for continued capital outflows and downward pressures on the currency. With the imposition of selective capital controls and pegging the domestic currency to the U.S. dollar, monetary policy was directed towards management of interest rates.

Unlike most previous studies, one by Messrs. Dongchul Cho and Kiseok Hong (KDI), "The Asian Currency Crisis: Domestic Fundamentals and International Linkages", focused on identified general causes of a currency crisis using a comprehensive data set of about 100 developing countries. The main empirical findings of their paper suggest the followings: First, currency crises tend to pass contagiously across countries (existence of contagion) with the consequence that a currency crisis in one country increases the probability of a crisis in another. Second, contagion of currency crises mainly takes place among geographically close countries (channels of contagion). Rather surprisingly, economic linkages such as international trade and international finance have little relevance once geographical proximity is taken into account. This finding is robust to various sensitivity tests. Third, international contagion has been particularly important for the Asian currency crisis. For most Asian countries, domestic fundamentals were relatively sound prior to crisis. Once contagion effects are taken into account, however, the probability of a crisis increases substantially for Asian Countries. These results lend support to the view that international cooperation is critical for prevention of future crises.

Special topics on the Greek economy

Mr. Nicholas Garganas, Deputy Governor of the Bank of Greece, reviewed recent economic developments and economic policies in Greece. He stated that although the Maastricht targets for acceptance into the EMU are being met satisfactorily, unemployment is high and more progress has to be achieved in controlling inflation.

Mr. Stavros Thomadakis (Capital Markets Commission of Greece) explained the rapid growth in terms of number of enterprises, capitalization and daily volume of transactions of the capital markets due to financial liberalization and the good perspectives for the Greek economy. He also reviewed all the improvements implemented in financial supervision, especially since 1998, and the major innovations in Greek capital markets.

Following the presentations, the discussion focussed on the Greek economic situation and the challenges posed by its future entrance in the EMU. Mr. Garganas explained that after the drachma entered the Exchange Rate Mechanism of the EU, there have been capital inflows attracted by the good prospects and fundamentals of the Greek economy. The entrance of capital obliged the Bank of Greece to intervene in the monetary market to absorb the high degree of liquidity and make the monetary supply consistent with its inflation target. He rejected the possibility of severe disturbances in the exchange rate market on the way towards the accession to the EMU in January 2001. Mr. Garganas also announced the will of the Government to proceed with privatization and to continue with a strong public investment programme.

Econometric Modeling and Applications

Fall meetings of the Expert Group focus, in addition to the world economic outlook and current policy issues, on problems of econometric modelling and applications, including new models in the LINK System.

Macroeconometric modeling

Ms. Stella Balfoussias (Center of Planning and Economic Research) presented the supply block of the macroeconomic KEPE model – cost model for non-agricultural, non-public sector of the Greek economy. The model utilizes a short-run extension of the Generalized Leontief function, which incorporates effects of quasi-fixed inputs and allows for the investigation of the role of external factors in the efficiency of production over time. This choice of production structure is driven by the particular attention paid to certain features of the business sector production performance. Particularly, the study investigates the magnitude of returns from external knowledge (education and human capital) and from investment in public infrastructure.

Empirical implementation of the model was carried out on data for 1960-1997. Results show that the short-run fixity of inputs has important implications for estimated demand elasticities and productivity measures. The explicit derivation of capacity utilization input provides a strong link between the supply block and the demand side of the macroeconomic model. The model also provides a framework for the specification of investment decisions on the basis of calculated desired level of capital.

Professor Stephen Hall (Imperial College) and Mr. Nicos Zonzilos (Bank of Greece), in a paper titled “The determination of wage and price inflation in Greece: an application of modern cointegration techniques”, applied recent developments in the field of multivariate cointegrated systems to investigate driving forces of wage and price inflation in Greece over the last 20 years, a period when substantial progress was achieved in controlling inflation. The model uses a unit root system with a near homogenous price system, so that shocks and policy changes can have a lasting effect on the levels of the system and thus show long-term effects.

According to the study, most of the reduction in inflation is due to the effect of a 1986 price restraint period, which successfully achieved lasting reduction in the level of real wages. In 1986, price inflation in Greece was about 24 per cent but was reduced to about 5 per cent in 1997. A conclusion of the paper is that the macroeconomic policy in Greece has been one of the forces driving inflation, and it is possible to separate successful regime periods and unsuccessful ones.

Mr. Nicos Christodoulakis (Ministry of Economics and Finance) and Professor S. Kalyvitis (University of Cypros) reported on their work with a four-sector macroeconomic model for Greece and its use in evaluating the effect that the Community Support Framework (CSF) of EU on the Greek economy. This framework addresses some main problems of the economy, namely, inadequate capital formation, insufficient training of labour force and a lack of infrastructure. The impact of the CSF is assessed by preparing projections of main economic variables over the period to 2010 and then comparing these projections with a benchmark case of no CSF funds. In the absence of structural intervention, the economy would be characterized by low growth rates over the next years and diverge from the rest of EU. The authors of the study argued that CSF flows cause a rise both in aggregate demand (through public expenditure and personal income) and domestic supply through supply-side externalities (due to improved infrastructure, increased capital formation, and labour training). At the same time, CSF funds produce only a temporary rise in output in the absence of externalities, and only if externalities persist, productivity and exporting capacity improve significantly and total output with CSF in 2010 will be 6.1 per cent higher than benchmark forecast.

The policy implication from the study is that authorities must reach maximum possible efficiency in allocation and implementation of the Plan, implement infrastructure projects in conjunction with domestic policies to achieve supplementation rather than duplication, and implement soft infrastructure actions that concentrate on activities attracting substantial demand from the production and service sector.

Other econometric techniques and applications

Messrs. Gyorgy Barabas (RWI Institute) and Ulrich Heilemann (RWI Institute) summarized a paper analysing the relationship between forecasting performance and sample length of the stochastic equations of a medium-sized macroeconomic model. The study was conducted mainly using single equations. They point out that the selection of sample size and period is vital to econometric modeling, as these factors affect the model's specification, behaviour and performance; however, the problem has not been discussed in detail, as mainly the sample size requirements of various estimators are described in the literature.

In general, the results of their study confirm the use of uniform window size of estimation, and the outcome of the study therefore supports use of a uniform, medium sample period length. Shortcoming of the study is that it concentrates on forecast stability and ignores all other aspects of the stability problem.

Mr. Gandaghar Dharba (IGIDR) considered the presence of threshold autoregression type non-linear adjustments in exchange rates generated by impediments to free international arbitrage in commodity trading. He presented a study of real exchange rates that utilizes a modeling framework that combines the explicit modeling of threshold autoregression type non-linearities and unit root type non-stationarity. This methodology was applied across various countries and for various commodity groups.

Main findings are: real exchange rates are better characterized by a threshold autoregression type non-linear stochastic process that is strongly mean reverting, as against a linear unit root process; the degree of mean reversion in deviations from purchasing power parity (PPP) is significantly different across thresholds; and the finding of large deviations converging faster than small deviations is more pronounced for relatively tradable commodity groups. The paper points out that neglect of non-linearities in the studies of long-run properties of real exchange rates is an important reason why many studies found that the latter contain unit roots and there are long-run deviations from PPP.

Mr. Pingfan Hong (United Nations) described to the Group consumption functions used in the LINK system. Most of the consumption demand functions in LINK are modeled according to the general framework of life cycle and permanent income hypotheses. The diversity of the functions is due to particular country features and data limitations; at the same time, there are difficulties in reconciling ‘micro foundations’ and aggregate data. Most models, however, follow a mixture of life cycle and permanent income frameworks, reflecting the importance of both the current- and permanent-income effects on consumption, as well as on interest rates, with their implications for intertemporal substitution and wealth. He pointed out that more recent studies that have focused on applying an Euler equation framework to microdata by using a numerical solution method can provide useful hints for macro modellers.

Professor R. Mariano (University of Pennsylvania) made a presentation to the Group on “Markov Switches in Crisis Prediction Models”. His presentation was based on two separate studies, “Predictive models of Economic and Financial Crises” by R. Mariano, B. Gultekin, S. Ozmucur and T. Shabbir (all from University of Pennsylvania) and “Early Warning Systems for Currency Crises: A Markov Switching Approach with Application to Southeast Asai”, by A. Abiad (University of Pennsylvania). Professor Mariano compared three approaches used recently in building an early warning system for predicating a financial crisis, namely, Probit or Logit models of the occurrence of a crisis, signaling approaches, and cross-country analyses. While Probit/Logit models have the advantage of summarizing information into one number, and are easy to run and test, they are unable to rank indicators and it is difficult to assess marginal effects on probability. A signaling approach can provide a metric for ranking indicators and can easily tell what the problems are, but it cannot test the model. Professor Mariano also noted that all of these methods require a priori crisis measures and use arbitrary thresholds, and cannot tell crisis dynamics.

In his presentation, Professor Mariano proposed a new approach, specifically, Markov Regime Switching Models. This approach does not require a priori crisis dating, and it does not use arbitrary thresholds or exclusion windows. However, it involves computational difficulty and has technical problems with statistical validation. By using monthly data from 1974 to 1998, the studies reported on three types of Markov switching models for the monthly changes in exchange rates in Indonesia, Malaysia, the Philippines and Thailand. These models differ from each other in terms of constant or time varying transition probabilities and in terms of specification of different exogenous variables. The results show that the performance of the models varies from case to case, predicting the currency crisis in Thailand well but not that of the Philippines.

Mr. Ray Barrell, Ms. Karen Dury (NIESR) and Mr. Ian Hurst (NIESR) presented a joint paper: “ International Monetary Coordination. An Evaluation of Cooperative Strategies using a large Econometric Model”. In the paper, the authors examined the effects of international monetary policy co-ordination (against independently set monetary policy in individual countries). The rationale for policy coordination stems from the potential spillover effects that independent domestic policy can have on other countries. These spillover effects may result in adverse economic consequences for other nations. For example a tightening of monetary policy in one country to reduce inflation will result in an appreciation of the exchange rate, which can adversely affect the inflation prospects of other countries as imports become more expensive. The issue of spillover effects has become more prominent as the world economy becomes ever more integrated through the reduction of trade barriers, increases in technology, and increased cross-border movements of capital and labour. Independent monetary policy does not take into account the externalities of a country's policies on other countries and internalizing theses in the national decision making process of individual countries may be beneficial.

The authors conducted stochastic simulations with the help of the National Institute's World Econometric Model (NiGEM). The exercise aimed at analysing the potential benefits of the U.S. Fed and ECB coordinating their monetary policies. Two simple alternative policy rules were simulated: one where monetary policy targets domestic output and inflation and an alternative where world output is included in the reaction function. The model's solution suggests that both the U.S. and EU would benefit in terms of reduced welfare losses. The Euro area does benefit in terms of reduced output variability, but not as much as the U.S. Given these results, it may not be the principle of policy coordination that is the issue but the degree of burden sharing and the structure of policy coordination that may prove difficult to agree upon.

How the Asian financial crisis was transmitted to Ghana and what was the impact of the crisis on the economy were the mains features of a paper presented by Mr. C.K. Dordunoo (GIMPA), " An analysis of the impact of the East Asian crisis on Ghana: an econometric investigation". With the help of an econometric model, Mr. Dordunoo conducted a simulation exercise on the impact of the East Asian crisis on Ghana. The transmission channels are mainly trade and financial flows. The relationship between the growth in Ghana's exports and real GDP in East Asian economies shows that the two variables tend to move in the same direction. Asian countries have become an important source of finance (mainly aid flows, concessional loans, and to lesser extent foreign direct investment) for Ghana. The simulation results show that a deceleration in East Asia's real GDP growth by 2.5 per cent leads to a reduction in Ghana's real exports growth by 1.6 per cent and its imports by 2.9 per cent while the real GDP growth declines by 0.34 per cent.

In his paper " Modeling inflation and the dynamics of inflation forecasting in Malawi", Mr. Perks M. Ligoya (Reserve Bank of Malawi) reviewed two methods of forecasting inflation in Malawi. He described features of the "naïve model" used by the Reserve Bank of Malawi for projecting inflation. He then presented an alternative approach consisting of an econometric single equation model with several variables explaining inflation behaviour. Results from the single equation error-correction for Malawi suggests that inflation in Malawi is driven by past inflation, the exchange rate, money, rainfall, terms of trade, foreign inflation, ratio of net claims to government to broad money and the Treasury Bill rate.

Technical studies on the Greek economy

Messrs. R. Loufir (Bank of Greece) and N. Leandros (Panteion University) presented a paper on "The Future of Public Pension in Greece: A Dynamic Computable General Equilibrium Model". They pointed out that the fertility rate in Greece had declined considerably in the last twenty years, below the rate compatible with a stable population. If current Pay-As-You-Go (PAYG) retirement schemes were maintained during coming decades, population ageing would result in considerable strains on public finance. Based on a dynamic computable general equilibrium (CGE) model with overlapping generations, they illustrated the possible evolution of Greek public pension schemes under current arrangements until the year 2070. They also presented two alternative scenarios based on different assumptions. The first showed a defined-benefit rule, where benefits as a percentage of current wages were held constant and the contribution rates would adjust to maintain a balanced budget. The second scenario showed results from a defined-contribution rule, where contribution rates as percentage of wages were held constant and pension benefits would adjust to maintain a balanced budget. The consequences of both scenarios for economic development, actuarial fairness and welfare were discussed.

The paper also discussed in detail the CGE model used in the study. The model for the Greek economy was based on the Auerbach-Kotlikoff (1987) framework with an innovative feature to allow for a variable life expectancy. The assumption of an age-dependent probability of death made the model more realistic in terms of the survival profile of households. Parametric calibration and outcomes of model simulation were included in the paper.

Ms. Heather Gibson and Ms. Sophia Lazaretou (Bank of Greece) summarized a paper on "Leading Inflation Indicators for Greece". They mentioned that the primary focus of macroeconomic policy in Greece since the mid-1990s had been on disinflation through an exchange rate target, as the rate of inflation had been reduced to below 2 per cent by the end of 1999. Therefore, there had been increasing interest in improving methods of forecasting inflation behaviour. By adopting the leading indicator approach, originated by Burns and Mitchell in 1946 and revived by Moore in 1991, they examined the predictive ability of some 20 macroeconomic variables measured monthly over the period 1954 to 1998. They reported that four variables, namely, import prices, wholesale prices, money growth and world commodity prices, had an average lead time of about three months and that two variables, namely, retail sales and industrial production, had an average lead time of about 14 months. With these leading variables, they built two composite indicators, which, according to their report, performed fairly well in terms of predicting turning points of the inflation cycle.

Messrs. S. Brissimis (Bank of Greece), G. Hondroyiannis (Bank of Greece) and G. Tavlas (IMF) presented a joint paper on "The Demand for Money in Greece". They noticed that liberalization of the Greek financial system, which began in the mid-1980s and had recently been essentially completed, had posed challenges for the conduct of monetary policy. In contrast to the earlier regulated financial environment under which monetary policy was implemented through direct controls, indirect instruments of monetary control are being utilized. Given a more flexible financial system and the drachma's entry into the EMS, the monetary aggregate is used less in the formulation of monetary policy. Thus, their study investigated the behavior of the demand for money in Greece in an environment of increasing financial liberalization and innovation.

With two different modeling techniques, vector error correction (VEC) and random coefficient (RC), they estimated long-run money demand functions. According to their report, the VEC model provided an income elasticity higher than that estimated by the RC method. The high post-sample forecast errors based on the VEC estimation suggested that the effects of financial sector innovation on the coefficients of the money demand relationship has been significant.

Data analysis questions

Professor Jean-Christian Lambert (University of Lausanne) presented a paper entitled "Real Growth Comparisons" in which he examined the sources of uncertainty in data on real growth rates. These data show a long-term deceleration of growth in OECD countries, but was it true or a problem with the data? It was well known that the service sector was underestimated, but why had growth slowed down so suddenly? Looking at labor markets, with such stagnation in growth, unemployment should have gone up a lot, but it hasn't. Previous studies had shown that by adjusting for terms of trade improvements, measured growth could have been much higher. In addition, different price indices could have had an effect on measured growth. Until the late 1980s these adjustments made very little difference, but in the 1990s with restructuring and upheavals there were large differences. Other reasons for the mismeasurement of growth could be that real productivity growth in the service sector is underestimated, or that real value added in the public sector is mismeasured because the rate of growth of productivity in the public sector was usually assumed to be zero or very small. Finally, it was not clear how these series should be deflated.

A second question asked in the paper relates to whether growth reported from national time series data is consistent with cross-country rankings based on PPP surveys done by the OECD. Using the rankings from 1990 and 1996, the implied annual growth rates were computed. These were then compared to average annual growth rates from national sources. Large differences were found. Finally, the question of wealth dispersion in OECD countries was investigated by looking at GDP per total numbers of hours worked, finding very different rankings.

Annex A

AGENDA

Monday, November 1

10:00-10:30	**Welcome**
10:30-11:30	**World Economic Outlook** **Chair: Lawrence R. Klein**
	"Project LINK World Outlook" *Jozef van Brabant, United Nations, New York*
	"The World Bank Global Economic Prospects" *Dominique van der Mensbrugghe, The World Bank, Washington*
11:30-11:45	**Break**
11:45-1:00	**World Economic Outlook (cont.)** **Chair: Lawrence R. Klein**
	"The OECD International Economic Outlook" *Pete Richardson, OECD, Paris*
	"The NIESR International Economic Outlook" *Ray Barrell, NIESR, London*
	"International Commodity Markets" *Robert Kaufmann, Boston University* *Robert Young II, University of Missouri*
1:00-2:15	**Lunch**
2:30-4:00	**Monetary Policy Issues: Targetting** **Chair: Carlo D'Adda**
	"Econometric Inflation Targetting" *Gunnar Bardsen, Eilev Jansen and Ragnar Nymoen, Bank of Norway, Oslo*
	"Managing Monetary Policy Under Uncertainty: The Value of Publishing Official Central Bank Forecasts" *David Mayes and Juha Tarkka, Bank of Finland, Helsinki*
4:00-4:15	**Break**
4:15-5:45	**Regional Outlook and Policy Issues: North America and Japan** **Chair: Eustaquio Reis**

"North America: Summary"
Lawrence R. Klein, University of Pennsylvania

"Japan: Summary"
Kanemi Ban, Osaka University

"Latin America: Summary"
Pedro Sainz, ECLAC, Santiago

Tuesday, November 2

9:30-11:00 **Regional Outlook and Policy Issues: Europe**
Chair: Pedro Palma

"Europe: Summary"
Peter Pauly, University of Toronto

"Real Growth Comparisons for OECD Countries"
Jean Christian Lambelet, Université de Lausanne

"Economic Dimensions of the Stability Pact for South-East Europe"
Franjo Stiblar, University of Ljubljana

11:00-11:15 **Break**

11:15-12:45 **Labour Market Issues**
Chair: Byron Gangnes

"Labour Market Policies: the Dutch Experience"
Hans Timmer, Central Planning Bureau, The Hague

"Labour Market Institutions in Europe and the Transmission Mechanism"
Loic Cadiou, Stephane Guichard and Mathilde Maurel, CEPII, Paris

1:00-2:15 **Lunch**

2:30-4:00 **Regional Outlook and Policy Issues: Asia and Africa**
Chair: Thomas Wilson

"Asia: Summary"
J. Malcolm Dowling, University of Melbourne
Azizul Islam, ESCAP, Bangkok

"African and Middle East Outlook: Summary"
Jean Thisen, ECA, Addis Ababa

"Analysis of the Impact of the East Asian Crisis on Ghana: an Econometric Investigation"
C.K. Dordunoo and H.A. Sackey, GIMPA, Ghana

4:00-4:15 **Break**

4:15-5:45 **International Financial Issues**
Chair: Adolfo Castilla

"International Monetary Policy Coordination: an Evaluation of Comparative Strategies Using Large Econometric Models"
Ray Barrell and Karen Dury, NIESR, London

"Predicting the Evolution and Effects of the Asia Crisis From an OECD Perspective"
Pete Richardson, Ignazio Visco, and Claude Giorno, OECD, Paris

"Markov Switches in Predictive Models of Sovereign and Financial Crises"
Roberto Mariano, Suleyman Ozmucur, and Tayyeb Shabbir, University of Pennsylvania, Philadelphia

Wednesday, November 3

Full – Day Excursion

Thursday, November 4

9::30-11:00 **Perspectives on the Greek Economy**
Chair: George Zanias

Participants:

Nikos Christodoulakis, Deputy Minister of Economics and Finance

Nicholas Garganas, Deputy Governor, Bank of Greece
Stavros Thomadakis, Chairman, Capital Markets Commission

11:00-11:15 **Break**

11:15-12:45 **Modelling the Greek Economy I**
Chair: Duncan Ironmonger

"The Supply Block in the Macroeconometric KEPE Model"
Stella Balfoussia, KEPE, Athens

"Wage Behaviour, Productivity, and Inflation"
Nick Zonzilos and Stephen Hall, Bank of Greece, Athens and Imperial College, London

"The Role of Infrastructure on Economic Growth, Employment and the Environment: Modelling and Forecasting the Greek Economy"
N. Christodoulakis and S. Kalyvitis, Ministry of Economics and Finance, Athens and University of Cyprus

1:00-2:15 **Lunch**

2:30-4:00 **Monetary Issues in the EMU**
Chair: Nicholas Garganas

"Measuring Core Inflation in Greece"
Leonidas Zarangas Stella Balfoussia, KEPE, Athens

"Pegging the CEEC's Currencies to the Euro"
Agnes Benassy-Quere and Amina Lahrèche-Révil, CEPII, Paris

"Monetary Policy Targets in the EMU"
Peter Pauly, University of Toronto

4:00-4:15 **Break**

4:15-5:45 **Modelling the Greek Economy II**
Chair: Ullrich Heilemann

"The Future of Public Pensions in Greece: A Dynamic Computable General Equilibrium Model"
R. Loufir and N. Leandros, KEPE, Bank of Greece and Panteion University, Athens

"Leading Inflation Indicators for Greece"
H.D. Gibson and S. Lazaretou, Bank of Greece, Athens

"The Demand for Money in Greece"
S. Brissimis, G. Hondroyiannis, and G. Tavlas, Bank of Greece, Athens, and IMF, Washington

Friday, November 5

9:30-11:00 **Topics in Modelling**
Chair: Stephen Hall

"Sample-Selection Problems in a Macroeconometric Model Context – Some Further Results"
Gyorgy Barabas and Ulrich Heilemann, RWI Institute, Essen

"Testing for non-linearities and unit roots in Real Exchange Rates - further evidence"
Gangadhar Dharba, IGIDR, Mumbai

"Consumption Functions in the LINK System"
Pingfan Hong, United Nations, New York

11:15-12:45 **Current Policy Issues: Asia**
Chair: Bert Hickman

"The Effect of the Asian Financial Crisis on Trade Liberalization in APEC: with Particular Reference to the ASEAN Countries"
Toh Mun Heng and Tan Kong Yam, National University of

Singapore

"Capital Controls and Their Effect on the Macroeconomy: Malaysian Experience"
Muthi Samudram, Institute Loyal ITA, Ipoh, Malaysia

"The Asian Currency Crisis: Domestic Fundamentals and International Linkages"
Dongchul Cho and Kiseok Hong, KDI, Seoul

1:00-2:15 **Lunch**

2:30-4:00 **Macroeconometric Models I**
Chair: Wladyslaw Welfe

"A New Prototype Model for International Macroeconomics"
Jean-Louis Brillet and Gilbert Cette, INSEE, Paris

"A Quarterly Model of the Russian Economy"
E. Gavrilenkov, SGB Henry, and J. Nixon, Bureau of Economic Analysis, Moscow, London
Business School, and Bank of England, London

"Macromodel of the Romanian Transition Economy"
Emilian Dobrescu, Institute of World Economics, Bucarest

4:00-4:15 **Break**

4:15-5:15 **Macroeconometric Models II**
Chair: Peter Pauly

"The Annual Model of the Polish Economy"
Wladyslaw Welfe, Waldemar Florczak., and Alexander Welfe, University of Lodz, Poland

"Modelling Inflation and the Dynamics of Inflation in Malawi"
Perks Ligoya, Central Bank of Malawi

5:15-5:45 **LINK Developments and Business Meeting**
Chair: Peter Pauly, University of Toronto

Annex B

List of Participants

Malcolm Dowling
The University of Melbourne
Department of Economics
Room 619
Parkville, Victoria 3052 AUSTRALIA
tel: (613) 9344-7027
fax: (613) 9344-6899
e-mail: johnmd@myriad.its.unimelb.edu.au

Duncan Ironmonger
Economics Department
University of Melbourne
Parkville VIC 3052 AUSTRALIA
tel: (613) 9344-7776
fax: (613) 9349-4291
e-mail: duncan@ariel.unimelb.edu.au

Martin Wagner
Department of Economics and Finance
Institute for Advanced Studies - Vienna
Stumpergasse 56
A-1060 Vienna AUSTRIA
tel: 43-1-59-991-155
fax: 43-1-59-991-163
e-mail: mwagner@ihs.ac.at

Salahuddin Ahmad
International Development Planners Inst.
4, Rankin Street
Wari, Dhaka - 1203 BANGLADESH
tel: 880-2-893-501
fax: 880-2-893-501
e-mail: idpi@dhaka.agni.com

Eustaquio Reis
IPEA/DIPES
Av. Antonio Carlos 51, sala 1704
Rio de Janeiro - RJ 20.020-010 BRAZIL
tel: (5521) 220-7679
fax: (5521) 240-0576
e-mail: ejreis@ipea.gov.br

Garabed Minassian
Institute of Economics
Bulgarian Academy of Sciences
3, Aksakov Str.
1040 Sofia BULGARIA
tel: 359-2-957-2419
fax: 359-2-957-2419/88-2108
e-mail: minasian@mail.techno-link.com

Erin Foster
University of Toronto
Institute for Policy Analysis
140 St. George Street
Toronto, Ontario M5S 3G6 CANADA
tel: (416) 978-5353
fax: (416) 971-2071
e-mail: efoster@chass.utoronto.ca

Hung-Yi Li
Institute for Policy Analysis
University of Toronto
140 St. George St.
Toronto, ON M5S 3G6 CANADA
tel: (416) 978-4183
fax: (416) 971-2071
e-mail: link@chass.utoronto.ca

Peter Pauly
Institute for Policy Analysis
University of Toronto
140 St. George St.
Toronto, ON M5S 3G6 CANADA
tel: (416) 978-4331
fax: (416) 971-2071
e-mail: pauly@chass.utoronto.ca

Thomas Wilson
University of Toronto
Institute for Policy Analysis
140 St. George Street
Toronto, Ontario M5S 1A1 CANADA
tel: (416) 978-4458
fax: (416) 971-2071
e-mail: twilson@chass.utoronto.ca

Alberto Arenas de Mesa
Ministerio de Hacienda
Teatinos 120, Piso 12, Oficina 26
Santiago CHILE
tel: (56-2) 698-0182; 671-7113
fax: (56-2) 688-9240
e-mail: aad@dipres.cl

Alfredo Calcagno
ECLAC, United Nations
Castilla 179 D, Santiago CHILE
tel: (56-2) 210-2661
fax: (56-2) 210-2472
e-mail: acalcagno@eclac.cl

Gunilla Ryd
ECLAC, United Nations
Castilla 179 D, Santiago CHILE
tel: (56-2) 210-2664
fax: (56-2) 210-2472
e-mail: gryd@eclac.cl

Pedro Sainz
Division of Statistics and Economic Projections
ECLAC - United Nations
Av. Dag Hammarskjold s/n
Santiago, CHILE
tel: 56-2-210-2633/2634
fax: 56-2-210-2472
e-mail: PSAINZ@ECLAC.CL

Wan Donghua
Integrated Department
National Bureau of Statistics
Beijing 100826 CHINA
tel: (86-10) 6857-3311 ext. 83043
fax: (86-10) 6857-6354
e-mail: qinhy@stats.gov.cn

Lisheng Shen
Chinese Academy of Social Sciences
Institute of Quantitative and Technical Economics
No. 5 Jianguomennei Street
Beijing, 100732 CHINA
tel: 86-10-6513-7561
fax: 86-10-6512-5895
e-mail: shenls@iqte.cass.net.cn

Liping Tao
Department of Economic Forecasting
State Information Center
No. 58 Sanlihe Road, 100045
Beijing CHINA
tel: (86-10) 6855-7128/8128
fax: (86-10) 6855-8210
e-mail: taolp@mx.cei.gov.cn

Tong Wang
State Council Office for Restructuring Economic System
No. 1 Nancaochang St.
Xizhimennei, Beijing, 100035 CHINA
tel: 86-10-6618-5879
fax: 86-10-6618-5883
e-mail: wangtong@china-reform.org

Hong yuan Xu
Deputy Director, Economic Forecasting Department
The State Economic Information Centre
No. 58 Sanlihe Road,Beijing, 100045 CHINA
tel: 86-10-6855-7129
fax: 86-10-6855-8210
e-mail: xuhongy@mx.cei.gov.cn

Liang Youcai
The State Economic Information Centre
No. 58 Sanlihe Road,Beijing, 100045 CHINA
tel: 86-10-6855-8932
fax: 86-10-6855-8561
e-mail: ycliang@mx.cei.gov.cn

Maria Angelica Arbelaez
FEDESARROLLO
Calle 78 No. 9-91
Apartado Aereo 75074
Santafé de Bogotá, DC COLOMBIA
tel: 57-1- 312-5300/313-2505
fax: 57-1-212-6073
e-mail: maarbela@fedesarrollo.org.co

Juan-Rafael Vargas
Escuela De Economia
Universidad de Costa Rica
San Pedro de Montes De Oca 2060 COSTA RICA
tel: 506-207-5241
fax: 506-207-4330
e-mail:jrvargas@cariari.ucr.ac.cr

Andrea Mervar
Institute for Economics, Zagreb
Trg. J.F. Kennedy 7
10000 Zagreb CROATIA
tel: 385-1-2335-700
fax: 385-1-2335-165
e-mail: mervar@eizg.hr

Norma Oñate Martinez
Instituto Nacional de Investigaciones Economicas
Calle 82 No. 313, e/3rd A y 5ta. avenida
Playa, Ciudad de la Habana CUBA
tel: (537) 23-8204
fax: (537)24-2033
e-mail: inie@inie.get.cma.net

Milan Klima
Czech National Bank
Puskinovo nameti 9
160 00 Prague 6 CZECH REPUBLIC
tel: (42-02) 2441-4432
fax: (42-02) 2441-2329
e-mail: milan.klima@cnb.cz

Tony Maarsleth Kristensen
Statistics Denmark
Sejrøgade 11
DK-2100 København 0 DENMARK
tel: (45) 3917-3204
fax: (45) 3917-3999
e-mail: tmk@dst.dk

Per Bremer Rasmussen
Ministry of Economic Affairs
Ved Stranden 8
DK-1061 Copenhagen K DENMARK
tel: 45-33-92-4422
fax: 45-33-92-4730
e-mail: pbr@oem.dk

Jean Thisen
UNECA
P.O. Box 60115,
Addis-Ababa ETHIOPIA
tel: 251-1-51 72 00 ext. 33286
fax: 251-1-51-44-16
e-mail: jthisen@un.org

David Mayes
Bank of Finland
Research Department
P. O. Box 160, FIN-00101 Helsinki FINLAND
tel: 358 - 9 - 183-2569
fax: 358 - 9 - 183-2560
e-mail: david.mayes@bof.fi

Maritta Paloviita
Bank of Finland
P. O. Box 160
FIN-00101 Helsinki FINLAND
tel: (358) 9-183-2504
fax: (358) 9-622-1882
e-mail: maritta.paloviita@bof.fi

Laurence Boone
O.E.C.D.
2, rue Andre-Pascal
75775 Paris Cedex 16 FRANCE
tel: (33-1) 45-24-1473
fax: (33-1) 45-24-9050
e-mail: laurence.boone@oecd.org

Jean-Louis Brillet
INSEE
timbre J301 room 1019,
18 bd Adolophe Pinard,
75675 Paris, Cedex 14 FRANCE
tel: 33-1-4117-5283
fax: 33-1-4117-6644
e-mail: jean-louis.brillet@insee.fr

Loïc Cadiou
CEPII
9, rue George Pitard
75015 Paris FRANCE
tel: (331) 5368-5551
fax: (331) 5368-5503
e-mail: cadiou@cepii.fr

Raymond Courbis
GAMA, Université de Paris-Nanterre
200, Avenue de la République
92001 Nanterre FRANCE
tel: 33-1-40-97-77-88/-90
fax: 33-1-47-21-4689
e-mail: no

Ray Gambini
Faculté des Sciences Economiques
14 Avenue Jules Ferry
13100 Aix en Provence FRANCE
tel: (33-4) 4291-3420
fax: (33-4) 4226-0843
e-mail: gambini@romarin.univ-aix.fr

Amina Lahrèche-Révil
CEPII
9 rue Georges Pitard
75015 Paris, FRANCE
tel: (33-1) 5368-5561
fax: (33-1) 5368-5503
e-mail: lahreche@cepii.fr

Fabrice Pesin
Direction du la Prévision
Ministère de l'Economie, des Finances et de l'Industrie
Bureau A1, Teledoc 679 - 139 rue de Bercy
75572 Paris Cedex 12 FRANCE
tel: (331) 5318-5666
fax: (331) 5318-3628
e-mail: fabrice.pesin@prevision.finances.gouv.fr

Pete Richardson
Macroeconomic Analysis & Systems Management Division
O.E.C.D.
2, rue Andre-Pascal
75775 Paris Cedex 16 FRANCE
tel: (331) 4524-8830
fax: (331) 4524-9050
e-mail: pete.richardson@oecd.org

György Barabas
Rheinisch-Westfälisches Institut für
Wirtschaftsforschung (RWI)
Hohenzollernstrasse 1-3
45128 Essen GERMANY
tel: 49-201-8149-225
fax: 49-201-8149-200
e-mail: barabas@rwi-essen.de

Ullrich Heilemann
Rheinisch-Westfälisches Institut für
Wirtschaftsforschung (RWI)
Hohenzollernstrasse 1-3
45128 Essen GERMANY
tel: 49-201-8149-221
fax: 49-201-8149-200
e-mail: heil@rwi-essen.de

Pavlos Karadeloglou
European Central Bank,Kaiserstrasse 29
D-60311 Frankfurt am Main GERMANY
tel: 49-69-13447649
fax: 49-69-13447605
e-mail: Pavlos.Karadeloglou@ecb.int

Jacob Atta
c/o Mr. E.A. Cooper
GIMPA
Green Hill, Achimota
Accra GHANA
tel:
fax:
e-mail:attajacob@netscape.net or gimpa@africaonline.com.gh

Cletus Dordunoo
Policy Analysis and Strategic Studies Division
Ghana Institute of Management and
Public Administration
P. O. Box 50, Greenhill, Achimota GHANA
tel: 233-21-401-681/2/3 or 502721; 660116
fax: 233-21-405-805
e-mail: gimpa@africaonline.com.gh or gimpa2

Tai Leung Chong
Department of Economics
The Chinese University of Hong Kong
Shatin HONG KONG
tel: (852) 2609-7045
fax: (852) 2603-5805
e-mail: b792703@mailserv.cuhk.edu.hk

Andras Simon
National Bank of Hungary
Department of Modeling,1850 Budapest V,
Szabadsag ter 8/9 HUNGARY
tel: 36-1-312-3059
fax: 36-1-331-7906
e-mail: simona@mnb.hu

Gangadhar Darbha
Research Fellow
Indira Gandhi Institute of Development Research
Gen. A.K. Vaidya Marg, Goregaon(E)
Mumbai - 400 065 INDIA
tel: (91-22) 840-0919 ext 548
fax: (91-22) 840-2752/2026
e-mail: darbha@igidr.ac.in

V. Pandit
Delhi School of Economics
University of Delhi
Delhi 110 007 INDIA
tel: 91-11-725-7005/6533/6535
fax: 91-11-725-7159
e-mail: vnpandit@cdedse.ernet.in

Ila Patnaik
National Council of Applied Economic Research
11, I.P. Estate, New Delhi 110067 INDIA
tel: (91-11) 331-7860/68
fax: (91-11) 332-7164
pradeep.sriv@ncaer.sprintrpg.ems.vsnl.net.in

John Frain
Head of Research
Economics (ERP) Department
Central Bank of Ireland
P.O. Box 559, Dame St., Dublin 2 IRELAND
tel: 3531-671-6666
fax: 3531-671-6561
e-mail: cbres@iol.ie

Carlo D'Adda
Dept of Economi Sciences
Strada Maggiore 45
40125 Bologna ITALY
tel: 39-051-209-2618
fax: 39-051-209-2664
e-mail: dadda@spbo.unibo.it

Massimo Tivegna
Via Caroncini 43
00197 Roma ITALY
tel: 39-06-808-5393
fax: 39-06-808-3097
e-mail: mc1223@mclink.it

Fernando Zegarra
Policy Analysis Division
FAO
Via delle Terme di Caracalla
00100 Rome ITALY
tel: 39-06-5705-4649
fax: 39-06-5705-5522
e-mail: fernando.zegarra@fao.org

Kanemi Ban
Faculty of Economics
Osaka University
1-7, Machikaneyama
Toyonaka, Osaka 560-0043 JAPAN
tel: 81-6-6850-5221
fax: 81-6-6850-5274
e-mail: ban@econ.osaka-u.ac.jp

Kiseok Hong
Korea Development Inst.
Cheong Nyang P.O. Box 113
Seoul, 130-012 KOREA
tel: 82-2-958-4047
fax: 82-2-965-0393
e-mail: khong@kdiux.kdi.re.kr

Simon Erlich
Economic Systems Analysis and Forecasting
58, Rue Blochausen
L-1243 LUXEMBOURG
tel: (352) 482-252
fax: (352) 447-352
e-mail: serlich@village.uunet.lu

Martin Ganiza
Reserve Bank of Malawi
P. O. Box 30063, Capital City
Lilongwe 3 MALAWI
tel: (265) 780-600/783
fax: (265) 780-593
e-mail: mlikaku@rbm.malawi.net

Perks Ligoya
International Monetary Fund
Private Bag B354
Lilongwe 3 MALAWI
tel: (265) 780-725
fax: (265) 780-702
e-mail: pligoya@excite.com

Muthi Samudram
Institute Loyal ITA
104, Jalan Kampar,
Ipoh, Perak MALAYSIA
tel: 60-5-241-3678
fax: 60-5-241-2718
e-mail: muthi@pc.jaring.my

D. R. Khanal
Chairman, Institute for Policy Research
and Development (IPRAD)
P.O. Box No. GPO 8975, EPC 994
Maitigmar, Kathmandu NEPAL
tel: (977 - 1) 271-840
fax: (977 - 1) 262-868
e-mail: dr@khanal.mos.com.np

Hans Timmer
CPB, Netherlands Bureau for Economic Policy Analysis
International Modelling Division
14 van Stolkweg, P. O. Box 80510
2508 GM The Hague NETHERLANDS
tel: 31-70-338-33-06
fax: 31-70-338-33-50
e-mail: timmer@cpb.nl

Tim Ng
Reserve Bank of New Zealand
Economics Department,P.O. Box 2498
Wellington NEW ZEALAND
tel: (64-4) 471-3620
fax: (64-4) 473-1209
e-mail: ngt@rbnz.govt.nz

Sam Olofin
CEAR and Department of Economics
University of Ibadan,Ibadan NIGERIA
tel: 234-2-810-3471
fax: 234-2-810-1071
e-mail: solofin@cear.org.ng

Eilev Jansen
Norges Bank
Research Department C51
Postboks 1179, Sentrum
N-0107 Oslo NORWAY
tel: 47-22-31-6160
fax: 47-22-42-4062
e-mail: eilev.jansen@norges-bank.no

Mette Rolland
Kredittilsynet
P.O. Box 100 Bryn
N-0611 Oslo NORWAY
tel: (47-22) 93-9833
fax: (47-22) 65-6022
e-mail: mette.rolland@kredittilsynet.no

Rajiv Kumar
Asian Development Bank
6 ADB Avenue
Mandaluyong City PHILIPPINES
tel: (632) 632-5709
fax: (632) 636-2360
rkumar@mail.asiandevbank.org

Maria Socorro Zingapan
National Planning and Policy Staff
NEDA
5th Fl., NEDA Bldg., Amber Avenue
Pasig, Metro Manila PHILIPPINES
tel: 63-2-631-3283/631-3712
fax: 63-2-631-3721/631-2186
e-mail: svz@mail.neda.gov.ph

Aleksander Welfe
Inst. of Econometrics & Statistics
University of Lodz,41, Rewolucji 1905
90214 Lodz POLAND
tel: 48-42 635-5183
fax: 48-42 635-5025
e-mail: emfalw@krysia.uni.lodz.pl

Wladyslaw Welfe
Inst. of Econometrics & Statistics
University of Lodz,41, Rewolucji 1905
90214 Lodz POLAND
tel: 48-42 636-2114/35-5183
fax: 48-42 635-5025/36-9432
e-mail: emfg@krysia.uni.lodz.pl

Constantin Ciupagea
Head of Economics Modelling Department
Institute for World Economy
7 Bd. Regina Elisabeta, sector 3
Bucharest 70348 ROMANIA
tel: (40) 1-311-0760
fax: (40) 1-311-0759
e-mail: ciupagea@rnc.ro or constciup@hotmail.com

Emilian Dobrescu
Str. Uruguary Nr. 2, Bloc 8, Ap. 2
Bucharest ROMANIA
tel: (401) 222-2850
fax: (401) 210-1832
e-mail: dobrescu@fx.ro

Andrei Kondakov
Deputy Director, Dept of North America
Ministry of Foreign Affairs
32/34 Smolenskaya-Sennaya
121200 Moscow RUSSIA
tel: (7-095) 244-2753
fax: (7-095) 244-1969
e-mail: dsa@mid.ru

Valery Makarov
Central Economics and Mathematical Institute
of the Russian Academy of Science (CEMI)
47, Nakhimovsky prospect
117418 Moscow RUSSIA
tel: (7095) 129-1011
fax: (7095) 129-1400
e-mail: makarov@cemi.rssi.ru

Mun Heng Toh
Department of Business Policy
National University of Singapore
10 Kent Ridge Crescent 119260 SINGAPORE
tel: 65-874-6386
fax: 65-779-5059
e-mail: fbatohmh@nus.edu.sg

Ján Haluška
INFOSTAT, Institute of Informatics & Statistics
Dúbravská cesta 3
842 21 Bratislava SLOVAK REPUBLIC
tel: 42-17-5937-9380
fax: 42-17-5479-1463
e-mail: haluska@infostat.sk

Franjo Stiblar
Ekonomski Institute Pravne Fakultete
Presernova 21 Ljubljana SLOVENIA
tel: (386) 61-221-188
fax: (386) 61-125-6870
e-mail: stiblarf@n-lb.si

Charlotte du Toit
Dept. of Economics
University of Pretoria
Pretoria 0002 SOUTH AFRICA
tel: (2712) 420-3522
fax: (2712) 362-5207
e-mail: cbdutoit@hakuna.up.ac.za

Reneé Koekemoer
Dept. of Economics
University of Pretoria
Pretoria 0002 SOUTH AFRICA
tel: (2712) 420-3456
fax: (2712) 362-5207
e-mail: rkoekem@hakuna.up.ac.za

Adolfo Castilla
Julian Hernandez 8
28043 Madrid SPAIN
tel: (34-91) 749-8000
fax: (34-91) 570-7199
e-mail: IBM05484@globalnet.es

Ramon Mahia
Instituto "L.R. Klein"
Facultad de CC.EE. y EE.
Universidad Autonoma de Madrid
Cantoblanco 28049, Madrid SPAIN
tel: (34-91) 397-3942
fax: (34-91) 397-3943
e-mail: ramon.mahia@uam.es

Julian Perez
Instituto "L.R. Klein"
Facultad de CC.EE. y EE.
Universidad Autonoma de Madrid
Cantoblanco 28049, Madrid SPAIN
tel: (34-91) 397-3942
fax: (34-91) 397-3943
e-mail: julian.perez@uam.es

Villy Bergström
Deputy Governor
Sveriges Riksbank
SE-103 37 Stockholm SWEDEN
tel: 46-8-787-0710
fax: 46-8-208-646
e-mail: villy.bergstrom@riksbank.se

Håkan Frisén
Director of Forecasting
National Institute of Economic Research
Kungsgatan 12-14, 6th Floor
103 62 Stockholm SWEDEN
tel: 46-8-453-5944
fax: 46-8-453-5980
e-mail: hakan.frisen@konj.se

Nils Hofvander
Director of Forecasting
National Institute of Economic Research
Kungsgatan 12-14, 6th Floor
103 62 Stockholm SWEDEN
tel: 46-8-453-5948
fax: 46-8-453-5980
e-mail: nils.hofvander@konj.se

Jean-Christian Lambelet
Institut Créa
Université de Lausanne, BFSH1
CH-1015 Lausanne-Dorigny SWITZERLAND
tel: 41-21-692-3353
fax: 41-21-692-3355
e-mail: crea@hec.unil.ch

Ji Chou
Chung-Hua Inst. for Economic Res.
75 Chang Hsing Street
Taipei, 106, TAIWAN, P.O.C.
tel: 886-2-2735-6006 ext 357
fax: 886-2-2739-0590
e-mail: chouji@rs930.cier.edu.tw

Yueh-shi Carol Kao
No. 3 Pao-chin Rd.
Taipei TAIWAN, ROC
886-2-2316-5383
886-2-2370-0411
carolkao@sun.cepd.gov.tw

Jin-Lung (Henry) Lin
The Institute of Economics
Academia Sinica
Nankang, Taipei TAIWAN, P.O.C.
tel: 886-2-2782-2791 ext. 313
fax: 886-2-2785-3946
e-mail: jlin@sinica.edu.tw

Chung-shu Wu
The Institute of Economics
Academia Sinica
Nankang, Taipei TAIWAN, P.O.C.
tel: 886-2-2782-2791 ext. 306
fax: 886-2-2785-3946
e-mail: cwu@ieas.econ.sinica.edu.tw

Azizul Islam
Development Research and Policy Analysis
8th Floor, Block A
ESCAP, United Nations Building
Rajadamnern Ave.
Bangkok 10200 THAILAND
tel: (662) 288-1610
fax: (662) 288-3007
e-mail: islam.unescap@un.org

Pichit Patrawimolpon
Balance of Payments Section
Bank of Thailand
38/1 Soi Sailom1, Pahonyothin Road
Bangkok 10400 THAILAND
tel: (662) 279-0135
fax: (662) 271-2633
e-mail: PichitP@bot.or.th

Zafer Yavan
Director Of Economic Modelling Department
The State Planing Organization,
Necatibey Cad. No: 108,
06100 Ankara
TURKEY
tel: (90) 312 231 9660
fax: (90) 312 232 1089
email: zyavan@dpt.gov.tr

Valery M. Heyets
Institute of Economic Forecasting
National Academy of Sciences of Ukraine
26, Panas Myrny St.
Kiev-11, 252011 UKRAINE
tel: 380-44-290-1234
fax: 380-44-290-1234
e-mail: instecon@ukrpack.net

Ray Barrell
National Institute of Economic and Social Research
2 Dean Trench Street
Smith Square
London SW1P 3HE UNITED KINGDOM
tel: (44-1) 71-654-1925
fax: (44-1) 71-654-1900
e-mail: rbarrell@niesr.ac.uk

Adrian Cooper
Oxford Economic Forecasting
Abbey House
121 St. Aldates,
Oxford OX1 1HB UNITED KINGDOM
tel: (44-1) 865-202-533
fax: (44-1) 865-202-828
e-mail: acoooper@oef.co.uk

Stephen Hall
The Management School
Imperial College
53 Princes Gate, Exhibition Road
London, SW7 2PG UNITED KINGDOM
tel: 44-1-71-594-9120
fax: 44-1-71-823-7685
e-mail: s.g.hall@ic.ac.uk

James Nixon
Bank of England
London, UNITED KINGDOM
tel: (44) 171 601 3063
fax: (44) 171
e-mail: james.nixon@bankofengland.co.uk

Grigor Agabekian
United Nations
DPAD, DC-2-2112
New York, NY 10017 USA
tel: (212) 963-4712
fax: (212) 963-1061
e-mail: agabekian@un.org

Clive Altshuler
United Nations
Development Policy Analysis Division
2 UN Plaza Room 2008
New York, NY 10017 USA
tel: (212) 963-4707
fax: (212) 963-4116
e-mail: altshuler@un.org

Timothy Baxter
US Department of Commerce/OEC
Room 4861
14th & ConstitutionWashington, DC 20230 USA
tel: 202-482-4463
fax: 202-482-3726
e-mail: tbaxter@mail.doc.gov

Alfredo Coutino
CIEMEX-WEFA
800 Baldwin Tower, Floor 7
Eddystone, PA 19022 USA
tel: (610) 490-2565/(215) 871-0897
fax: (610) 490-2770
e-mail: coutino@wefa.com

Byron Gangnes
Department of Economics
University of Hawaii at Manoa
2424 Maile Way, Rm 542
Honolulu, HI 96822 USA
tel: (808) 956-7285
fax: (808) 956-4347
e-mail: gangnes@hawaii.edu

Carl Gray
Department of Economic and Social Affairs
DPAD/EAO Branch,United Nations
Two United Nations Plaza, Room DC2-2128
New York, NY 10017 USA
tel: (212) 963-4737
fax: (212) 963-1061
gray@un.org

Bert Hickman
Department of Economics
Stanford University
Stanford, CA 94305 USA
tel: 650-857-1367
fax: 650-723-3417
e-mail: bhickman@leland.stanford.edu

Pingfan Hong
United Nations
Development Policy Analysis Division
DC2-2106
New York, NY 10017 USA
tel: (212) 963-4701
fax: (212) 963-4116
e-mail: hong@un.org

Melanie Jani
The WEFA Group
800 Baldwin Tower
Eddystone, PA 19022 USA
tel: (610) 490-2750
fax: (610) 490-2770
e-mail: jani@wefa.com

Robert Kaufmann
Center for Energy and Environ. Studies
Boston University
675 Commonwealth Ave.
Boston, MA 02215 USA
tel: (617) 353-3940
fax: (617) 353-5986
e-mail: kaufmann@bu.edu

Lawrence Klein
University of Pennsylvania
Department of Economics
3718 Locust Walk
Philadelphia, PA 19104-6297 USA
tel: (215) 898-7713
fax: (215) 898-4477
e-mail: lrk@econ.sas.upenn.edu

Roberto Mariano
University of Pennsylvania
Department of Economics
3718 Locust Walk
Philadelphia, Pa. 19104 USA
tel: (215) 898-6771
fax: (215) 898-4477
e-mail: mariano@ssc.upenn.edu

Süleyman Özmucur
University of Pennsylvania
Department of Economics
3718 Locust Walk,
Philadephia, PA 19104-6297 USA
tel: (215) 898-7716
fax: (215) 573-2057
e-mail: ozmucur@ssc.upenn.edu

Judith Romera-Pascuas
United Nations
DPAP-DESA
2 UN Plaza, Room 2140
New York, NY 10019 USA
tel: (212) 963-4512
fax: (212) 963-1061
romera@un.org

Matthew Shane
USDA
1800 M St. NW, Room 5019
Washington, DC 20036-58931 USA
tel: (202) 694-5282
fax: (202) 694-5822
e-mail: mshane@econ.ag.gov

Jozef van Brabant
Chief, Economic Assessment and Outlook Branch
United Nations
Department of Economic and Social Affairs
2 United Nations Plaza, Room DC2-2150
New York, NY 10017 USA
tel: (212) 963-4752
fax: (212) 963-1061
e-mail: brabant@un.org

Dominique van der Mensbrugghe
DECPG/The World Bank
1818 H Street, NW
Washington, DC 20433 USA
tel: (202) 473-0052
fax: (202) 522-2578
e-mail: dvandermensbrugg@worldbank.org

Robert Young II
Food and Agriculture Research Institute
University of Missouri
101 S. 5th Street
Columbia, MO 210 USA
tel: (573) 882-3576
fax: (573) 884-4688
youngr@missouri.ed

Pedro Palma
METROECONOMICA
Centro Prof. Sta. Paula,
Ave. Circunvalacion del Sol,
Torre A, Oficina 57, Piso 5
Caracas, 1066-A VENEZUELA
tel: (582) 985-1190
fax: (582) 985-9507
e-mail: ppalma@cantv.net

Cristina Rodriguez
METROECONOMICA
Urb. Santa Paula, Centro Profesional Santa Paula
Ave. Circunvalacion del Sol,
Torre A, Oficina 56, Piso 5
Caracas, 1066-A VENEZUELA
tel: (582) 985-0454/4409
fax: (582) 985-5321
e-mail: metroec@facilnet.com

Tran Kim Chung
Central Institute for Economic Management
68 Phan Dinh Phung Street
Hanoi VIETNAM
tel: 840-804-3684
fax: 844-845-6795
e-mail: cocau-ciem@netnam.org.vn

Noah Mutoti
Economics Department
Bank of Zambia
P. O. Box 30080
Lusaka 10101 ZAMBIA
tel: 260-1-221-722
fax: 260-1-221-722
e-mail: nmutoti@boz.zm

Greek Participants

N. Christodoulakis
Deputy Minister of Finance
37, E. Venizelos Avenue
Athens 101 65

N. Garganas
Deputy Governor, Bank of Greece
Economic Research Department
21, E. Venizelos Avenue
Athens 102 50
Fax 30 1 3233025

S. Thomadakis
Chairman, Capital Markets Commission
Kolokotroni 1 & Stadiou str.

N. Zonzilos
Bank of Greece
Economic Research Department
21, E. Venizelos Avenue
Athens 102 50
Fax 30 1 3233025

S. Kalyvitis
University of Cyprus
P.O. Box 20537, 1678, Nicosia

L. Zarangas
KEPE
22, Hippokratous str.
Athens 106 80
Fax 30 1 3630122
e-mail: lzaragas@kepe.gr

S. Balfoussias
KEPE
22, Hippokratous str.,
Athens 106 80
Fax 30 1 3630122
e-mail: stbalf@kepe.gr

R. Loufir
IOBE
11 Tsami Karatassi str.,
Athens 117 42
Tel 30 1 9211251
emal: rloufir@iobe.gr

N. Leandros
Panteion University
Syngrou Ave. 136

H.D. Gibson
Bank of Greece
Economic Research Department
21, E. Venizelos Avenue
Athens 102 50
Fax 00 30 1 3233025

S. Brissimis
Bank of Greece
Economic Research Department
21, E. Venizelos Avenue
Athens 102 50
Fax 00 30 1 3233025

G. Hondroyiannis
Bank of Greece
Economic Research Department
21, E. Venizelos Avenue
Athens 102 50
Fax 00 30 1 3233025

Annex C

List of Papers Distributed

1.	WORLD ECONOMIC OUTLOOK	DPAD/EAOB
2.	The Annual Model of the POLISH Economy:	W. Welfe, W. Florczak and A. Welfe
3.	A Quarterly Model of the RUSSIAN Economy:	E. Gavrilenkov, SGB Henry and J. Nixon
4.	The **MacSim** Project	The Macsim team
5.	The **Asian** Currency Crisis	D. Cho and K. Hong (Korea Dev. Inst.)
6.	Capital Controls – MALAYSIAN Economy	Dr. M. Samudram
7.	Testing for non-linearities and unit roots in Real Exchange Rates – further evidence	U.R. Patel (India)
8.	Sample Selection Problems in a Macroeconomic Model Context – Some further Results	G. Barabas and Ul Heilemann (RWI)
9.	Macromodel of the ROMANIAN Economy	Prof. E. Dobrescu
10.	Discovering the Cultural Roots of Economics	Prof. S. Theofanides (Hellenic Eco. Assoc.)
11.	Determination of Wage and Price Inflation in GREECE	S. G. Hall and N. Zonzilos
12.	Pegging the CEECs' Currencies to the Euro	A. Bénassy-Quéré and A. Lahréche-Révil
13.	The Impact of East Asian Crisis on GHANA	C.K. Dordunoo and H.A. Sackey
14.	Econometric Inflation Targeting	G. Mrdsen, E. Jansen & R. Nymoen (Norway)
15.	The Outlook for World Agricultural Markets: A FAPRI Perspective	Robert Young II & Patric Westhoff
16.	Managing Monetary Policy under Uncertainty: The Value of Publishing Official Central Bank Forecasts	J. Tarkka and D. Mayes
17.	A Note on SWITZERLAND's Economy	J-C. Lambelet and A. Mihailov

35. A Four-Sector Macroeconometric Model for GREECE	N.M. Christodoulakis & S.C. Kalyvitis
36. Long Term Economic Forecasts for CHINA: 2000-2050	Shen Lisheng
37. The Forecast for World Oil Markets	Robert W. Kaufmann
38. GREECE: Some Basic Economic Indicators	Economic offices of the PM.
39. Monetary Policy and Economic Outlook	Bank of FINLAND Bulletin
40. Labour Market Policies: The DUTCH Miracle	Hans Timmer
41. Measuring Core Inflation in GREECE	S. Balfoussias & L. Zarangas
42. The Supply side of the Macroeconometric KEPE model	S. Balfoussias
43. America Latina (Transparencies)	ECLAC
44. Markov Switches in Crisis Prediction Models	Roberto S. Mariano
45. The Effect of the Asian Fianancial Crisis on Trade Liberalization in APEC	Mun-Heng TOH and Kong Yam Tan

PRESS RELEASE – National Institute Economic Review