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INTERNATIONAL MONETARY FUND

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WP/94/87

INTERNATIONAL MONETARY FUND

External Relations Department

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"ERM Money Supplies and the Transition to EMU" by Marcel Cassard,
Timothy Lane & Paul Masson

Interest in monetary aggregates extending beyond national borders has been stimulated by the agreement reached by European Community (EC) countries at Maastricht in December 1991 to proceed to monetary union (EMU). The eventual achievement of EMU would naturally lead to the use of monetary indicators for the monetary union as a whole; the properties of an aggregate of national money demands are therefore of interest. A European central bank would need credible targets, and it is possible that cross-country monetary aggregates could provide the basis for monetary targeting. Moreover, the presumption that money demands in EC countries will be increasingly affected by currency substitution as financial integration proceeds, and the likelihood that economic activity and inflation are influenced by monetary conditions in other countries, also make it natural to consider cross-country monetary aggregates.

The paper considers two empirical questions for a core group of countries that have maintained their parities against the deutsche mark for an extended period of time: 1) whether demand for core-ERM M3 is more stable and predictable than national demands for money; and 2) whether monetary aggregates in other countries are useful indicators of future trends in inflation. The paper focuses on aggregating German data with those of France, Belgium, Luxembourg, the Netherlands, and Denmark, which have low inflation, and which have not realigned relative to the deutsche mark since at least January 1987--in the case of the Netherlands, since March 1983. The Belgium-Luxembourg monetary union and the Netherlands have also limited fluctuations of their currencies relative to the deutsche mark to a greater extent than required by the narrow ERM band.

The conclusion of the preliminary work reported in the paper is that there appears to be some evidence of a long-run money demand relationship for a core group of ERM countries between M3, economic activity, the price level, and either domestic or German interest rates. Such a long-run relationship, together with an estimated dynamic adjustment equation, might be a useful indicator when formulating German, and ERM, monetary policy in the transition to monetary union. Though currency substitution is not tested directly, the stability of the core-ERM aggregate may reflect this phenomenon to some extent; currency substitution may also have caused the apparent lack of robustness of national money demands.

The results also show that core-ERM money has predictive power for German inflation. This is important because it suggests that other countries' money supplies may also be useful indicators in achieving German domestic targets. One aspect of the results that is particularly suggestive is that estimates of core-group money demand and tests of linear feedback are stronger for the period from 1983 onward, when exchange-rate fluctuations within the core group were limited. This implies that as a zone of exchange rate stability is maintained, at least among a small group of countries, and as European integration proceeds, the relevance of core-group ERM money may increase.

JEL Classification Numbers:
C22, E31, E58

Summary of
WP/94/2

**"Long Memory Processes and Chronic Inflation:
Detecting Homogeneous Components in a Linear
Rational Expectation Model" by Fabio Scacciavillani**

Pathological economic phenomena like hyperinflation or chronic inflation have been often attributed to nonfundamental influences, which implies that they are difficult to control by conventional policy instruments. In the literature, such influences have been given different names--for example, bubbles, sunspots, or extraneous effects--but essentially they all represent the homogenous component of the solution to an expectational equation. Hamilton and Whiteman (1985), extending the results by Flood and Garber (1980), have shown that the presence of nonfundamental influences can only be verified by analyzing the difference between the dynamics of the narrow money supply and the price level series, as reflected in their respective orders of integration. If the former is exogenous with respect to the latter, a nonfundamental influence can be assumed to exist.

Evans (1990) criticized this approach, asserting that conventional tests fail to reject the hypothesis that a particular exploding bubble process is nonstationary. Accordingly, he concluded that the Hamilton and Whitman approach has limited practical application.

This paper illustrates the reasons for Evans' results and explains how his critique can be overcome by using fractionally integrated processes, which allow greater flexibility in modelling long-cycle components of nonstationary time series by extending the standard time-series methodology to noninteger orders of integration.

The empirical part of the paper focuses on the estimation of the fractional orders of integration of money supply and price level in six countries using an exact maximum-likelihood method devised by Sowell (1990). The objective was to test the hypothesis that high inflation is caused by self-fulfilling expectations, as reflected by a homogeneous term in the solution to the expectational equation. For all six countries, the presence of an homogeneous component is rejected. However, in a few cases there is a slight difference in the order of integration, which is attributed to protection from inflation accorded to particular groups, for example in the form of wage indexation.

JEL Classification Numbers:
G18, G21, P52

Summary of
WP/94/3

"Money Demand, Bank Credit, and Economic Performance in Former Socialist Economies" by Guillermo A. Calvo and Manmohan S. Kumar

This paper examines factors that determine the volume of bank credit allocated to the enterprise sector and the implications of this allocation for aggregate supply and macroeconomic performance in former socialist economies. It first develops a model to explain how changes in the demand for money by the household sector directly influence the volume of loanable funds and credit, which in turn determines aggregate output and employment. The model suggests that if firms cannot obtain sufficient working capital, then production will be cut back. It is shown, however, that attempts to increase credit through inflation may exacerbate the credit crunch because of the effect of inflation on the demand for deposits.

The paper next examines factors that determine how bank credit is allocated between enterprises and other borrowers, in particular, the government. The reasons why banks may prefer to finance government deficits rather than make potentially more profitable loans to enterprises are examined. It is suggested that a preference for lending to the government, while perfectly rational from the perspective of individual banks, may create a vicious cycle of low output, low profits, high fiscal deficit, and, again, low credit to enterprises. The paper considers empirical evidence for a number of Eastern European countries that is consistent with this hypothesis and discusses a number of policy options for increasing the provision of credit to potentially viable enterprises.

Finally, the paper discusses the relative merits of bank finance and equity capital for medium- and long-term investments. In a credit market with imperfect information, liberalization of the banking sector would not necessarily lead to efficient allocation of long-term capital. This is due to the adverse selection effects that occur when debt contracts are used in the presence of asymmetric information. Equity contracts, however, are free from the adverse selection effect and thus could overcome inefficient allocation of capital when the same degree of imperfect information on borrowers exists as in the case of debt contracts. However, a number of important constraints exist on the development and efficient functioning of equity markets in the former socialist economies, and the paper notes some policies that might be implemented to overcome them.

JEL Classification Numbers:
D58, E13, H20

Summary of
WP/94/4

"The U.S. Public Debt: Implications for Growth"
by Carlos M. Asilis

The effects of future taxes on economic growth will differ according to the mix of factors of production on which taxes are levied. Calculations of such effects change according to the factors on which taxes are levied (physical versus human capital); the magnitude of depreciation rates for both types of capital; the tax treatment of inputs in sectors producing human capital; and share parameters in input-producing sectors.

This paper examines quantitatively the implications of the current U.S. public debt-to-GDP ratio for economic growth. The analysis extends a general endogenous growth model to account for the Government's solvency constraint. It finds that while further increases in the U.S. public debt may negatively affect long-run economic growth, the order of magnitude of such effects is likely to be rather small and is likely to be highest at debt-to-GDP ratios substantially higher than the current one (in the 200 to 250 percent range).

The effects of fiscal corrections on economic growth are derived by using alternative measures of the debt-to-GDP ratio, gross and net of approximate adjusted present values of social security liabilities. The results are of interest not only because, by providing bounds, they constitute a benchmark against which one can rule out some fiscal correction plans but also because of the sensitivity of growth effect calculations in nondebt settings.

JEL Classification Numbers:
F14, F32

Summary of
WP/94/5

"Comparative Advantage, Exchange Rates, and G-7
Sectoral Trade Balance" by Stephen Golub

This paper investigates the relationship between comparative advantage and sectoral trade balances for the seven major industrial countries (the G-7). It has been motivated in part by the widely-held view that Japan's sectoral trade balances must be "managed" because Japanese trade is not responsive to normal market forces. This paper uses a Ricardian framework to clarify the role of microeconomic and macroeconomic factors in the time series and cross-sectional behavior of sectoral trade balances. The comparative advantage of the United States and Japan relative to the other G-7 countries is evaluated using relative unit labor costs, and an attempt is made to explain sectoral trade balances. The time series and cross-sectional variation in sectoral unit costs is decomposed into relative productivity, wage differentials, and exchange rate variations.

Japanese productivity has grown rapidly relative to other countries, but it has an unusually high dispersion across sectors. For many sectors, Japan's productivity in the late 1980s remained well below that of the United States and the G-7 average, but in a few manufacturing sectors Japan was at the top of the G-7 productivity league. U.S. productivity in agriculture and aggregate manufacturing remained well above that of the other G-7 countries. Relative to the aggregate economy, U.S. manufacturing wages were relatively high, while Japanese manufacturing wages tended to be slightly below average, which enhanced Japan's competitiveness in this sector. Exchange rate changes have played a large role in the medium-term behavior of unit labor costs, especially in the 1980s, when U.S., Japanese, and German competitiveness was strongly influenced by the rise and fall of the dollar.

A statistical analysis finds that changes in the sectoral trade balances are well explained by the evolution of unit labor costs, although the levels of these two variables across countries are sometimes difficult to reconcile because some of the data limitations on trade flows, productivity, and unit labor costs are more acute for assessing levels rather than changes over time. Moreover, it is likely that sectoral nonlabor costs, such as raw materials, vary less over time than across sectors. Except for Canada, the regressions provide some support for the theory of comparative advantage, as sectoral trade balances are usually negatively related to relative unit labor costs. The United States and Japan stand out among the G-7 countries as having sectoral trade balances that are more responsive to sectoral competitiveness over time. Taken together, the regression results indicate that Japan's trading pattern is explained by the Ricardian model better than the patterns of many of the other countries, contrary to the conventional wisdom that Japanese trade is unresponsive to normal market mechanisms.

JEL Classification Numbers:

E65, P20, P22, P24, P27

Summary of

WP/94/6

"Measuring the Transition: A User's View on
National Accounts in Russia" by Vincent Koen

As Russia's transition unfolds, the traditional national accounts concepts and reporting mechanisms become increasingly inadequate. Notwithstanding the substantial work already carried out by the statistical authorities, with the technical assistance of several multilateral institutions, the margin of error associated with basic price and quantity estimates is widening substantially. This paper discusses key measurement and interpretation issues and provides examples that reveal the dangers associated with uncritical use of raw data. While the paper's focus is on Russia, similar issues arise in the other states of the former Soviet Union and, to a lesser extent, in the economies in transition of Central and Eastern Europe.

Severe index problems affect the measurement of prices and volumes. In a short period, Russia moved from a system of rigid price lists to decentralized price setting and from repressed to open--and very high--inflation. Even with the best statistical apparatus, such a radical change would create extremely difficult measurement problems. Given the breakdown of the traditional reporting mechanisms and the extent of structural change, the information conveyed by the existing retail and producer indices became misleading and a new consumer price index was set up. Further work, however, remains to be done on the other key deflators, which either suffer from technical deficiencies or are not available. For the same reasons, output volumes are mismeasured, all the more so because the traditional census approach to data collection often prevails. The problem is particularly acute for the service sector.

Some of the analytical and policy implications of these index problems are discussed. Estimates of the size of the economy are likely to vary considerably depending on the indices used, implying that cross-country comparisons are hazardous. Rates of change in real output are also difficult to measure under these circumstances. An assessment of the evolution of wages, consumption, profits, and stockbuilding in real terms is heavily influenced by the choice of deflator. Pervasive arrears and tardy adjustments for inflation in stock valuation distort some of the key aggregates in the national accounts.

JEL Classification Numbers:
C22, E3, E61

Summary of
WP/94/7

"Commodity Prices: Cyclical Weakness or Secular Decline"
by Carmen M. Reinhart and Peter Wickham

The reliance on primary commodities as the main source of export earnings has not diminished for many countries, particularly in Africa, where manufactures often account for less than 15 percent of merchandise exports. Since their short-lived recovery in 1984, real commodity prices have fallen by about 45 percent, translating into a sharp deterioration in the terms of trade for most commodity exporters. Not surprisingly, therefore, the performance of real export earnings for many developing countries during the 1980s and 1990s has been closely linked to the countries' success in diversifying their export base.

During 1992 (the latest year for which an annual average is available) the price of commodities relative to that of manufactures reached its lowest level in over 90 years. While the data might appear to support the Prebisch-Singer hypothesis of a negative trend in real commodity prices over the longer term, the focus of the paper is more on the current policy implications of the behavior of real commodity prices. For example, efforts to stabilize incomes of commodity producers for an extended period of time must take into account the fact that real commodity prices have not shown signs of fluctuating around a constant mean.

The paper aims to provide stylized facts about the behavior of commodity prices that may be useful in formulating the policy response to commodity price shocks. For instance, the usefulness of a stabilization fund depends crucially on whether the shocks to commodity prices are primarily of a temporary or a permanent nature. Further, even if temporary shocks play a dominant role, the ability to stabilize depends on the persistence of shocks and the duration of cycles. Similarly, the benefits that can be obtained from precautionary savings and hedging strategies will be greater in a more volatile and uncertain environment.

The paper examines these issues using quarterly data for the period 1957:I-1993:II for some of the major commodity groupings. It reaches the following conclusions. First, the recent weakness in real commodity prices is primarily of a secular persistent nature, and not the product of a large temporary deviation from trend. Therefore, a rebound in real commodity prices to their pre-1980s level, while always possible, does not appear probable. Second, the relative importance of permanent shocks varies considerably across commodity groupings, as do the characteristics of the cycle, suggesting that the scope for stabilization policies is commodity-specific. Finally, the volatility in commodity prices has risen steadily and considerably since the early 1970s, particularly for the once relatively-stable food grouping.

JEL Classification Numbers:
E21, F32, F41, O13

Summary of
WP/94/8

"Export Instability and the External Balance in
Developing Countries" by Atish Ghosh and Jonathan Ostry

Export instability, that is uncertainty about the export earnings accruing to a country, is an important source of macroeconomic uncertainty in developing countries. Moreover, the relevance of this issue has increased recently, as policymakers in a number of developing countries have turned their attention to the problems associated with, on the one hand, the sharp decline in commodity prices since the mid-1980s, and, on the other, the steady increase in the volatility of commodity prices over the past two decades.

How should the various agents in an economy respond to greater uncertainty about the prices of a principal export, and the resulting volatility in real export earnings and real incomes? One answer is provided by the theory of precautionary savings, which hitherto has been used to explain household responses to uncertainty in labor incomes. This theory suggests that in response to an increase in the volatility of household labor income, arising, say, out of an increase in the probability of being unemployed, households should increase their savings in order to insure themselves against the greater probability of a large negative income shock in the future. The hypothesis that is tested here is that, in response to increased uncertainty about export earnings, countries need to save more in order to insure themselves against potentially greater income shocks in the future. Moreover, in an open economy, these greater savings should show up, in the aggregate, in the external current account balance, which measures national savings net of investment.

The results suggest that, in general, there is evidence that developing countries have increased their savings (and external current account balances) in response to increases in export instability over the past two decades. Moreover, these savings have not been insignificant, amounting--for example--to about 3 1/2 percent of average imports for the nonfuel primary commodity exporters, and substantially more for the fuel exporters. There are, however, interesting regional differences, with countries that had difficulty achieving even subsistence consumption levels finding it difficult to maintain precautionary balances when export uncertainty increased.

JEL Classification Numbers:
E30, F39

Summary of
WP/94/9

"The Macroeconomic Determinants of Commodity Prices"
by Eduardo Borensztein and Carmen M. Reinhart

Commodity markets play a central role in transmitting shocks internationally. Given this role, and the marked fluctuations in commodity prices and volumes in recent years, a comprehensive analysis of the macroeconomic factors having an impact on commodity markets becomes an important factor in policy design, particularly for those countries that rely heavily on primary commodity exports and that are facing substantial terms-of-trade shocks.

While markets for individual commodities are affected by a variety of specific factors in their day-to-day evolution, the aggregate index of non-oil commodities has been treated as a variable whose movements on a quarterly or annual basis are related to prevailing macroeconomic conditions. Studies stressing a "structural" approach to commodity price determination have found that two (demand-side) variables did well in explaining the variation of commodity prices: the state of the business cycle in industrial countries and the real exchange rate of the U.S. dollar. By late 1984, however, the "demand-driven" framework began to systematically overpredict real commodity prices by wide margins and the forecasts have continued to be off-track, suggesting that one or more important variables were being left out of the analysis.

The purpose of this paper is to identify the main economic fundamentals that lie behind the behavior of commodity prices, particularly the recent weakness, and quantify the relative importance of each of these factors over time. The authors extend the "traditional structural approach" described above by incorporating two important developments in international commodity markets of the 1980s and 1990s. These were an increase in commodity exports as developing countries tried to service burgeoning debts, and weaker demand by the economies in transition combined with a sharp increase in the supply of several commodities by these countries.

The main results can be summarized as follows. First, the constructed commodity supply index markedly improves the fit of the structural model and, more important, significantly reduces the out-of-sample overprediction of real commodity prices. Second, while output in Eastern Europe and the former Soviet Union appears to have played a minor role early in the sample period, it acquires an increasingly important role in the more recent period. And third, estimates using quarterly data suggest that while the full structural model does not outperform a random walk forecast of real commodity prices for short-term forecast horizons, it does do so for a longer-term forecast horizon (5 to 31 quarters) and captures the major turning points in real commodity prices during the 1985-1992 period.

JEL Classification Numbers:

D40, P22, P23, P31

Summary of

WP/94/10

"Shortage Under Free Prices: the Case of Ukraine in 1992"
by Alexander Sundakov, Rolando Ossowski, and Timothy Lane

During 1992, the recorded retail price level in Ukraine grew more than twenty fold, strongly suggesting that the Soviet-style repressed inflation had been transformed into an open process. Yet, to an important extent, Ukraine remained a shortage economy. Consumers were unable to obtain goods at posted prices in the still-dominant state stores. Similarly, the output of many enterprises was apparently constrained by lack of inputs rather than by insufficient demand for their products at going prices.

The analysis of price policies during 1992 indicates that, despite a whole range of government interventions, many enterprises--particularly those supplying non-food consumer goods--were substantially free to set market-clearing prices for their output. The evidence on persistent shortages of goods with free prices, therefore, suggests that in 1992, at least some producers may have deliberately chosen to maintain excess demand for their goods.

The paper focuses on the role of continued central allocation of key inputs at below-market prices. If central allocators supply inputs in response to perceived "need"--that is, excess demand--it may be rational for enterprises to set their output prices at less than what the market would bear in order to obtain a greater proportion of inputs centrally. Under plausible circumstances, the reduced costs of inputs through this strategy would outweigh the direct loss of revenue associated with below-market-clearing prices. The main conclusion is that, at least in some sectors of the Ukrainian economy during 1992, continued central allocation of key inputs created incentives for enterprises to perpetuate excess demand despite formal price liberalization.

The analysis in this paper is of direct relevance to those economies in transition that retain central allocation structures. First, an economy in transition that liberalizes prices but continues to allocate some inputs is likely to remain mired in a web of price distortions. While compulsion is removed, strong incentives remain for non-equilibrium pricing. Central allocation mechanisms produce a conduit through which price controls that continue to be applied in some markets spill into liberalized markets. Second, while the retention of central allocation is frequently justified by the authorities as a way of maintaining output of the state sector, it in fact creates incentives for enterprises to reduce production. In order to signal "need" to the authorities, enterprises appear to restrict both quantity and prices.

JEL Classification Numbers:
E42, E58, O57

Summary of
WP/94/11

"Monetary Policy in Unified Currency Areas: The Cases of
the CAMA and ECCA during 1976-90" by Jean-Claude Nascimento

The paper reviews and compares the performance of the monetary policy of the Banque des Etats de l'Afrique centrale (BEAC) and the Eastern Caribbean Central Bank (ECCB) during 1976-90. Both the BEAC and the ECCB conduct monetary policy under a fixed collective peg--to the French franc in the case of the BEAC and to the U.S. dollar in the case of the ECCB--but under different regimes of external convertibility--liberal in the case of the Central African Monetary Area (CAMA) but fairly restricted in the case of the Eastern Caribbean Currency Area (ECCA). The paper concludes that the two institutions achieved opposite results in their net foreign reserve position because they used different mechanisms for monetary control and because of differences in their institutional setup and their rules for limiting credit expansion.

The ECCB strengthened the net foreign position of the banking system by relying on an active interest rate policy aimed at preventing capital outflows. Its centralized policymaking and stringent monetary rules also contributed to the success of its monetary policy during the study period. In contrast, the banking system of the CAMA suffered massive foreign reserve losses largely as the result of the BEAC's pursuit of an essentially accommodating monetary policy. The inefficiency of the BEAC's mechanism for monetary control is largely responsible for these reserve losses, although adverse exogenous shocks (e.g., a drop in world oil prices) also played a role. Because the BEAC pursued a rigid interest rate policy during most of the study period, it was also unable to stem large capital outflows.

JEL Classification Numbers:
R21, R31, D84, E5, C12, C13

Summary of
WP/94/12

"Real Estate Price Inflation, Monetary Policy, and Expectations in
the United States and Japan" by Hossein Samiei and Garry Schinasi

In reviewing the asset price cycles that occurred in the 1980s in the United States and Japan, it appears that the effects of excessively expansionary monetary policies were more highly concentrated in real estate markets than is usually the case during an economic boom. The principal aim of this paper is to test the hypothesis that monetary policy affected real estate prices differently in the 1980s than it did in the 1970s. A model of price-determination is developed in which the equilibrium price of real estate relative to a more general price index is influenced by various demand and supply factors, including real income and cost variables, monetary policy variables, and expectations. Various empirical representations of the model are estimated using maximum-likelihood techniques under different assumptions about both the role of expectations and the model's dynamic structure.

The estimated equations suggest that monetary policy variables were important determinants of the relative price of real estate in the United States and Japan, and that there was a structural break in both countries in the 1980s. In particular, the results indicate that interest rates became a statistically more significant determinant of real estate values. Moreover, the within-sample predictions of the model indicate that the relative price of real estate would have increased less in the United States, and adjustments would have been less volatile in Japan, had the structural break not occurred.

JEL Classification Numbers:
E58, G21, P34

Summary of
WP/94/13

"The Payments Systems Reforms and Monetary Policy in
Emerging Market Economies in Central and Eastern Europe"
by Thomas Baliño, Juhi Dhawan, and V. Sundararajan

This paper discusses the experience of four countries in Central and Eastern Europe (Bulgaria, the former Czechoslovakia, Poland, and Romania) in adapting their payments systems to the requirements of an emerging market economy.

An efficient and reliable payments system is crucial for the development of modern money and foreign exchange markets, which require timely execution of operations. Moreover, interbank settlement in the books of the central bank is a prerequisite for the central bank to be able to manage monetary policy through indirect monetary instruments.

Central banks in Central and Eastern Europe have been key players in reforming the payments system in each country. They faced enormous challenges, not only because of the great changes that the whole banking system was experiencing at the time, but also because of difficulties in communications and lack of modern technology. Initially, commercial banks had to hold large reserve balances or obtain on-demand accommodation from the central bank in order to meet their settlement obligations. Large and volatile floats made it difficult for both banks and the monetary authorities to manage liquidity. As a result, central banks resorted to credit ceilings as a key tool for implementing monetary policy.

Progress in reforming payments systems made it possible to introduce market-based instruments, such as treasury bills or central bank securities. Interbank transactions, initially limited only to deposits of relatively long maturities started to provide short-term liquidity. Central banks began to experiment with indirect monetary policy instruments to replace credit ceilings. They also began to tighten access to their overdrafts, in order to improve control over monetary policy. Progress in monetary policy implementation and in the development of money markets created a demand for faster and more reliable payments systems. Central banks not only introduced more modern technology but also revised payments regulations and abandoned practices, such as the obligation for banks to meet reserve requirements on a branch-by-branch basis, that forced banks to immobilize large amounts of funds in excess reserves.

Despite starting with basically the same institutional arrangements, the countries considered in this study have had different experiences in reforming their payments systems. The following lessons can be drawn from the study: first, technology available early on in the reform can improve accounting rules and transportation and processing procedures enough to reduce significantly the level and variability of the float. Second, central banks should play a key role in managing the credit and liquidity risks in payment systems. Third, commercial banks holding accounts with the central bank should settle balances among themselves through those accounts. Fourth, early establishment of a large-value payments system will help in developing money and foreign exchange markets.

JEL Classification Numbers:
H20, 041

Summary of
WP/94/15

"Endogenous Time Preference and Endogenous Growth" by Howell Zee

The paper develops a one-sector aggregate endogenous growth model with intertemporal preference dependence. In addition to its conceptual appeal, the endogenous time preference construct provides a rigorous basis for generating meaningful transitional dynamics even within the confines of a simple one-sector model. The model has two important attractive attributes: (i) in contrast to those of the neoclassical and most other endogenous growth models with constant time preferences, its transitional dynamics do not instantaneously vanish in the face of a perfect international capital market, because the implied intertemporal elasticity of substitution with a *time-varying time preference changes along the path of transition to the steady state*; and (ii) it avoids the necessity of employing more complex, multi-sector models in analyzing many growth issues, which invariably diminish analytical transparency and tractability.

The specific model examined possesses the fundamental property of growth convergence, that is, countries with identical parameters regarding technology, preference, and government policy will converge to a steady state with the same (positive) growth rate. At the same time, the model is not necessarily inconsistent with the large differences in cross-country growth rates which may be observed over prolonged periods of time, since such differences could well be attributable to the lengthiness of the transition, among other things. However, the plausibility of this explanation will not be known until quantitative simulations of the model based on specific parameter values have been carried out.

A notable tax policy implication of the model concerns the growth effects of an income tax. In virtually all endogenous growth models in the literature, an income tax, by reducing the net-of-tax return to capital, exerts a negative impact on growth, unless the tax revenue is used to finance some productive public good, such as infrastructure. In a model with endogenous time preference, income tax will still lower the net-of-tax return to capital at an unchanged rate of savings. However, the rate of savings will be raised, as the tax depresses consumption, which in turn has a positive impact of growth. Hence, even in the absence of externalities, the model shows that the growth effects of an income tax are ambiguous and dependent on the relative magnitudes of the tax rate and the tax elasticity of the savings rate. At a minimum, this illustrates that the relationship between income taxation and growth may not be as straightforward as the existing literature seems to suggest.

JEL Classification Numbers:
D50, Q10, J61

Summary of
WP/94/16

"Geography, Trade Patterns, and Economic Policy"
by Carlos M. Asilis and Luis A. Rivera-Batiz

This paper presents a geographical theory of location and interregional trade patterns. Location is treated as an endogenous variable by firms, consumers, and perfectly mobile workers in a two-sector economy. Space plays a central role owing to transportation costs, market access, and distance from polluting industrial centers. The model is used to examine (1) a compensating-differential theory of regional unevenness, (2) the theoretical formulation for a gravity theory of trade patterns, (3) the geographic basis of industrial and environmental policy, and (4) the interaction among transportation costs, location, and technological improvements.

The model determines the potential range of locations of industrial centers and land-use patterns; unevenness in measured real wages arises according to geographic location. However, under perfect labor mobility, compensating differentials in nonmarket variables, such as the intensity of pollution, lead to an equilibrium in which there is no incentive to relocate. These compensating differentials are location specific. Measured differentials in regional income and observed geographic dispersion of economic activities reflect the equilibrating role of nonpecuniary compensating differentials. Even in otherwise fully convergent processes, this form of unevenness remains as a residual divergence.

Explanations of bilateral trade flows frequently rely on the so-called gravity model, which stresses that economic size relates positively to trade and that transportation costs cause distance to relate negatively to bilateral trade flows. The basic notions of the gravity model are formalized and extended by examining the roles of distance and transportation costs in a model in which space and distance enter explicitly. The positive roles of economic size and associated specialization in trade are validated in our analysis, but the impact of distance is shown to be more complicated--"unnatural" trade between distant partners emerges endogenously from factor endowments and regional location decisions.

Technological change in this model can arise from the agricultural, manufacturing, and transportation sectors. For certain parameter values, reductions in transportation costs promote industrial expansion; for other values, reductions in transportation costs result in less industrial variety up to a certain point, after which industrial variety increases. At very low levels of transportation cost, a paradox emerges: advances in communications enhance the mass of industrial concentration but also give rise to greater dispersion in agriculture. Finally, the model's comparative static results show that the source of technological change cannot be determined simply by looking at the measured expansion of sectors' sizes and productivities.

JEL Classification Numbers:
F31, F32, F41

Summary of
WP/94/17

"Robustness of Equilibrium Exchange Rate Calculations
to Alternative Assumptions and Methodologies"
by Tamim Bayoumi, Peter Clark, Steve Symansky, and Mark Taylor

This paper explores a number of methodological issues that arise in the calculation of exchange rates consistent with macroeconomic equilibrium, that is, internal and external balance. Although we use the term "desired equilibrium exchange rate" (DEER), it is not that the exchange rate that is desired for its own sake, but rather that it is consistent with achieving "desired" positions of internal and external balance.

A partial equilibrium, comparative static analysis is presented and the methodology is applied to the breakup of the Bretton Woods exchange rate system. Given estimates of the full employment level of output and of the desired current account, the DEER is defined as the level of the real effective exchange rate consistent with achieving these objectives in the medium term. Alternative estimates of DEERs are obtained using different assumptions about underlying parameters and variables. The results indicate that changes in the underlying assumptions can have a significant impact-- between 10 and 30 percent in effective terms-- on estimated DEERs. This wide range of estimates underlines the need for caution in identifying any given exchange rate as "the" appropriate equilibrium value. Nevertheless, all of the calculations imply that the U.S. dollar was overvalued and the yen undervalued at their 1970 parities.

The dynamic interaction between current accounts and net foreign assets is explored by taking account of certain hysteresis effects. Given that deviations of the actual exchange rate from the DEER generate changes in the current account and hence movements in the amount of equilibrium debt service, it is clear that the level of the real exchange rate consistent with medium-term external balance will shift as long as the actual real exchange rate deviates from the DEER. Thus, the final DEER determined will not be independent of the path chosen towards it.

Finally, the analysis uses a more general equilibrium approach based on MULTIMOD simulations. Because MULTIMOD is a fully-specified dynamic macroeconomic model, all major simultaneous effects are taken into account. The aim is to see what difference a full model simulation makes to the calculated change in the real effective exchange rate simulation, as well as to estimate the likely domestic economic effects of a change in the external balance. Because the exchange rate is determined endogenously in the model, it is necessary to use a "forcing" or exogenous variable to change the exchange rate in order to achieve the desired change in the external balance. The specific type of exogenous variable will have an effect on the entire macroeconomic system and will therefore influence the level of the real effective exchange rate that is consistent with the desired positions of internal and external balance. In particular, the two types of shocks considered here (changes in currency preferences and fiscal policy) have very different implications for medium-term real output and interest rates and ultimately result in some differences in the estimated DEERs.

JEL Classification Numbers:
F21, F23, H25, H87

Summary of
WP/94/18

"Withholding Taxes and the Cost of Public Debt" by Harry Huizinga

Several industrialized countries, including Australia, Italy, Japan, Spain, and Switzerland, levy withholding taxes on interest paid on the public debt to nonresidents. This paper examines to what extent nonresident withholding taxes on public interest affect the cost of government borrowing. Arbitrage is assumed to ensure that investors receive equal after-tax risk-adjusted returns whether they invest in public debt or Eurocurrency deposits in the same currency. An unknown parameter in the arbitrage condition is the extent to which investors receive a foreign tax credit for the nonresident withholding taxes paid abroad. Commercial banks are the primary investors in the Eurocurrency deposit market. Generally, banks are subject to corporate income tax and thus can obtain foreign tax credits. Other international investors such as pension funds and insurance companies, however, are tax exempt in some countries.

The empirical analysis shows that pretax public interest rates are increased by about half of the tax withheld. A fractional grossing-up of withholding taxes into higher pretax interest rates suggests that offsetting foreign tax credits from their home country tax authorities partly compensate international investors for nonresident withholding taxes. Investors that evade their home country income taxes on foreign source interest income clearly cannot obtain credits. The partial gross-up, therefore, suggests that the marginal arbitrageur between public debt and Eurocurrency assets does not evade his home country income taxes.

The paper estimates the gross-up of nonresident withholding taxes into higher government debt yields separately on the assumption that the investor is a resident of Germany, Japan, and the United States, respectively. Pretax interest rates appear to be most sensitive to withholding taxes imposed on investors resident in Japan. This finding reflects that either (i) Japanese holdings of international public debt are sizable enough to affect yields, or that (ii) Japanese investors receive relatively sparse offsetting income tax credits. The size of the gross-up changes over time and was more pronounced in 1991-93 than in 1989-90. This suggests that, as the state of the economy generally worsened from the late 1980s to the early 1990s, investors have anticipated relatively small offsetting foreign tax credits. The main role of international interest withholding taxes applied to government debt appears to be redistributive. Nonresident withholding taxes enable borrowing countries to capture part of the tax revenue associated with the interest income, at the expense of the lending country's tax authority. Coordination of nonresident withholding taxes thus appears desirable for reasons of international equity.

JEL Classification Numbers:
F31, F41

Summary of
WP/94/19

"Real Exchange Rates and the Prices of Nontradable Goods"
by Stefano Micossi and Gian Maria Milesi-Ferretti

Until September 1992, the European Monetary System (EMS) was characterized by an appreciation of the real effective exchange rate in higher inflation countries, such as Italy and Spain. EMS members have also experienced very different dynamics in the relative price of tradable goods in terms of nontradables, and in relative sectoral productivity.

This paper tries to provide a perspective on real exchange rate developments after the inception of the EMS. It focuses on structural determinants of real exchange rates, notably prices of tradables and non-tradables, and productivity. The analysis shows that changes in the relative price of tradable goods in terms of nontradables account for a sizable fraction of real effective exchange rate dynamics until September 1992 in both Italy and Spain.

In accordance with theory, the study shows that sectoral productivity growth differentials help explain the behavior of the relative price of tradable goods, especially in the long run. There is also some evidence that the EMS had an impact on relative price behavior.

Finally, productivity developments may also explain the divergent behavior of real exchange rate indicators, such as those based on relative value-added deflators and relative unit labor costs.

JEL Classification Number:
F31

Summary of
WP/94/20

"Realignment Expectations, Forward Rate Bias, and Sterilized Intervention in an Adjustable Peg Exchange Rate Model with Policy Optimization" by Peter Isard

The paper models an adjustable peg exchange rate arrangement as a policy rule with an escape clause under which the timing and magnitudes of realignments are the outcomes of policy optimization decisions. Under the assumptions that market participants are rational, risk averse, and fully informed about the incentives of policymakers, the paper explores the implications (1) for relating realignment expectations to the variables that enter the policy objective function, (2) for modeling the bias in using forward exchange rates to predict future spot rates, and (3) for characterizing the effectiveness of sterilized intervention.

The analysis suggests that the co-movements of realignment expectations and the risk premium may be highly correlated, pointing to the possibility of bias in the existing methodology for constructing measures of realignment expectations. It also reconciles the view that macroeconomic fundamentals are relevant to realignment expectations, with the fact that the widening of constructed measures of realignment expectations for European exchange rates, during the summer of 1992, did not coincide with significant changes in macroeconomic conditions. In addition, the conceptual framework provides a model of the premium for bearing the risk of a policy decision to adjust the exchange rate peg--the type of event on which the peso-problem literature has focused--thereby integrating two of the proposed explanations of forward rate bias that are consistent with rational expectations.

The policy optimization framework provides useful insights on the effectiveness of sterilized intervention, including that its effects on the risk premium and on expected future exchange rates are not independent of each other. When market participants have complete information about the incentives of policymakers, the effectiveness of sterilized intervention depends critically on the relative weight attached to foreign exchange valuation losses in the policy objective function. Unless an increase in exposure to valuation losses makes the authorities more reluctant to realign, other things being equal, sterilized intervention will have no effect on rational assessments of realignment prospects. Furthermore, when sterilized intervention is effective, the time variation of realignment expectations and the risk premium may depend on the extent to which there are explicit or implicit constraints on the use of sterilized intervention as a policy instrument. When completely unconstrained, intervention can be used to prevent time variation in the state of the economy from generating time variation in realignment expectations, while also greatly mitigating the time variation in the risk premium. Accordingly, in empirical attempts to relate realignment expectations or the risk premium to fundamental macroeconomic variables, it may be important to take account of institutional considerations governing the use of sterilized intervention.

JEL Classification Numbers:
B22, S31, F33

Summary of
WP/94/21

"Exchange Market Pressures and Speculative Capital Flows in Selected European Countries" by Inci Ötker and Ceyla Pazarbasioglu

The emergence of intense pressures within the exchange rate mechanism (ERM) of the European Monetary System (EMS) in late 1992 and 1993 led to the suspension of two currencies, devaluations of three currencies, and a substantial widening of the fluctuation bands for most of the currencies of the ERM. The underlying causes of the recent currency turmoil attracted significant attention. Some have claimed that while sound economic policies were necessary, they were not sufficient to prevent speculative runs on currencies. Others have claimed that the speculative attacks were justified by the underlying economic fundamentals.

This paper estimates an extended speculative attack model of currency crises in an attempt to identify the roles of macroeconomic fundamentals and speculative factors in the recent and earlier currency crises in the European foreign exchange markets. Three approaches were used to estimate market expectations of devaluations and to calculate the probability of a regime change--either a discrete devaluation or a switch to flexible exchange rates--in a sample of five countries: Denmark, Ireland, and Spain, which are members of the ERM, and Norway and Sweden, which pegged their currencies to currency baskets or to the European currency unit (ECU). The first approach applies the probit technique to the basic speculative attack model, which calculates the probability of a regime change as a function of economic fundamentals (level of domestic credit, real effective exchange rates, foreign interest rates and price level, real output, unemployment rate, trade balance, and foreign reserves). This approach was used to evaluate whether a regime change was justified by economic fundamentals alone. Second, a version of the Bertola and Swensson (1990) model was used to capture the existence of speculative pressures on these currencies which operate through interest rate differentials, the current position of the currency within its fluctuation band, and the level of foreign reserves. Finally, speculative proxies were combined with economic fundamentals to evaluate the combined impact of these factors on the probability of a regime change.

The empirical analysis shows that both economic fundamentals and speculative factors had a significant influence on the probability of regime changes for the sample countries. The analysis also confirms that the latest realignments in the European foreign exchange markets were mainly the result of foreign exchange market tensions amidst the growing conflict between the needs of the domestic economies and the policies needed to maintain fixed exchange rates. Market participants perceived that the existing parities of the currencies in these five countries were inconsistent with their underlying economic fundamentals, regardless of the source of their deterioration, at the time of realignment. Furthermore, defensive interest rate policies to maintain existing parities have proved ineffective, as the market perceived such policies to be inherently unsustainable.

JEL Classification Numbers:
E52, F40

Summary of
WP/94/22

"Targeting the Real Exchange Rate: Theory and Evidence"
by Guillermo A. Calvo, Carmen M. Reinhart, and Carlos A. Végh

Many developing countries adopt a real exchange rate target, most often to avoid losses in competitiveness. Such policies are usually referred to as "purchasing power parity (PPP) rules," and episodes of PPP rules can be documented for Brazil, Chile, and Colombia, among others. For all its practical and policy relevance, there is relatively little analytical work, and even less econometric work, on real exchange rate targeting. This paper focuses on two key questions in analyzing real exchange rate targeting. First, what are the inflationary consequences of giving up a nominal anchor? Second, can money provide the needed nominal anchor if capital is less than perfectly mobile?

The paper analyzes the two questions in the context of a simple, neoclassical, optimizing model. It then tests the main implication of the model for Brazil, Chile, and Colombia and provides empirical evidence that supports the arguments in Lizondo (1991, 1993) and Montiel and Ostry (1991, 1992).

The analysis uses a representative-consumer, cash-in-advance model with flexible prices. It is shown that, in the absence of fiscal policy, the steady-state real exchange rate is independent of (permanent) changes in the rate of devaluation. Hence, policymakers can hope to target the real exchange rate for only a limited period of time.

Under perfect capital mobility, a more depreciated level of the real exchange rate can be achieved by generating higher inflation today than in the future. Numerical simulations of the model suggest that, since the intertemporal elasticity of substitution for most developing countries is low, the inflationary effects of real exchange rate targeting might be substantial.

Under no capital mobility, the paper shows that a temporary depreciation of the real exchange rate can be achieved without inflation. However, the domestic real interest rate will rise and keep increasing as long as the real exchange rate remains at its depreciated level. Again, simulations of the model indicate that the rise in the domestic real interest rate may be substantial. In sum, the model suggests that real exchange rate targeting will lead to some combination of higher inflation and high domestic real interest rates.

The empirical section of the paper assesses the relative importance of temporary shocks to the real exchange rate for Brazil, Chile, and Colombia. In all three countries considered, it is found that temporary shocks account for a sizable share of the variance of real exchange rate (between 43 and 62 percent). The paper also finds that in all three cases the correlation has the expected sign and is statistically different from zero, with values ranging from 0.26 to 0.42. Finally, the paper provides evidence on the long-run relationship between revenues from the inflation tax and the real exchange rate. The results suggest an indirect link between the two via wealth effects.

JEL Classification Numbers:
F43, H10, H50, Q10

Summary of
WP/94/23

"Economics, Politics, and Ethics of Primary Commodity Development:
How Can Poor Countries in Africa Benefit the Most?"
by Uma Lele, James Gockowski, and Kofi Adu-Nyako

In sub-Saharan Africa, as in most low-income countries, primary commodity exports are the major foreign exchange earners. In most cases one or two commodities contribute the majority of export earnings. For example, coffee in Burundi, Ethiopia, and Tanzania, cocoa in Ghana, tobacco in Malawi, and cattle in Somalia each contributed over 50 percent of total export earnings in 1985-86. The large share of primary commodities in export earnings and their significant contribution to employment, income, and government revenues imply that small percentage changes in the output or prices of these major commodities can have large macroeconomic effects that may determine the ultimate course of economic transformation.

In the 1980s, while Asian and, to a lesser extent Latin American countries increased their agricultural export volumes, sub-Saharan African countries' export volumes declined and, at best, stagnated. The loss of sub-Saharan Africa's market share was a result of a lack of competitiveness compounded by protectionist policies in the developed countries. Labor productivity showed a slight decline in sub-Saharan Africa, in the 1980s, although Latin America and Asia registered significant increases. Still more striking, was the large jump in land productivity in Asia between 1980 and 1985 relative to Africa.

The limited but successful smallholder commodity development that has occurred in Africa stresses the importance of high-quality, location-specific research and extension, rural infrastructure, access to finance for producers and processors, processing and marketing arrangements that take into account scale economies in processing, and price incentives. Developing countries also require competitive global markets and, where appropriate, the scope to vertically integrate commodity processing enterprises into these markets. This would benefit producers in developing countries as well as consumers in industrial countries. Information is critical for the development of a thriving export sector. These various factors call for a pragmatic partnership of public and private institutions, rather than an ideologically based preference for either sector. Consistent long-term strategies are important for achieving economic diversification and broadbased, sustained growth in the production of commodities. The hitherto piecemeal approach that has been followed by countries influenced by donor advice, has vacillated over the past two decades between import substitution, export promotion, and diversification.

JEL Classification Numbers:
G21, G25, P34, P51, E52

Summary of
WP/94/24

"Systemic Requirements for Monetary Stability in Eastern Europe
and the Former Soviet Union" by Jacek Rostowski

This paper draws lessons from banking reform in the more advanced post-Communist economies (PCEs), in particular Hungary and Poland, for the "second wave" of reformers (the countries of the former Soviet Union and some of the Balkan states). It considers whether the current generally accepted "main sequence" of banking reform in PCEs is suitable. This "main sequence" consists of: (1) splitting up the traditional Soviet-type monobank into a number of state-owned commercial banks (SCBs); (2) liberalizing entry by private (mainly domestic) banks; and (3) trying to privatize the SCBs. The "main sequence" assumes that commercial banking skills (above all, credit allocation) and central banking skills (above all, bank supervision) can be developed sufficiently rapidly that the banking system in PCEs will cease making bad loans. If, as one suspects, such skills can only be developed over a long period, then newly created bad loans are likely to continue causing monetary instability for a long time.

An alternative path to monetary stability is the retention (or reintroduction!) of 100 percent reserve backing of banks deposits in the form of liabilities to the central bank; the banks would take over from the state monobank the payment system function. Entry into the payments industry should be fairly open (subject to the 100 percent reserve requirement), and the parts of the monobank providing payments services should be privatized. To cover their costs they could either charge for their services or receive a modest interest payment on their reserves. Bankers could then concentrate on creating an efficient payments system, which is probably what a PCE needs most in the first phase of transition. The allocation of capital would become the sphere of new, non-bank institutions outside the payments system; capital would also come from informal markets and plough-backs.

In addition to a stable banking system a stable monetary system also requires an anchor linking the domestic currency to foreign currencies. Adopting a fixed exchange rate is insufficient in itself to achieve this, particularly in the absence of central banking skills. Some kind of "monetary rule", providing an automatic link between the money supply and reserve holdings of an outside asset is necessary. The paper therefore considers what kind of monetary rule is suitable for PCEs at various levels of development of their banking systems.

JEL Classification Numbers:
F33, E42

Summary of
WP/94/25

"The 'Hard' SDR: An Exploratory Analysis" by Subhash Thakur

There has been considerable interest in recent years in the possibility of a "hard" SDR. This interest is motivated by the desire for an international yardstick of monetary stability and inspired, in part, by the proposals for a hard European Currency Unit. This paper explores the idea of a hard SDR in the light of earlier discussions aimed at making it a standard of constant purchasing power. It concludes that under the present conditions of generalized floating of major currencies, the asymmetrical basket technique is not a feasible option. Defining the SDR's value in terms of a specific commodity basket, along the lines of the commodity reserve currency proposals, is also ruled out as impractical and not likely to achieve the objective of stable purchasing power for the SDR. The paper then discusses a proposal to change the basket of the current SDR in line with the inflation rates of the five component currencies so that the value of the SDR is protected from erosion by inflation. The construction and computation of such a "hard SDR basket" is illustrated on a monthly basis for the period from July 1974 to July 1993. The hard SDR, thus defined, could provide a unit of account of constant purchasing power which could be useful in international trade and commerce. It could also provide an anchor to which currencies could be pegged to maintain their purchasing power in terms of a basket of goods and services of the five countries whose currencies are included in the SDR. The adoption of the hard SDR to denominate Fund quotas would insulate quotas from erosion by inflation. The value of SDR allocations denominated in hard SDRs would be protected from erosion by inflation.

The paper demonstrates that the construction of a hard SDR that would preserve its purchasing power over goods and services is technically feasible. The decision to adopt such a hard SDR for Fund operations would, nevertheless, depend on a number of policy and operational considerations that are outside the scope of the paper. One possibility would be to compute and publish the "hard" SDR as a standard of constant purchasing power and a unit of account for use in commercial contracts or other purposes, without adopting it for Fund operations.

JEL Classification Numbers:
L22, L81

Summary of
WP/94/26

"An Overview of the Japanese Distribution System:
The Case of the Automobile Industry" by Sayuri Shirai

The Japanese distribution system has been considered as one of the structural impediments inhibiting market penetration by foreign manufacturers. The system, characterized by a large number of retailers with a multilayered wholesale structure, has also been criticized for lowering social welfare in Japan, as it is inefficient and imported products have high prices. This paper surveys the recent literature on the Japanese distribution system and considers two propositions: first, that the system is inefficient, and second, that prices of imported products tend to be higher in Japan than in other markets. The paper observes that most of the literature demonstrates that the Japanese distribution system is as efficient as that of other developed countries.

The efficiency of the system has not necessarily resulted in high social welfare, however, as consumers have had limited access to various product lines. In fact, some studies show that the prices of a number of imported products have been substantially higher in Japan than in other developed countries. It has also been pointed out that the "sales-distribution *keiretsu*" system, as well as the sole representative import system, might have significantly affected such price differentials. In the sales-distribution *keiretsu* system, domestic manufacturers control dealers with exclusive dealership arrangements, territorial restrictions, complicated rebate systems, and resale price maintenance systems. As for the sole representative import system, foreign manufacturers sell their products to importers who distribute the products by obtaining exclusive sales rights.

As a case study, the paper examines the distribution system in the Japanese automobile industry, where it has experienced a small amount of import penetration and substantial net exports. The paper concludes that the sales-distribution system limited foreign manufacturers' access to the dealers owned by domestic manufacturers. Because of the high initial set-up costs to establish new dealer networks, foreign manufacturers depended heavily on the sole representative importers. This dependence may have provided retail price-setting power to these importers, which probably increased distribution margins. The high distribution margins set by importers or their dealers can partly explain the high prices of imported automobiles. Also, this paper predicts that the recent increase in parallel imports will help lower distribution margins through intense intra-brand competition and thus, will reduce price differentials.

JEL Classification Number:
H50

Summary of
WP/94/27

"Core Functional Requirements for Fiscal
Management Systems" by Ali Hashim and Bill Allan

This paper discusses the application of computerization to government budgeting and accounting processes, and presents a framework for planning a computerized government accounting and budgeting system for economies in transition and developing countries. Its central premise is that the broad technical requirements of government budgeting and accounting are similar for all countries and a core system can be specified to meet these requirements. Such a core system would meet basic needs for most countries but aspects would need to be tailored to suit particular needs and the rate of implementation would depend on the capacity of individual countries.

The methodology involves, first, a functional analysis of business processes involved in government fiscal management. Second, the functional analysis is used to define a general information architecture, which is derived by an analysis of the strength of information linkages among the business processes. Finally, the information architecture provides a basis for defining a general systems architecture, which can be used for the design and development of application software--or the selection of existing software packages that meet the system requirements.

On the basis of these specifications, it is suggested that a core government budgeting and accounting system could be developed to meet the central needs of government financial management in economies in transition or developing countries. The case for developing such a system is strongest for the economies in transition, where, in most cases, completely new financial management systems have to be put in place quickly. If a core system were available, it could reduce the development costs of introducing government financial management systems, not only for all of the economies in transition, but also for developing countries.

JEL Classification Numbers:
H30, H50, M40

Summary of
WP/94/28

"Changing Patterns in Public Expenditure Management:
An Overview" by A. Premchand

Radical departures from previous practice have been made in the systems and approaches of public expenditure management in recent years. Most of these changes have occurred or are being implemented in a few industrial countries. Their experience is, however, likely to be emulated by other industrial and developing countries in the future.

The changes cover a wide area but are analyzed here in six categories: (i) new management philosophy: largely drawn from the experience of the corporate sector, it envisages the establishment of agencies to be managed by chief executives who are expected to provide an assured delivery of goods and services of a specified quality within a fixed budget; (ii) extended application of commercial accounting: each agency is required to prepare annual balance sheets, income and expenditure statements, and cash flow statements with particular attention to liabilities that may have to be redeemed later by the government; (iii) greater application of market principles: these are to be extended to the traditional internal monopolies within governments, in addition to the usual area of procurement. Internal monopolies are required to compete with the private sector; (iv) improved sectoral controls: in contrast to the traditional controls that tended to have uniform applicability, these sectoral controls, in particular those applicable to the medical care sector, have been designed to contain the growth of costs; (v) deficit reduction packages: legislatures have passed legislation that enforced a process of self-denial through the imposition of ceilings on spending and the invocation of trigger provisions necessitating policy changes; and (vi) extended application of electronic processing technology that, although contributing to the quick compilation of accounts, has also contributed to an overhaul of payments systems that were efficient and less expensive.

These changes, while different strands of thought awaiting integration, have, however, their own limitations. They are criticized for their alleged failure to distinguish between corporate and government sectors, and related concerns. They are, therefore, evaluated against five criteria: (i) impact on the rate of growth of expenditure; (ii) efficiency in spending; (iii) reduced cost of control; (iv) greater accountability; and (v) transferability. The evaluation shows, predictably, that the application of market principles has, the greatest impact on the rate of growth of expenditure, as well as promoting efficiency. All the changes have a positive impact on accountability.

The changes, however, do not exhaust the problems currently being experienced by governments. Improvements in the system of public expenditure management should also address governments' capacity to identify and abandon programs that have ceased to be useful, promote flexibility in the management of mandatory and transfer payments and prevent fraud, and to monitor the lower levels of government. They should also seek to prevent the circumvention of laws and, more important, to forge a balance between the policy and micro-controls administered respectively by the legislature and the executive.

JEL Classification Number:
F4

Summary of
WP/94/29

"Competitiveness Indicators: A Theoretical and
Empirical Assessment" by Ian W. Marsh and Stephen P. Tokarick

This paper discusses five indicators of competitiveness: real exchange rates based on consumer price indices, export unit values in manufacturing, normalized unit labor costs in manufacturing, the relative price of traded to nontraded goods, and the ratio of normalized unit labor costs to value-added deflators in manufacturing. It discusses how each of these measures is associated with changes in a country's balance of trade in goods and nonfactor services, changes which are relevant for an assessment of competitiveness, and examines how each of these indicators is related to each other. The conclusion reached in this part of the paper is that each indicator of competitiveness possesses shortcomings, and that no one indicator provides an unambiguous assessment of competitiveness. In fact, reliance on competitiveness indicators should only form part of any assessment of the appropriateness of a country's exchange rate, given the many limitations inherent in the construction of these indicators. The paper suggests that competitiveness indicators should be used in conjunction with other indicators in order to obtain an assessment of competitiveness that is as complete as possible.

Given this fact, the paper examines the empirical performance of three of the indicators (real exchange rates based on consumer price indices, export unit values in manufacturing, and normalized unit labor costs in manufacturing). The empirical analysis shows that none of the indicators works well uniformly across countries. It is impossible to unequivocally recommend one indicator above all others to explain both import and export flows at all levels of aggregation in every G-7 country. Because movements in real exchange rates may be dominated by volatility in the nominal rate. Therefore, no one indicator may be elevated to the status of *the best* indicator.

From a policy point of view, the implications are clear--in examining an issue as complex as trade competitiveness, the use of competitiveness indicators should form only part of the analysis.

JEL Classification Numbers:
J4, J5, J6

Summary of
WP/94/30

"Labor Market Institutions and Flexibility in Italy:
A Critical Evaluation and Some International Comparisons"
by Dimitri G. Demekas

This paper surveys labor market institutions in Italy in three broad categories: employment protection legislation (including hiring and dismissal rules, employment contracts, and regulation of working time); unemployment benefit systems; and the wage bargaining system. Research and debate on this topic has recently intensified, prompted by the impact of the recent recession on the labor market, and has informed to a great extent the changes--some of them fundamental--that have been taking place in this area during the last few years.

The main conclusions are that Italian labor market institutions have, until very recently, been restrictive and often ill-suited for the tasks they were supposed to perform. Employment protection legislation was among the most restrictive in the OECD; the unemployment insurance schemes in place were not equipped to deal with Italy's current unemployment problem; and the wage setting process, including automatic indexation, was inflexible (although a gradual shift away from the rigidities of the 1970s took place during the 1980s). Since the turn of this decade, a number of far-reaching changes have been introduced, generally in the right direction. The most extreme restrictions in employment protection legislation (notably in the area of hiring rules) were abolished; a new unemployment insurance scheme (the mobility list) was introduced to deal with collective redundancies; and, in July 1993, the wage bargaining system was fundamentally overhauled.

These changes have been conceived and introduced not as part of a comprehensive plan to reform the labor market, but rather in a piecemeal fashion, and--aside from the new wage bargaining system--have generally not gone as far as they should. Significant restrictions and distortions remain in dismissal rules, placement services, and employment contracts, making Italy an outlier among major EU countries. Moreover, these apply only to part of the market, aggravating the distortions of the Italian labor market. The unemployment benefits system is generous to those who are entitled for benefits, but inequitable and--perhaps more important--does not motivate skill-building and active job search. Spending on active labor market programs is not optimally allocated, and public employment services need improvement. As regards the new wage bargaining system, although the abolition of indexation has already contributed to wage moderation and is expected to continue doing so, a full evaluation of the system will have to wait until new agreements are concluded according to its guidelines.

JEL Classification Number:
C51

Summary of
WP/94/31

"The Use of Financial Spreads as Indicator Variables:
Evidence for the U.K. and Germany" by E.P. Davis and S.G.B. Henry

There has been considerable attention paid to the possibility that financial spreads might be useful for predicting cyclical movements in aggregate output. Spreads are thought to contain timely information for a number of reasons, including the sensitivity of spreads to changes in expectations of cyclical changes. Spreads may widen due to anticipated increases in default risk as an economy slows down, or as monetary policy is tightened. It is natural to ask what additional explanatory power financial spreads have for predicting changes in aggregate output when other information, including lagged changes in output and other macro economic variables, are taken into account?

In this paper, empirical models are used to investigate this question with reference to the United Kingdom and Germany. The same methodology is followed for each case. Four financial spreads are used. The first is the long-term credit quality spread, which is the difference between yields on corporate and government bonds of the same maturity. The second is the yield curve, the differential between long and short rates. The final two are both reverse yield gaps. One is defined as the spread between the long-term bond yield and the dividend yield, the other is between bond yields and the earnings yield. The empirical tests consist of first estimating a robust and well-fitting Vector-Auto Regression (VAR) model of the economy, including output, the output deflator, and other macrovariables (six are used in total). Each model is then augmented by the four spreads, and a ten-equation VAR is estimated for each country. A variety of tests of the information contained in the spreads shows that they clearly contribute significantly to explaining changes in activity. In addition, ex-post tests of the predictive properties of the models indicate that the models that include spreads are more accurate in anticipating the recent cyclical downturn that occurred in the United Kingdom and Germany than the VAR models that do not include spreads.

The paper concludes that, on the basis of these tests, financial spreads may have an important empirical role in accounting for cyclical movements in aggregate activity.

JEL Classification Numbers:
H21, H22

Summary of
WP/94/32

"Taxation of Petroleum Products: Theory and Empirical Evidence"
by Sanjeev Gupta and Walter Mahler

The taxation of the domestic consumption of petroleum products is an important source of revenue in most countries. It usually provides far more revenue than any other product, including tobacco or alcoholic beverages. However, the extremely wide variation in the retail prices and tax rates on petroleum products across countries is not found in other products whose consumption is also taxed. This paper discusses the reasons behind petroleum taxation policies, examines petroleum tax data for some 120 countries, and shows how tax rates for major petroleum products have changed between 1973 and 1991.

Because the level of petroleum taxes depends on a broad range of considerations, it is reasonable to expect some variation in petroleum tax rates among countries. Most countries do not seem to take explicit account of road usage, pollution or congestion costs in setting the tax rates on petroleum products. The overriding justification appears to be that these products can be taxed easily. However, the appropriateness of both extremely low petroleum prices and taxes and extremely high petroleum prices and taxes can be questioned on both economic efficiency and welfare grounds. A significant reduction in present extremely wide variation in petroleum prices and tax rates is therefore likely to improve economic efficiency and welfare in many countries.

JEL Classification Numbers:
F41, F43

Summary of
WP/94/33

"International Evidence on Tradables and Nontradables Inflation"
by José De Gregorio, Alberto Giovannini and Holger C. Wolf

Real exchange rate behavior is characterized by both medium-run variability and long-term trend movements. The implication of such movements for production, consumption, and the external balance depends upon the underlying causes of the real exchange rate movement. This paper aims to assess the relative importance of such alternative factors over the short and long horizons. Conceptually, it distinguishes between demand- and supply-side causes of real exchange rate adjustment.

On the supply side, a long-standing view asserts that countries enjoying higher productivity growth in the tradable goods sector will experience a trend appreciation, reflecting higher wage growth. An alternative view focuses on the demand side, arguing that a spending shift toward nontradables, reflecting either changing consumer tastes or an increasing share of government expenditure, tilts demand toward nontradables and thereby generates the real exchange rate appreciation. The two approaches differ both in their assumed causal structure and in their implication for sectoral composition.

The paper assesses the empirical importance of demand and supply factors using a disaggregated data set for fourteen OECD economies between 1970 and 1985. Sectors are classified as tradable or nontradable based on the fraction of output that is actually traded. For each group, the paper constructs measures of total factor productivity growth. Demand-side measures include the share of government expenditure and the level of income.

The paper presents some stylized facts. The data reveal a trend increase in the relative price of nontradables for all countries studied except Canada. For 8 of the 14 economies in the sample, the increase in the relative price is accompanied by an increase in the production share of nontradables, with the notable exceptions of Japan and Norway, suggesting that demand-side factors were of some importance in determining relative price movements.

Turning to common currency inflation rates, the paper detects a fairly small overall correlation across countries for both tradable and nontradable inflation rates, which rejects PPP as a useful characterization for the data. However, when the sample is split, it is found that within the subset of core EMS economies, the correlations of sectoral inflation are close to unity. While the correlations of demand- and supply-side variables are also somewhat higher between the EMS economies, a potential role for an "EMS effect" remains.

The results of a regression analysis reveal that both demand- and supply-side effects played a significant role in determining relative price movements. Separating by duration, demand factors are found to explain more than half of the short-run variation while supply factors explain virtually all of the longer-term movements.

JEL Classification Numbers:
G18, P21

Summary of
WP/94/34

"Financial and Enterprise Restructuring in Emerging Market Economies" by Steven M. Fries and Timothy D. Lane

Building sound financial systems is key to developing viable market economies where central planning once prevailed. In a market economy, it is the financial system that channels savings among alternative uses; and accompanying this provision of financing are various forms of control over the use of capital. Within the discipline thereby imposed, a market economy permits a large degree of decentralization. The transformation from a centrally planned to a market economy thus involves, in large measure, a shift from bureaucratic administration to financial control.

Financial restructuring in emerging market economies is not limited to building a sound financial system that implements effective control over the use of capital, however. The economic and financial structure of state-owned enterprises (SOEs), including their privatization, is also of crucial importance. For the transformation to a market economy to enhance efficiency, it must involve the paring down of large SOEs to reduce their often vast scale and scope and to create less concentrated market structures, as well as the liquidating of chronic loss-making enterprises. In the void created by the breakdown of bureaucratic administration, strengthening of financial control can be an important means to achieve this economic restructuring.

However, the legacy of bad loans from the passive role of finance under central planning and the early transition period, as well as the excessive scale and scope of large SOEs, impose significant obstacles to the successful transition from central planning to a market-based economy. The overhang of debt creates several potential pitfalls to this transition: (1) insolvencies pose moral hazard problems with respect to both creditors and debtors; (2) moral hazard problems enlarge the fiscal cost of the bailout that will eventually be needed; and (3) insolvencies prevent the privatization of banks and SOEs. Moreover, large SOEs tend to be of inefficient scale and scope; and failure to restructure them before privatization risks perpetuation of concentrated market structures.

This paper examines how the above problems can be tackled within the fiscal constraints faced by reform governments. Priority is given to restoring the solvency of banks because of the important roles that they could play in strengthening financial control and in providing finance for enterprise restructuring. One way to restore soundness to the banking system is to undertake a case-by-case exchange of bad loans for government debt. A centralized agency could then undertake to resolve the bad loans with the SOEs. Moreover, the centralized agency could use these loans as leverage to pry productive assets away from SOEs. For this effort to succeed, however, financing must be available for the acquisition of enterprise assets. This could involve the provision of new bank loans and equity purchases by insiders. Sources of outside equity would in all likelihood be more difficult to tap initially. Governments could retain equity stakes in enterprise sell-offs to achieve some diversification of risks. Leasing could also play an important role in transferring productive enterprise assets to new private firms.

JEL Classification Numbers:
C43, C82, E31

Summary of
WP/94/35

"Drift in Producer Price Indexes for the Former Soviet Union (FSU)
Countries" by Francois Lequiller and Kimberly D. Zieschang

Economists working with price data for the countries of the former Soviet Union have frequently noted the striking difference between the cumulative price increase derived by chaining the reported monthly Producer Price Index (PPI) and the increase over 12 months as reported in the "same month of previous year" version of the same index.

This paper shows that this difference arises from the use of a nonstandard formula that, under the price fluctuations that characterize most transition economies, leads the cumulative price increase derived by chaining the reported monthly PPI to *overstate dramatically the rate of price inflation* in most of the countries of the former Soviet Union. Although the main focus is on the PPI, it is noted that the problem could also exist for the Consumer Price Index when this index is compiled with the same nonstandard formula.

The analysis is based in part on a seminal paper by Szulc, which studies the problem of drift for a wide class of index formulae, and in part on the observations of price movements made by Fund missions. Greatest during the year 1992, the upward drift declines with slower rates of inflation and, possibly, with changing patterns of price increases, but it is still important for countries such as Russia, where monthly inflation continues to run well into the double digits.

The paper concludes that the chained version of the PPI should not be used as a measure of producer price change and that economists should rather use other deflators or figures based on quantities or volume of production to derive constant price indicators for the countries of the former Soviet Union.

JEL Classification Numbers:

F32, F33, F34

Summary of

WP/94/36

"Economic Determinants of Fund Financial Arrangements"
by Malcolm Knight and Julio A. Santaella

This paper analyzes empirically the economic factors associated with the approval of a Fund financial arrangement with a member country. It specifies two alternative probit models that determine the probability that a financial arrangement will be approved for a given country in a given year. The analysis distinguishes between the observable factors likely to induce a country to seek financial assistance from the Fund and the government policy actions most closely associated with the Fund's decision whether to approve an arrangement. The estimates, based on the most comprehensive data set compiled to date for this purpose (annual observations on major economic variables for 91 developing countries over 1973-1991), indicate a reasonably well-identified set of economic factors that are quantitatively important as determinants of the likelihood that a Fund financial arrangement will be approved for a country in any given year.

As regards the economic variables that induce a country to seek a Fund arrangement, the estimates corroborate earlier work suggesting that a low level of international reserve holdings or low per capita GDP are likely to be important determinants of the country's decision. In addition, however, the results provide a measure of the quantitative importance of other factors that have received less attention in earlier studies as determinants of a country's interest in seeking an arrangement. These include a high ratio of external debt service to export earnings, overvaluation of the real exchange rate, weak growth of real per capita GDP, a low rate of domestic investment, and experience in implementing an adjustment program under a previous Fund arrangement. The paper finds that policy measures to enhance fiscal revenues, to reduce government expenditures, to tighten domestic credit, and to adjust the exchange rate are significant in increasing the probability of Fund approval of an arrangement. The results appear to be empirically robust, since estimated equations that incorporate the factors outlined above are able to predict correctly a large proportion (over 80 percent) of the events of approval or non-approval of a Fund financial arrangement for the sample of 1,516 (country-year) observations.

The conclusions of the paper should not be interpreted to suggest that the event of approval of a financial arrangement is mechanically predictable on the basis of observable economic factors alone, since the discussions that lead up to a Fund arrangement with a country are often complex and time-consuming. But the empirical results suggest that approval is at least partly explainable and predictable by a limited number of the observable economic factors that the analysis posits as likely determinants of the "demand for" and "supply of" a Fund arrangement. Thus, although judgment and experience will remain essential ingredients in identifying countries that could potentially become candidates for a Fund arrangement, the empirical results suggest that systematic empirical analysis of probit equations along the lines considered here might provide useful supplementary information.

JEL Classification Numbers:
G20, M10 M12, M14, M19, M41,
N20, N27, O20, O29

Summary of
WP/94/37

"Improving the Management of a
Central Bank--A Case Study" by John Mendzela

This paper examines the fundamental transformation of the management of the Reserve Bank of New Zealand (RBNZ) from 1988 to 1993. As part of New Zealand's economic and public sector reform, its central bank moved from vague and multiple objectives, subservience to the Government of the day, and limited external scrutiny to a single explicit objective, operating autonomy, and tight accountability. Internally, new management concepts were systematically applied. Startling efficiency gains were achieved, without significant changes in functions: for example, staff numbers and real operating costs fell 43 percent. At the same time, effectiveness was maintained or improved. Culturally, the RBNZ made an often painful shift toward a "business management" approach.

The first section of the paper comments briefly on the increasing accountability pressures facing central banks and the need for a response. It notes that little information is currently available on the operating costs of central banks.

The second section describes the RBNZ's organizational transformation and analyzes the key features of the reform. It outlines the historical starting point, the external environment of radical reform, how business management concepts were applied over a five-year period, the efficiency gains achieved, and evidence of enhanced effectiveness. The section also considers the role special factors may have played. It notes that the mechanisms employed by the RBNZ were neither new nor unusual and that they would be available to other central banks. The reductions in operating costs represented real efficiency gains, and, apart from motivation, no major special factors operated.

A third section attempts to analyze the organizational transformation process at the RBNZ. It identifies and describes the business concepts applied at the RBNZ under three headings: how the institution was reoriented, the management mechanisms used, and the internal impact of change. The successes achieved and the limitations encountered in the application of business concepts are briefly outlined.

Finally, the paper concludes that the RBNZ achieved major efficiency gains without a loss of effectiveness by applying business management concepts. The RBNZ's experience suggests that business management concepts can, with minor limitations, be successfully applied in central banks to increase efficiency. However, doing so challenges many historical central banking practices, and has a substantial internal impact.

JEL Classification Numbers:
H20, 041

Summary of
WP/94/38

"Tax Policy Implications in Endogenous Growth Models" by Bin Xu

The past few years have witnessed a rapid expansion of literature using endogenous growth models to explore the growth implications of tax policies. This paper reviews the main results of this literature. The growth implications of taxation depend on model specifications relating to the accumulation of human capital, technological innovation, and the way tax revenue is spent.

The incentive for agents to behave in a growth enhancing way is measured by the real rate of return to capital (both physical and human capital) in most endogenous growth models. A tax on income or investment will always have a negative direct effect on the long-run growth rate because it reduces this incentive. However, a tax on income or investment may have indirect growth effects through the steady-state factor ratio adjustment or productive tax revenue spending or both. The net long-run growth effects of income or investment taxation are negative if the positive growth effects from productive tax revenue spending and the steady-state factor ratio adjustment are small. The long-run growth effects of a consumption tax are generally believed to be insignificant, because a consumption tax will not affect the allocative decision between consuming today or tomorrow, that is, the incentive to accumulate capital, given the standard preference assumptions.

Empirical studies on the growth-taxation relationship do not show a consensus. Cross-country regressions seem to indicate a negative partial correlation between the economic growth rate and tax variables; however, this correlation is not strong. Moreover, the linear regression form used in cross-country studies cannot capture the possible nonlinear relationship between the growth rate and tax variables. Quantitative results from simulations are found to be very sensitive to the values of the elasticity of intertemporal substitution, the elasticity of labor supply, the depreciation rate of human capital accumulation, and the factor ratios in different sectors. Accurate estimates of these key parameters, however, are not yet available.

This paper also discusses the implications of endogenous growth models with tax policy endogenously determined by a political process and those of endogenous growth models with international capital mobility. In the case of endogenous tax policy, the adoption of a growth-enhancing tax policy depends on factors such as the status of income (wealth) distribution. Unequal income distribution tends to result in high taxation, hence it is harmful for growth. In the case of international capital mobility, the long-run growth effects of a national tax policy will be washed out under the source principle of international taxation, because the real rates of return to capital across countries are equalized by international capital movements. Under the residence principle of international taxation, however, growth differentials across countries due to different national tax policies can be consistent with international capital mobility.

JEL Classification Numbers:
E43, E44, E52, E58

Summary of
WP/94/39

"Financial Structure, Bank Lending Rates, and the Transmission Mechanism of Monetary Policy" by Carlo Cottarelli and Angeliki Kourelis

The stickiness of bank lending rates with respect to money market rates is often regarded as a serious obstacle to the smooth transmission of monetary policy impulses. This paper attempts to provide a systematic measure of the degree of lending rate stickiness across countries, and to explain the observed cross-country differences.

The degree of lending rate stickiness in 31 industrial and developing countries is measured by estimating simple dynamic models. More specifically, the lending rate in each country is regressed against lagged values of money market and discount rates. The degree of lending rate stickiness is measured by looking at the response of lending rates following a change in money market rates at different time lags (i.e., by estimating impact, interim, and long-term multipliers). It is shown that the degree of stickiness is quite different across countries, particularly in the short run. For example, the impact multiplier of changes in money market rates is close to unity in some countries, but is as low as zero in others. Significant differences in the response of lending rates can be observed three and six months after the change in money market rates, while in the long run the adjustment tends to be close to unity for most countries.

The paper then focuses on explaining the differences in the degree of stickiness observed across countries. This is done by regressing a cross section of impact, interim, and long-term multipliers against a set of variables measuring several features of the financial system. The results indicate that five structural factors are particularly relevant in reducing lending rate stickiness: the existence of a sizable market for short-term monetary instruments (such as certificates of deposits or treasury bills); the absence of constraints on capital movements; the absence of constraints on bank competition (particularly, barriers to entry); the private sector ownership of the banking system; and the containment of the random component of money market rates. It is also shown that prime lending rates adjust faster than other lending rates and that lending rate stickiness is lower in economies that have experienced relatively high inflation.

The econometric results also indicate that, by "signaling" monetary policy changes, movements in administered discount rates can speed up the adjustment of lending rates. It is shown that the discount rate is more important in countries where the response of lending rates to money market rates is lower. The paper argues that this phenomenon is due to a form of "discount rate addiction" of the banking system. In countries where the discount rate has systematically been used as a signaling device by the central bank, banks tend to postpone their reaction to changes to money market rates until the discount rate is also changed.

These results provide further evidence on the relationship between structural financial policies and monetary policy, and on the relevance of credit markets for the transmission mechanism of monetary policy.

JEL Classification Numbers:
H55, J26, J65

Summary of
WP/94/40

"A Framework for the Analysis of Pension and Unemployment
Benefit Reform in Poland" by William R. M. Perraudin

Budgetary stringency and growing populations are obliging governments in a number of countries to contemplate cutbacks in retirement and unemployment benefit systems. In designing such reforms it is important to minimize the impact on household welfare and to avoid undesirable incentive effects. Precisely where such cuts should be made within a given benefit system is a difficult question, however.

This paper attempts to provide a framework within which such questions may be addressed. In particular, it examines the implications for household welfare, incentives, and net tax payments of a series of specific possible rule changes in the Polish pension and unemployment benefit system. The framework used is a dynamic programming model of a household facing a detailed set of tax rates, benefit entitlements, and retirement possibilities. The household's optimal labor supply, savings decisions, and choice of retirement date are obtained by numerical solution. This model builds very directly on earlier work by Perraudin and Pujol (1993).

The kind of reforms that are analyzed include reductions in retirement benefit payments to penalize early retirement, income tapers on post-retirement income, and changes in the way in which labor income is averaged over the life-cycle in order to calculate pension benefits. The impact of such reforms on savings, welfare, labor supply, and taxes is examined. A sensitivity analysis is performed to establish the degree to which changes in the assumed parameters of the model affect the simulations.

JEL Classification Numbers:
F33, N20

Summary of
WP/94/41

"The Internationalization of Yen and
Key Currency Questions" by Toru Iwami

Recently, the tripolar currency system of the U.S. dollar, deutsche mark, and the yen has been discussed as an alternative to the system based solely on the dollar. Compared with the deutsche mark, however, the yen plays a limited role as a reserve and trade currency in the international financial system. What is the reason for this? Should it be corrected?

These questions are reconsidered in this paper by using a comparative (historical) approach. The paper stresses real factors such as foreign economic relations and economic size, rather than financial factors, in particular deregulation.

The deutsche mark has taken the leading role in intra-European transactions, although the German authorities have repeatedly introduced restrictions on international capital movements. In the 1980s, Japanese financial markets were no less liberalized than those of Germany. The limited use of the yen results not so much from financial regulations as from the structure and behavior of Japanese economy.

The history of the pound sterling and the U.S. dollar reveals the fact that, despite restrictions on international finance, each currency maintained its position owing to the network of foreign trade, the size of the domestic import market, and its competitiveness. These real factors constitute safety basis for the scale economy and "inertia."

If yen transactions are to grow independently from the dollar, they are likely to do so in trade with East Asian countries. Despite growing capital transactions with Japan and the yen's influence on the exchange rate policy in this region, the dollar is still more widely used by these countries because, generally speaking, they depend more on the U.S. than on the Japanese market. This is further evidence that the size of the U.S. economy supports the key position of the dollar.

JEL Classification Numbers:
F33, F36

Summary of
WP/94/42

"A Formal Model of Optimum Currency Areas" by Tamim Bayoumi

The breakup of monetary unions in the former Soviet Union, Yugoslavia, and Czechoslovakia, the reintegration of Germany into a single currency zone, and plans for European Monetary Union have all reignited interest in the characteristics of a beneficial, or optimum, currency area.

The literature on optimum currency areas was initiated by Mundell (1961) and subsequently extended by McKinnon (1963) and Kenen (1969). These three papers comprise the core theory of optimum currency areas. However, as might be expected from contributions from the 1960s, they present verbal arguments rather than formal models. This paper presents a formal model of optimum currency areas in which the world is made up of a number of different regions, each producing a different good. Each region can choose to have a separate currency or to join other regions in a larger currency union. The advantage of joining a currency union is that transactions costs with other regions in the union are lower. The disadvantage is that the exchange rate can no longer be used to offset asymmetric disturbances within the union.

The result is a flexible framework that embodies many of the criteria for optimum currency areas discussed in the literature. The model also shows that although a currency union can raise welfare of the regions within the union, it unambiguously lowers welfare for regions outside of the union. This is because the gains from the union, in the form of lower transactions costs, are limited to the members of the union, whereas losses from the union, in the form of lower output due to the interaction between the common exchange rate and rigid nominal wages, affect everybody. It must be admitted that this conclusion does depend upon some of the underlying assumptions used in the model. However, it is a useful reminder that the impact of a currency union need not be benign to those left out of its sway.

Another insight is that the incentives for a region to join a currency union are different from the incentives to admit a region into a union. The entrant gains from lower transactions costs on trade within the union, whereas the incumbent regions only gain on their trade with the potential entrant. As a result, a small region will always have a greater incentive to join a union than the union will have an incentive to admit the new member. A corollary of this is that, even if a country would prefer a free float across all regions, it may still have an incentive to join a currency union. This may explain why some countries in the European Union who are not particularly convinced of the merits of European Monetary Union (EMU) are also worried about being relegated to the second division of a two-speed EMU.

JEL Classification Numbers:
E52, P34, P51

Summary of
WP/93/43

"Interenterprise Arrears in
Post-Communist Economies" by Jacek Rostowski

Inter-enterprise debt (IED) is a serious problem for policy makers in many post-communist economies (PCEs) attempting "big bang" liberalization and stabilization programs. In the former Soviet Union, and Romania it has reached unprecedented proportions. Between January 1 and April 30, 1992, IED in Russia grew to the equivalent of total GNP generated during the same period, and in Romania at the end of 1991, IED amounted to about 50 percent of GNP. In contrast, the ratio of IED to GNP in Czechoslovakia and Poland was much smaller, and seemed to have increased at a far slower rate--or not at all--upon initiation of "big bang" transition programs.

In the former Soviet Union and Romania, the main reason for the explosion of IED seems to have been the lack of credibility of their stabilization programs. State-owned enterprises that do not believe in the durability of the reduction in the rate of growth of nominal credit that occurs during a stabilization program behave rationally if they extend trade credit to their customers. Furthermore, in order to protect themselves from the inflation that can be expected to accompany the loose monetary policy that will occur when the program collapses, they set prices sufficiently high to protect the real value of the payment, adding even more to inflation in the short term.

The best policy is to do nothing to "solve" the IED problem: moral hazard is almost sure to result from all multilateral clearing of IED, particularly because, if stabilization is indeed not credible and if there is a limit to the possible expansion of IED, a constant money supply requires repeated rounds of multilateral clearing just to prevent output from collapsing once IED has reached its maximum. The solution to this dilemma is to securitize the IED, so that its nominal value can be reduced to a level consistent with a constant money supply. This means allowing the market to effectively re-price past sales of goods at new, lower, prices. It also makes the reduction of prices on new sales of goods easier. Since total nominal transactions need to fall so that they are in line with the lower-than-expected level of nominal liquidity (resulting from the government's unexpected persistence with stabilization), greater downward price flexibility reduces the share of the adjustment that takes the form of a fall in output. As a result, securitization also helps to make the stabilization program more credible.

JEL Classification Numbers:
D83, F20

Summary of
WP/94/44

"Information Externalities Affecting the Dynamic
Pattern of Foreign Direct Investment: The Case of China"
by Dongpei Huang and Sayuri Shirai

Why doesn't capital flow from rich to poor countries? This important question illustrates the inadequacy of the neo-classical theory of trade and growth in explaining the pattern of foreign direct investment (FDI). This paper shows that the dynamic pattern of FDI in developing countries, despite government policies to actively promote it, has shown a sluggish increase initially, followed by a period of considerable fluctuation, before reaching the stage of rapid growth. Some countries, however, remain at the stage of small-scale FDI and their economies have not taken off. This paper addresses why China's open-door policy, which attracted many potential investors, did not actually realize large-scale FDI in the early 1980s, and why the pattern of foreign investment has shown discontinuity over the period.

The purpose of this paper is to provide an explanation for this pattern of FDI, through recourse to two concepts. The first is the searching process carried out by individual investors, and the second is the information externalities of investors in the aggregate; this refers to the information transmission mechanism from pioneer investors to potential investors. In developing countries, foreign investors often take a wait-and-see attitude because the investment environment is generally highly uncertain. The degree of uncertainty may decline to a large extent if more information, based on the actual performance of the initial investors, becomes available. In the absence of incentives to be the first to initiate projects, information about the investment environment is revealed slowly. This information revealing process is delayed further because investors not only need to find profitable projects, but also face high search costs owing to the dearth of reliable information. As a result, host countries may end up without any capital inflow.

The second objective of the paper is to consider policies that may help to shift the economies in developing countries from small-scale FDI to rapidly expanding FDI. Third parties, such as international organizations and governments in source countries, can play a crucial role in promoting the disclosure of information by initiating or financing joint ventures. Foreign investors with greater information about the investment environment are able to allocate their resources to achieve optimal returns. In addition, by promoting this process, governments in developing countries would be able to adjust their policies before facing stagnant investment inflows and the associated operational problems that inhibit new inflows. Thus, the role of information in such an environment is to provide signals to potential investors about the profitability of a given market, as well as to host country governments to enable them to make earlier policy adjustments that would attract the needed FDI.

JEL Classification Numbers:
F13, F41, E61

Summary of
WP/94/45

"Trade Reforms of Uncertain Duration and Real Uncertainty:
A First Approximation" by Guillermo A. Calvo and Enrique G. Mendoza

In recent years, many developing countries have implemented far-reaching trade liberalization programs signaling a departure from the protectionist import-substitution philosophy that had dominated trade policy for decades. However, adjustment in response to trade reform, and the reforms that accompanied it, is complex. Economic agents, after years of suffering the consequences of policy slippages, question the credibility of new policies, and this complicates the dynamics of reform programs. Consumption booms, widening trade deficits, and real exchange rate appreciation have followed both successful and unsuccessful reform programs. Thus, it is difficult to interpret macroeconomic co-movements as signals of the program's lack of credibility or weakness.

This paper examines the macroeconomic implications of trade reforms of uncertain duration in a framework in which policy credibility and real foreign and domestic shocks act as separate sources of uncertainty. Cases in which tariff revenue is rebated to consumers or used to finance unproductive government expenditure are studied, as are the effects of imperfect credibility and real shocks on deviations from trend consumption growth.

Noncredible trade reforms result in consumption booms and widening trade deficits, generally followed by recessions in the period when policy uncertainty is resolved. Contrary to findings in previous work, the results show that there is *always* a boom in response to a noncredible reform, regardless of the magnitude of the intertemporal elasticity of substitution, the duration of the reform, or whether tariff revenue is rebated. When revenue is rebated, the boom is *always* followed by a recession, and the higher the elasticity of substitution and the probability of policy reversal, the larger the amplitude of the cycle. If revenue is not rebated there are significant income effects, and the initial boom may be sustained or reversed into a recession at the date policy uncertainty is resolved. Similarly, the welfare implications of temporary trade reforms depend on whether tariff revenue is rebated or not, and, in the latter case, also depend on the elasticity of intertemporal substitution.

Real shocks induce consumption cycles through conventional transmission mechanisms. These cycles tend to be larger than those driven by a lack of credibility. In addition, the mean and risk characteristics of real asset returns affect the magnitude and direction of credibility effects--although this interaction is quantitatively small. Because of the noise introduced by real shocks, observed consumption booms cannot be uniquely attributed to credibility effects, and measures of credibility that do not separate components of the cycle driven by policy uncertainty from those driven by fundamentals are biased. If the probability of policy reversal is linked to real shocks, changes in the external economic environment may have an impact on credibility effects even if policymakers do not alter their behavior.

JEL Classification Numbers:
E61, J68

Summary of
WP/94/46

"Searching for the Virtues of the European Model"
by Gilles Saint-Paul

Should Europe scrap its labor market regulations? Would doing so imply the adoption of a highly inegalitarian "American model"?

This paper argues that the redistributive goals that motivate labor market rigidities in Europe may be achieved at a much lower cost using more traditional tax and transfer instruments. This is true even when the distortionary impacts of these instruments are taken into account. Only for implausibly high values of these distortions can some redistributive virtues to labor market rigidities be found.

The institution on which the paper focuses is the minimum wage. Section II details the distortions it introduces, and argues that an increase in the minimum wage may well have adverse impacts on inequality. This is because although it redistributes income from skilled to unskilled workers, by creating unemployment it also redistributes income from the poorest to the lower middle class.

Section III develops a simple model to analyze the impact of two alternative systems. One is a minimum wage with associated unemployment benefits. The second is a simple system of taxes and transfers. It is shown that the second system typically can achieve the same level of income distribution with a higher level of output. Also, if the labor market is "rigid" (in the sense of lower turnover), then (i) it is more likely that raising the minimum wage actually *increases* inequality, and (ii) the gains from shifting to the "tax" system are larger. These results are supported by the model's calibration developed in Section IV.

Section V discusses some political economy issues. While it is true that shifting to the tax system is more efficient in order to reach a global income distribution objective, it may well be the case that employed unskilled workers suffer from such a shift. If the balance of power is such that they can block a change which is detrimental to them, the reform will not be politically feasible. This is more likely to happen when there is low turnover, which is precisely the case when the tax system is much more egalitarian than the minimum wage system. The simulations, however, suggest that when the turnover rate is very low, a moderate rise of the tax rate, above the one which achieves the same equality level as the minimum wage system, is enough to induce the employed to favor the reform. Therefore, while political viability may have to be taken into account in the design of the new system, the conclusion that the tax and transfer system is more efficient than the minimum wage system is left unaltered.

Section VI discusses the effects of other types of labor market rigidities, such as unemployment benefits and job protection laws. It critiques the view that these provisions raise productivity because they increase on-the-job training and improve the probability that an unemployed worker will find a job that better matches his or her abilities.

JEL Classification Numbers:
O15, O16, O40

Summary of
WP/94/47

"Credit Markets with Differences in Abilities: Education,
Distribution, and Growth" by José De Gregorio and Se-Jik Kim

This paper addresses the growth, welfare, and distributional effects of credit markets. For this purpose, a general equilibrium model with human capital as the engine of growth is developed. Human capital is accumulated through formal education and individuals differ in their educational abilities. Depending on their ability, individuals choose, in early life, the optimal time allocation between work and education.

The model shows that the optimal decision on the amount of education to acquire depends critically on the existence of credit markets. In particular, it shows that the existence of credit markets induces specialization. Credit markets, by allowing individuals to smooth consumption through borrowing and lending, permit them also to specialize according to their comparative advantage (either education or work) to maximize human wealth. In contrast, in the absence of credit markets, individuals' decisions on specialization would be limited, since they would have to spend their youth both working and acquiring human capital.

We show that specialization, allowed by the existence of credit markets, unambiguously increases the rate of growth of the economy. The introduction of credit markets allows the more-able to specialize in education and the less-able in working, which enhances the economy's average efficiency of education. In response to this increase in efficiency, the total amount of time devoted to education in the economy may also increase. It may also be possible that the total time devoted to education declines, but this decline would not offset the increase in the average efficiency of education. Hence, in both cases, human capital accumulation and, consequently, growth increase. In addition, credit markets allow a more beneficial intertemporal allocation of consumption. The positive effects of credit markets on growth and on the intertemporal allocation of consumption lead to an increase in welfare for all current and future generations.

The paper also shows that in economies with a high (low) average level of educational abilities, the opening of credit markets will induce a more disparate (equal) income distribution. In economies with a high level of educational ability, most of the population will spend a large amount of time in education, which will enlarge earning differentials. In contrast, economies with a low level of educational ability, where few people acquire education, the majority will have the same level of earnings since they do not receive education and hence ability, which is the only source of differentiation, will not result in increased income differentials.

JEL Classification Number:
F31, F39

Summary of
WP/94/48

"Operational Issues Related to the Functioning of
Interbank Foreign Exchange Markets in Selected
African Countries" by Calvin McDonald and Yin-Fun Lum

Since the mid-1980s, developing countries have increasingly adopted various forms of market-determined exchange rate systems, including inter-bank or auction systems or both, and foreign exchange bureaus. This paper discusses the main operational issues involved in the implementation of interbank foreign exchange systems in six selected African countries--The Gambia, Ghana, Kenya, Mozambique, Nigeria, and Sierra Leone. In contrast to the ideal case (which is approximated by transactions for the major world currencies), the exchange rates in these markets tend to be determined, for the most part, through transactions between dealers and clients at the retail level rather than through wholesale interdealer transactions. There are a number of explanatory factors: the generalized shortage of foreign exchange in the countries that leaves little or no excess foreign exchange balances for interdealer transactions, the larger spread between the buying and selling rates in dealer-client transactions compared with interdealer transactions, the newness of the market arrangements, and the lack of comprehensive prudential regulations limiting the foreign exchange exposure of dealers.

In addition, many factors continue to limit the full development of these markets. Dealers in the countries operate with an inadequate communications infrastructure, which leads to a limited flow of "real time" information in the foreign exchange markets, especially in relation to the exchange rates being quoted at different institutions. The foreign exchange markets in these countries are dominated by a small number of players and may not be sufficiently competitive to avoid the distortions that stem from oligopolistic behavior. The absence of an electronic exchange or other medium to carry out transactions and receive quotes instantaneously has hampered the ability of the central banks to regulate and participate in the interbank foreign exchange markets in these countries. Most of the countries in the study have insufficient foreign exchange regulations to reduce exchange rate risk and encourage "true" interdealer transactions.

Despite these limitations, the markets studied have improved the efficiency of foreign exchange allocation. The substantial narrowing of exchange rate differentials between the official and parallel markets is evidence of progress toward eliminating market segmentation. Available data suggest an increased allocation of foreign exchange through official channels. To improve market operations, the central banks may have to be more active in educating participants about the functioning of the market, the nature of the reporting required for dealers' foreign exchange transactions, the management of foreign exchange resources, and the need to turn to other dealers instead of the central bank to reduce open positions. In order to improve their own effectiveness, central banks need to continue to develop their capabilities to monitor, intervene, and provide sound guidance through regulation and dialogue with the market.

JEL Classification Numbers:
E43, E61, F31

Summary of
WP/94/49

"Credibility of Policies Versus Credibility
of Policymakers" by Allan Drazen and Paul R. Masson

There is now an extensive literature on policy credibility, credibility being defined as the expectation that an announced policy will be carried out. Much of this literature has emphasized the role of a government's "type" (for example, the relative weights it puts on the losses from inflation versus unemployment) in determining the credibility of a policy. When a policymaker delivers on an announced commitment to low inflation, this strengthens the belief that he really is inflation averse. Hence, a government that follows tough policies will see its reputation and the credibility of its commitment to anti-inflationary policies increase over time.

Whether or not an announced policy is carried out, however, reflects more than the policymaker's intentions. The external situation can be as important. Because even a "tough" policymaker cannot ignore the cost of very high unemployment, he may renege on an anti-inflation commitment in sufficiently adverse circumstances, that is, in times of weak activity when pressures to restore high employment are strong. In short, the credibility the public assigns to an announced policy should therefore reflect external circumstances as well.

In assessing the effect of observed policy choices on credibility, the role of external circumstances may be especially important when policies have persistent effects on the economic environment. The purpose of this paper is to investigate the effect of such persistence and to demonstrate that if tough policies constrain the room for manoeuvre in the future, then following a tough policy may actually harm rather than enhance credibility. For example, a tough anti-inflation policy today may raise unemployment well into the future, making the commitment to future anti-inflation policy less credible.

The effect of unemployment on credibility in France, using interest differentials relative to Germany as a measure of the perceived credibility of a country's pledge to maintain a fixed parity in the EMS, supports this alternative view. In fact, though there was some weak evidence of the signalling role of unemployment in a period in the mid-1980s in which the priorities of the authorities had changed, in the earlier and later subperiods there seems to be clear evidence of a negative association between credibility and the unemployment rate. This suggests that both a policymaker's reputation for pursuing a hard-currency peg and durably lower unemployment are necessary to convince investors of policy credibility. The results are far from conclusive, but they indicate that modeling credibility solely in terms of a policymaker's preferences or intentions is seriously incomplete.

JEL Classification Numbers:
C68, F13

Summary of
WP/94/50

"The Trade and Welfare Consequences of U.S. Export-Enhancing
Tax Provisions" by Donald Rousslang and Stephen Tokarick

This paper uses an applied general equilibrium model of the U.S. economy to quantify the effects of two provisions in the U.S. tax code that provide tax breaks for corporate export profits: the Foreign Sales Corporation (FSC) program and the rules for allocating the export profits of U.S. multinational corporations between domestic and foreign source income. The model provides estimates of the effects of these two provisions on trade flows, production, real wages, consumption, and aggregate welfare. It shows that the welfare effects depend importantly on the degree to which the United States is able to influence its terms of trade. In the absence of terms-of-trade effects, these tax provisions improve U.S. welfare because they offset other distortions in the economy, namely the distortionary effects of import tariffs. With terms-of-trade effects, however, the tax breaks have an adverse effect on welfare because they worsen the terms of trade.

The paper also shows that export tax breaks are a more efficient way of reducing the anti-trade bias imposed by tariffs than a direct reduction in U.S. tariffs. Specifically, eliminating the tax breaks, while at the same time reducing the import tariff to keep the volume of U.S. exports and imports unchanged, reduces domestic economic welfare. This result occurs because the tax breaks interact differently with other distortions in the economy than changes in tariffs. Removing the tax breaks on export profits exacerbates the effects of existing distortions to a greater extent than an "equivalent" change in import tariffs, when equivalent is defined as a tariff change that leaves trade volume unaffected.

JEL Classification Numbers:
E51, E52, E58

Summary of
WP/94/51

"Refinance Instruments: Lessons from Their Use in
Some Industrialized Countries" by Bernard Laurens

Many central banks around the world are gradually shifting from a system of direct controls towards the implementation of monetary policy through market-oriented instruments. However, some traditional market-based instruments, such as outright open-market operations, cannot be immediately used as the main instruments for monetary management in most developing countries and economies in transition, because a number of prerequisites are not fulfilled. In the transition period, refinance instruments may be valuable for the flexible implementation of monetary policy.

This paper first reviews the use of refinance instruments in a sample of industrialized countries. Typically, central banks offer standing facilities, that is, instruments used at the initiative of banks that carry preannounced rates. However, over the last decade monetary management has increasingly relied on operations with money market instruments. Because these operations are done at the initiative of central banks, operate through market mechanisms, and serve to manage the global amount of liquidity in the system, they are ideal tools for central bank management of monetary policy.

The joint implementation of standing facilities and money market instruments allows central banks to make the monetary policy stance explicit, as well as to fine-tune short-term interest rates. Although the quantitative importance of standing facilities has diminished in recent years, they play an important role as an instrument of emergency funding to finance end-of-day imbalances. However, central banks rely predominantly on money market instruments to regulate the overall liquidity in the system. In cases in which refinance windows are operated at below market rates, they provide very limited amount of funds; in some cases they can be seen as a counterpart to high non-remunerated reserve requirements.

Among the many lessons it details, the paper identifies the usefulness of central bank rates, whose level is decided by the central bank. The experiences of the selected countries suggest also that the instruments designed to provide the secular amount of central bank refinancing cannot be used to fine-tune interest rates. The design of refinance instruments has to take into consideration the exchange rate regime, and should provide incentives to trade funds on the interbank market initially. Finally, the paper identifies reasons for the use of collateralized operations, and presents some conclusions on the use of the reserve requirement.

JEL Classification Numbers:

H55, J14, E31, P2

Summary of

WP/94/52

"Pensions, Price Shocks, and Macroeconomic Stability
in Transition Economies" by Ehtisham Ahmad, Sergio Lugaresi,
Alex Mourmouras, and Jean-Luc Schneider

In Belarus, as in many countries of the former Soviet Union, pensioners form a large and vulnerable group of the population. Attempts to protect this group from the large unanticipated increases in prices in the early 1990s have included a revaluation of benefits for retirees with pensions fixed in nominal terms, and the introduction of indexation arrangements based on recent wage and price growth.

In this paper, we illustrate the potentially destabilizing effects of lagged indexation procedures, as inflation begins to decelerate, on pension fund balances. Simulations based on hypothetical scenarios suggest that the imbalances generated by these arrangements may jeopardize the macroeconomic adjustment effort.

The paper evaluates a number of possible policy options for a transition period of price stabilization, including, inter alia, the introduction of flat rate pensions, raising the retirement age, and tightening the eligibility criteria for pensions. An alternative is to minimize the lag for pension adjustments, but it may not be feasible to reduce this to less than one quarter in many cases. And to avoid deficits in the Pension Fund, it would be important to ensure that the cost of any pension revaluations not exceed changes in payroll contributions.

For the transition period in Belarus, the introduction of a flat rate basic state pension for those with an appropriate work history is seen as the most attractive option from the point of view of protecting the poor and generating needed savings on account of pension expenditures. Other measures, such as increasing the required working time, would also have to be introduced in the short term to take account of the longer-term problems of an aging population.

In the medium term, once price stability has been achieved, it should be possible to revert to social insurance principles introduced in the former Soviet Union in 1991. Alternatively, if the basic flat rate state pension is maintained, funded pensions may be possible as a second-tier supplement--although this does not appear to be feasible in the immediate future.

Projections suggest that Belarus will also face medium- to longer-term problems related to the aging of the population. This makes the structural reform of the pension system in the next few years of considerable importance. The analysis is meant to be illustrative, and should also be of relevance in other transition economies with aging populations.

JEL Classification Number:
F14

Summary of
WP/94/53

"Supply Pressure and the Export-Import Performance
in the Japan-U.S. Bilateral Trade" by Yusuke Onitsuka

The paper examines empirically those supply factors that give rise to export expansion at a time of domestic recession or rapid growth in Japan-U.S. bilateral trade. These factors, or supply pressures including "capacity pressure", tend to reduce the effect of exchange rate appreciations or other demand shocks that would otherwise reduce the current account surplus in the absence of such supply pressures.

In this paper, two elements of supply pressure, full-employment capacity and the inventory of finished goods, are specified as the supply factors. A simultaneous equation approach with a Almon lag structure is adopted to examine the supply schedules of exports, as distinct from the demand schedules. Positively-sloped supply schedules of exports with these two shift factors for both countries are successfully estimated.

The paper demonstrates that an increase in capacity often promotes exports with a lag structure spreading over as many as twelve quarters. The level of inventory is negatively correlated with exports, although the rate of change (increase) may be positively correlated with the level of exports in both countries. The negative correlation suggests that planned inventory plays a larger role than unintended inventory.

The paper also shows that these supply pressures are much stronger on Japan's exports to the U.S. than on U.S. exports to Japan, and that the supply pressure in Japan is much larger than earlier estimates indicated. Corresponding import-demand functions and supply functions of domestic goods are estimated. It is shown that capacity pressure is much weaker in the domestic market than in the export market in both countries.

JEL Classification Numbers:
D23, E52, E63, L52, O52

Summary of
WP/94/54

"Inter-Enterprise Arrears in a Post-Command Economy:
Thoughts from a Romanian Perspective" by Daniel Daianu

Economic systems undergoing transformation have come under tremendous strain because of internal reforms and external shocks. This paper argues that this strain is the main source of inter-enterprise arrears in post-command economies. The strain may be linked with the structure of the economy and the size of resource misallocation.

Inter-enterprise arrears "soften" markets and make reform even more difficult to enforce. At the same time, they can dangerously slow down the speed of restructuring and adjustment by relaxing financial discipline. As temporary quasi-inside money, arrears fuel inflation: they enable firms to raise prices and wages without fear of the immediate consequences. Paradoxically, arrears also have the potential to counter hyperinflation.

In response to the strain of arrears, transforming economies have developed an internal economic logic that entails using the inflation tax and real interest rates as implicit subsidies. The extent of the arrears problem in each of the various post-command economies is linked with the capacity of their enterprises to adjust, which in turn depends on the economy's structure and the size of the required structural change. The problems of policy credibility in undertaking structural adjustment are emphasized.

Export growth may be a consequence of arrears. Arrears tend to restrain the growth of enterprises, so that they try to escape the real liquidity constraint by pushing exports. Even when exports seem unprofitable, the premium on liquidity can more than compensate for the value differential. Dollarization is mentioned in this regard, and the size of the economy is seen as affecting the relationship between arrears and exports.

An operational framework for containing arrears would include breaking up the structure of enterprises by inducing a strategic alliance among creditors and insulating the major offenders (debtors); imposing a "straitjacket" by modifying rewards and penalties so that agents optimize in congruence with the thrust of transformation; using industrial policy as a "damage-control device" ("picking losers among losers"), to allow the breathing space needed to cope with the high degree of uncertainty and fuzziness about property rights and to mitigate the costs of resource reallocation; and targeting external assistance.

Containing arrears cannot be a one-shot goal of policy, instead it is a process that is concurrent with the evolving environment.

JEL Classification Number:
F15

Summary of
WP/94/55

"The Arab Maghreb Union"
by Mohamed Finaish and Eric Bell

On February 18, 1989, the Heads of State of five Maghreb countries-- Algeria, Libya, Mauritania, Morocco, and Tunisia--met in Marrakech (Morocco) to sign a Treaty establishing the Arab Maghreb Union (AMU). On the economic side, the Treaty aims to integrate the economies of the five countries.

This paper provides an overview of the institutional arrangements and the key issues relating to economic integration in the Maghreb. The paper draws attention to the progress made consonant with the economic objectives of the agreement as well as the problems and obstacles encountered. It also attempts to assess the extent to which the main prerequisites for economic integration are in place in the Maghreb. It does not, however, analyze the potential for trade creation as this would require a study of factor endowments and potential production patterns, which is outside the scope of the paper. Special attention is given to the relationship between the AMU and the European Union (EU), recognizing that the economies of the AMU countries are currently more strongly oriented toward Europe than toward each other, and that the EU may be an important factor in determining the success of Maghreb economic integration.

The paper is divided into seven sections. Section I provides the historical and country perspective to the Union and describes the objectives of the Treaty. Section II reviews the various aspects of the implementation of the Treaty to date. Section III describes the pattern of AMU trade and economic relations during the period 1992-93. Section IV explains the main difficulties confronting economic integration in the Maghreb. Section V covers the main elements of the current debate regarding the strategy of economic integration within the Union, whereas Section VI examines some issues relating to the interrelations between the EU and the AMU. The last section presents the main conclusions of the study. Despite considerable progress, economic integration has remained limited, mainly because of differences in development strategies and economic policies amongst the five countries. For the future, the major challenge is not only to create a convergent economic environment, but also to put in place appropriate mechanisms to increase cooperation without distorting market forces.

JEL Classification Numbers:
E24, F41, J42

Summary of
WP/94/56

"Macroeconomic Adjustment with Segmented Labor Markets"
by Pierre-Richard Agénor and Joshua Aizenman

The paper examines the implications of fiscal and labor market policies on output, wages, and unemployment in a small open developing economy with a large informal sector, a heterogeneous work force, and segmented labor markets. The production structure assumes that production in the formal sector consists of traded goods and uses skilled and unskilled labor, and output in the informal sector consists of nontraded goods produced using only unskilled labor. Firms in the formal sector set the wage rate for skilled workers so as to minimize labor costs per efficiency unit in terms of labor. The productivity of skilled workers depends positively on their wage relative to the wage paid in the informal sector. Unskilled workers employed in the formal sector earn a legally-fixed minimum wage, while wages of unskilled workers hired in the informal sector are fully flexible. In equilibrium, a noncompetitive wage differential emerges across skill categories.

With perfect labor mobility across sectors, a permanent reduction in government spending on nontraded goods leads, in the long run, to a depreciation of the real exchange rate, a fall in the market-clearing wage for unskilled labor, an increase in the production of traded goods, and a lower stock of net foreign assets held by the private sector. A permanent reduction in the minimum wage paid to unskilled workers also increases output and the demand for labor in the formal sector. Therefore, a reduction in the minimum wage improves competitiveness and expands the formal sector at the expense of the informal sector.

The basic framework is then extended to introduce direct income taxation and unemployment benefits for skilled workers in the formal sector. When the unemployment benefit scheme consists of paying a constant real wage to the unemployed, the economy may face an "unemployment Laffer curve" relating the wage benefit and the income tax rate. If the economy operates on the efficient portion of the Laffer curve, a reduction in the level of unemployment compensation will raise the level of employment of skilled workers--thus leading to an expansion of the relative size of the formal sector.

Finally, the analysis considers the case where unskilled workers face a decision to migrate from the informal sector to the formal sector. The incentive structure on the basis of which workers form their decision is first derived. It is then shown that in the long run the overall unemployment rate of unskilled workers varies inversely with the market-clearing wage for unskilled labor, but that a change in the minimum wage for unskilled labor in the formal sector has an ambiguous effect. The absence of a stable relation between output and unemployment in the short run, an important prediction of the model, appears to be consistent with the available evidence for developing countries.

JEL Classification Numbers:
E4, E5

Summary of
WP/94/57

"Varieties of Monetary Reforms" by Pierre L. Siklos

Few would dispute the view that money matters, but those in the economics profession who study monetary policy have chosen to concentrate on issues surrounding the design of monetary policy.

This paper surveys three kinds of reforms that address the problem of price stability. They are, in no particular order, the sort of exchange rate regime, the degree of independence accorded to the central bank, and the option of joining together with other countries in a currency union.

Choosing an exchange rate regime involves determining the degree of independence desired by a country in the area of monetary policy. There have been relatively few examples of strictly fixed or flexible exchange rate systems in recent memory. Indeed, the exchange rate regime chosen seems to depend upon whether it appears politically, as opposed to economically, advantageous for a particular government to follow the monetary policy of another country. The choice of an exchange rate regime also reflects the desire of governments to achieve credibility in the application of policies.

The issue of central bank independence is complex as it involves perceived notions of independence as opposed to the degree of legislative independence provided to a central bank to achieve a single goal or a multitude of goals. A survey of existing empirical evidence points out that simple correlations of legislative independence and inflation performance are quite sensitive to economists' and others' perceptions of what the legislative authorities intended central banks to accomplish in the application of monetary policy.

Currency unions represent an extreme form perhaps of the policy of tying one's hands together in monetary policy. Few countries achieve the preconditions for optimal currency unions and so the paper argues that, once again, when purely economic explanations do not justify such an arrangement, political motives dominate. The paper briefly reviews some historical examples of currency unions and points out the political motives and pitfalls of exiting proposals for monetary union in Europe. The choice of monetary regime rests with political economy considerations that involve questions of how independent a country wishes to be from shocks emanating from the rest of the world and how much weight politicians attach to influencing economic conditions in their own country.

JEL Classification Numbers:
E24, J31, J32, J38, J64, J65

Summary of
WP/94/58

"Why Is Unemployment in France So High?" by Reza Moghadam

High unemployment is, arguably, the most urgent problem facing the French economy. In the first quarter of 1994, the unemployment rate stood at just above 12 percent. Although the slowdown in economic activity has undoubtedly contributed to a worsening of labor market conditions in France, the high rate of unemployment cannot simply be attributed to a lack of demand. The model estimated in this paper gives a NAIRU (nonaccelerating-inflation rate of unemployment) of 8.2 percent in 1992, only 2 percentage points below the actual unemployment rate in that year.

Continuously high unemployment, and features of its composition such as high youth unemployment, suggests underlying structural problems. Although labor supply has been rather high over the last twenty years, high unemployment seems to stem from a lack of job creation. Because of labor market rigidities, demand and supply distortions, such as the twin oil shocks and the high interest rates associated with German reunification, have led to persistent unemployment or hysteresis.

Comparisons with other industrial countries, as well as time series and cross-section empirical evidence in this paper, point to a number of potential causes of structural unemployment in France. These include the generosity of long-term relative to short-term unemployment benefits, the minimum wage, the level of employers' tax wedge, a mismatch of skills, and the cost of capital.

In November 1993, the Parliament approved a five-year employment plan containing over fifty new measures, including further reductions in employers' social security contributions for the low paid, wage subsidies for young workers, measures to enhance work time flexibility, and increased funding for government-subsidized employment and training programs.

Many of the above measures will have a positive impact on the labor market, and the economic upturn should bring about a fall in unemployment. However, the key question is whether this decline will be faster and more substantial than during the previous upturn. To ensure this, the paper concludes that it is necessary to take further measures, particularly in areas such as labor costs, where only modest progress has been made. Additional measures that could have an immediate impact include further declines in employers' social security contributions financed through reducing the generosity and duration of unemployment benefits and a reduction in the legal minimum wage, preferably directly, otherwise through existing employment programs. Other measures to enhance labor market flexibility in the long run include shifting expenditure from passive to active labor market measures (for example, job subsidies for the long-term unemployed instead of unemployment benefits), re-directing labor market programs from the public sector toward job creation in the private sector, and introducing tax incentives for profit sharing.

JEL Classification Number:

F14

Summary of

WP/94/59

"Nigeria's Non-Oil Exports: Determinants of
Supply and Demand, 1970-90" by Inutu Lukonga

Since 1986, the Nigerian Government has undertaken a series of measures designed to promote non-oil exports, including exchange rate and institutional reforms. The success of the measures will depend, inter alia, on what factors constrain export growth, and on the responsiveness of the exports to price incentives. This paper, therefore, examines the factors underlying the past performance of Nigeria's non-oil exports, and attempts to estimate the supply-price elasticities of Nigeria's agricultural exports. It uses a model that specifies both demand and supply side determinants of exports, measures the responsiveness of export volumes to these determinants, and distinguishes long-term developments from short-term fluctuations.

A dominant theme in studies that have examined the erosion of Nigeria's agricultural and other non-oil exports is that unfavorable domestic terms of trade for exports, declining output, and increasing domestic demand are the principal contributors to the dismal performance, and that these factors reflect the interaction of inappropriate domestic pricing policies and the oil boom. The results of this study accord with findings of earlier studies, and generally support the view that domestic market conditions strongly influenced export behavior in Nigeria. The elasticities derived from the model indicate a positive, although relatively limited, response of agricultural exports to price incentives, a structural shift in the export supply function associated with the export promotion measures, and a fairly short lag in the response of exports to the explanatory variables. There is also evidence that further expansion in exports was limited by growing domestic demand. Overall, the results provide evidence of, and support for, the usefulness of pricing policy in export promotion.

JEL Classification Number:
F41

Summary of
WP/94/60

"Do Long-Run Productivity Differentials Explain Long-Run Real Exchange Rates?" by Patrick K. Asea and Enrique G. Mendoza

In celebration of thirty years of the Balassa-Samuelson model, this paper attempts to provide an appraisal of the static theory of Balassa (1964) and Samuelson (1964) by embedding it in an explicitly dynamic general equilibrium setting. The paper's appraisal of this model focuses on two of its key implications; namely that, (i) cross-country differences in the relative price of nontradables reflect differences in the relative marginal productivity of labor of tradable and nontradable sectors, and (ii) cross-country differences in the level of real exchange rates are explained by differences in the relative price of nontradables. These two propositions are developed as long-run, balanced-growth, implications of a two-country intertemporal equilibrium model and several tests are conducted to examine their empirical relevance. For the empirical analysis the authors identify restrictions imposed on the cross-sectional, low-frequency behavior of the data implied by the model, and construct a cross-country sectoral database from existing OECD data to conduct econometric tests based on panel data methods.

The empirical analysis suggests that the Balassa-Samuelson proposition that cross-country differences in long-run domestic relative prices of nontradables are determined by differences in the ratio of long-run sectoral marginal products of labor cannot be rejected by the data. However, the analysis also indicates that long-run relative prices (as measured in the data or as predicted by regressions) are of little help in explaining long-run, cross-country differences in the level of real exchange rates based on CPIs or GDP deflators. Thus, while the paper finds that the Balassa-Samuelson general equilibrium model performs well as a theory of relative prices, it indicates that the model seems unable to account for long-run deviations from PPP. The authors state that this finding echoes a quotation by Paul Samuelson that prefaces the paper: "Unless very sophisticated indeed, PPP is a misleading pretentious doctrine, promising us what is rare in economics, detailed numerical predictions."

JEL Classification Numbers:
E52, F41

Summary of
WP/94/61

"Issues Concerning Nominal Anchors and Monetary Policy"
by Robert P. Flood and Michael Mussa

A nominal anchor is a nominal variable that is the target for monetary policy. In this paper the authors distinguish three types of such anchors. First, when monetary policy fixes the currency price of a commodity or a group of commodities they refer to such an anchor as a fixed nominal anchor, with the gold standard as a famous example. Second, and more generally, when monetary policy targets the growth of a nominal magnitude--such as the price level, a monetary aggregate or nominal income--building on an inherited past, such an anchor is referred to as a moving nominal anchor. The third arrangement, which is not completely distinct from the previous two, aims at fixing or managing the price of one or more countries' currencies in terms of another country's currency. Countries entering into such a system agree to share a more basic nominal anchor, one in which the inflation target of one country and the nominal system of that country inherit properties of the underlying nominal anchor.

Before the Great Depression and the Second World War, many countries adhered to a commodity standard, on and off, with the gold/silver standard the best-known example. During this period countries following such a standard experienced long-run price stability; inflations, which accompanied wars, were followed by equivalent deflations after the wars. In the period following the Great Depression and the Second World War monetary policy was often given a more activist role and was expected to help stabilize the real economy as well as to deliver a politically tolerable inflation performance.

Much attention in recent years has been directed toward: (1) the appropriate design of monetary policy using theoretical arguments and data-based simulations; (2) the role of monetary policy rules; and (3) the ability of the private sector to exploit certain monetary policy rules. The paper reviews selected aspects of this literature, drawing out features that may be robust across industrial countries and possibly important for their average inflation-rate choice.

Finally, it should be emphasized that in the actual conduct of monetary policy, governments and central banks do not generally behave in a manner that can be summarized easily in a mathematical equation. Almost always, some degree of judgment is exercised by a country's monetary authority. Nevertheless, the conduct of monetary policy is not random and undisciplined; it is governed by reasonably well-defined objectives, in the context of a broad understanding of how monetary policy affects the real economy, the financial system, and the price level. In the end, it is the fact that there is something systematic about the conduct of monetary policy, and about its effects, that allows economic analysis to shed some light, at least potentially, on the effects of alternative monetary policies in supplying a nominal anchor for the economic system. The practical importance and implications of any such analytical exercise, of course, need to be interpreted with an appropriate degree of caution.

JEL Classification Numbers:
E52, E58, E61, H63

Summary of
WP/94/62

"Government Securities Versus Central Bank Securities
in Developing Open Market Operations--Evaluation and
Need for Coordinating Arrangements" by Marc Quintyn

The transition to indirect instruments of monetary policy causes the operational activities of the central bank and the treasury to become more intertwined than before. Lack of coordinating arrangements will impair the central bank's operational autonomy, and hence the efficiency and effectiveness of its policy actions.

Operational coordination is particularly needed in selecting the financial instrument used to conduct the central bank's open market operations and designing arrangements to reduce interference between monetary and debt management and stimulate financial market development.

Central banks in financially advanced countries typically intervene in the secondary markets for government securities, a practice that reduces interference between monetary and debt management to a minimum. When financial markets are undeveloped, central banks are unable to introduce genuine open market operations. They first have to influence monetary conditions by intervening in the primary securities market. If government securities are used, monetary and debt management take place in the same market, with the same instrument. Central banks sometimes prefer to use central bank paper to avoid this situation. Coordination between debt and monetary management is still necessary, however.

This paper addresses two related questions: first, does the financial instrument used in emerging open market type operations matter? Second, given the financial instrument, what are the basic requirements for a supporting arrangement to ensure (a) operational autonomy for monetary management and (b) financial market development?

The paper argues in favor of using government securities in emerging open market type operations because they are better able to serve as catalysts in financial market development and (b) there is a risk of losses associated with the use of central bank bills when absorbing large amounts of excess liquidity in the initial stages of financial reform. Although the cost of such operations has to be borne by the government on a consolidated basis, central bank losses should be avoided to preserve the institution's integrity and autonomy.

The effective use of government securities for open market type operations requires the highest degree of coordination between monetary and fiscal authorities. The arrangement should provide for mechanisms to (a) coordinate the amounts to be issued between monetary and fiscal authorities, (b) sterilize any overfunding of the government's budget for monetary management purposes, and (c) share the cost of this overfunding.

Reform agendas should give proper attention to these issues, as a lack of proper coordinating arrangements has been identified as a major source of delay in the transition to indirect instruments of monetary policy.

JEL Classification Numbers:
E31, E44

Summary of
WP/94/63

"Financial Markets and Inflation Under Imperfect Information"
by José De Gregorio and Federico Sturzenegger

Although the effects of inflation on economic activity and welfare have been studied extensively, there is still considerable controversy about the mechanisms through which inflation affects economic performance. One issue that has received little attention but that seems to be well known to practitioners is the effects of inflation on the operation of financial markets, in particular, on their ability to channel funds to the most efficient activities.

This paper develops a formal model that links inflation and financial markets. The model is based on the premise that, as inflation rises, banks have more difficulty distinguishing the riskiness of different customers because risky customers must behave like safe customers in order to receive better credit terms. The model has two types of firms: one is less productive and has a positive probability of default, while the other is more productive and does not default. It is argued that inflation increases the similarity between the two types of firms, either because the productivity of safe firms declines with inflation, or, owing to higher search costs, because the demand of riskier firms increases relative to that of safe firms.

When inflation is low, a fully revealing equilibrium prevails, in which banks can perfectly identify each type of firm. However, as inflation rises, low-productivity firms have more incentive to behave like high-productivity firms because the costs of mimicking this behavior decline. In contrast, high-productivity firms have less incentive to signal their type because signaling costs increase. Thus, high inflation may induce a pooling equilibrium in which banks are unable to distinguish between the two types of firms.

The links between inflation and financial markets discussed in this paper are potentially relevant for a number of reasons. First, they may provide new insight into the effects of inflation on economic growth. The inability of financial intermediaries to distinguish the riskiness associated with different customers may have consequences for the ability of financial markets to allocate credit and foster economic growth. Second, they may help explain the marked recovery of credit to the private sector after the successful implementation of a stabilization program, which induces an increase in economic activity.

JEL Classification Numbers:
J64, J65, J68

Summary of
WP/94/64

"Are the Unemployed Unemployable?" by Gilles Saint-Paul

The problem of persistent and high unemployment is particularly acute in Europe and does not seem about to disappear. A common view is that the unemployed are "unemployable": they lack the skills that are demanded in the labor market because of technological advances.

This paper provides some theoretical foundations for this view and suggests that it is more valid if the labor market is rigid in the sense that hiring decisions are irreversible. A matching model in the spirit of Diamond (1982), Blanchard and Diamond (1990), and Pissarides (1990) is developed where real but not relative wages are rigid, and where it is costly or impossible to fire workers. This irreversibility, along with the assumption of decreasing returns and real wage rigidity, generates an arbitrage condition in terms of the relative unemployment rate of the unskilled: the unskilled must be relatively more abundant than the skilled in order for firms to want to hire them. The main results are the following: first, when the relative productivity of the skilled increases, the unskilled unemployment rate increases, the skilled unemployment rate decreases, and aggregate unemployment unambiguously increases if firing costs are high enough. Second, when the proportion of skilled workers in the labor force rises, the unemployment rate for both the skilled and the unskilled increases. As a result, aggregate unemployment will only decrease if the initial proportion of skilled workers is quite high. Third, these effects are weaker when firing costs go down.

The model implies that technological advances may generate unemployment through two channels: by increasing the productivity of the skilled relative to the unskilled, and by increasing the supply of skilled workers in the economy. What renders the unskilled "unemployable" is that the firm makes less profit from them and is stuck with them. Hiring an unskilled worker entails a capital loss which is greater when their relative productivity is lower and when the skilled are found more easily.

Another implication of this model is that the return to becoming skilled increases when there are more skilled workers.

Training programs for the unskilled have been advocated as a means to reducing unemployment. However, the model suggests that the effect may be perverse unless the productivity of the whole of the unskilled labor force is increased. This suggests that an improvement in the quality of the school system has a better chance of reducing unemployment than limited training programs.

JEL Classification Numbers:
F15, F33, R11

Summary of
WP/94/65

"Relative Prices and Economic Adjustment in the U.S.
and the EU: A Real Story About European Monetary Union"
by Tamim Bayoumi and Alun Thomas

The prospect of European Economic and Monetary Union (EMU) has created interest in a number of issues associated with the operation of monetary unions. The most basic effect of a common currency will be to eliminate the ability to vary bilateral exchange rates within the union. It is a widely held view that this loss of the exchange rate instrument will reduce the ability of the participating economies to absorb disturbances.

This paper looks at the empirical relationship between fluctuations in relative prices and real output across the European Union (EU) and across regions of the United States using structural vector autoregressions. A comparison of the behavior of EU countries, which have close economic ties but separate currencies, with regions within the United States--a currency union of roughly comparable economic magnitude--can be expected to shed light on how the existence of a currency union influences the response of the economy to underlying disturbances.

The results indicate that the United States has significantly more integrated goods and factor markets than the EU. As a result, relative price variability is more important for adjustment within the EU than it is within the United States, despite the fact that the size of the underlying disturbances is relatively similar. The paper finds that adjustment occurs quickly within the EU, largely within a year or two, presumably reflecting the flexibility in relative prices implied by adjustable nominal rates of exchange. In the United States adjustment is much slower, plausibly reflecting the greater importance of factor mobility in adjustment.

Exploring the implications for EMU, the paper suggests that by adopting a single currency the EU is likely to reduce the short-run flexibility of relative prices, making it more difficult and costly to adjust to underlying disturbances. In the longer term, increasing integration of EU goods and factor markets should reduce the need for large movements in relative prices. Institutional changes, such as the recent completion of the single market in the EU, are important in promoting this integration. In addition, the paper notes that EMU itself will probably promote greater flexibility than has been seen in the past.

Having said this, it does not appear likely that the EU will achieve anything like the levels of integration of U.S. regions in the immediate future. In the short run, disruptive relative price adjustments can probably be best avoided by reducing the size of underlying disturbances in demand for regional products. Coordination of domestic aggregate demand policies across EU countries, such as the fiscal restraints incorporated in the Maastricht treaty, is one method of moderating the teething problems likely to be associated with EMU.

JEL Classification Numbers:
E31, E41, E52, E58, F31

Summary of
WP/94/66

"Exchange Rate Determinants in Russia: 1992-93"
by Vincent Koen and Eric Meyermans

The adoption of a unified exchange regime in July 1992 was a major step in opening Russia to the world economy and moving toward a market system. Notwithstanding political turmoil, collapsing output, very high inflation, large-scale dollarization, and occasional rumors about an imminent return to a system of multiple exchange rates, this decision has not been reversed. The expansion of the organized foreign exchange market has been vigorous, though it started from a minuscule base. By late 1993, regular spot auctions were being held at exchanges in six Russian cities, and two futures markets were active in Moscow. Over time, the various segments of the foreign exchange market have become increasingly integrated, even if seemingly unexploited arbitrage opportunities have not disappeared altogether.

Exchange rate policy has evolved roughly through three phases: (1) an unsuccessful attempt in the spring of 1992 to move to a formal target zone at the time of unification; (2) a managed float between mid-1992 and mid-1993; and (3) a system of notional target zones or at least a regime of large-scale smoothing in the second half of 1993. The real exchange rate appreciated by more than 150 percent in the 18 months following unification, thus reducing considerably, or possibly even reversing, what was perceived by many as the large undervaluation of the ruble in mid-1992. This pattern was broadly similar to what was observed in some countries in Central and Eastern Europe at the same stage of the transition.

In order to provide a more formal evaluation of the behavior of the exchange rate, a simple model of exchange rate determination is developed and tested on weekly data. The empirical results suggest that the interest rate differential and the expected inflation differential clearly have influenced the exchange rate of the ruble vis-à-vis the U.S. dollar in the short run. Moreover, the evidence seems to imply that market participants have been aware of the risks associated with high inflation.

The sturdiness of the central exchange rate equation is tested by using it for an out-of-sample projection. The abrupt depreciation of the nominal exchange rate in January 1994, in stark contrast to its near-stability in the previous half year, is well captured by the equation.

JEL Classification Numbers:
E51, F42, P21

Summary of
WP/94/67

"Cash Shortage in the Former Soviet Union"
by Daniel C. Hardy and Ashok K. Lahiri

The newly independent republics of the former Soviet Union and the Baltics faced shortages of banknotes, starting in 1992 until the introduction of separate currencies by the republics. Prolonged cash shortages are historically rare, and seem to be associated with the break-up of federal states. This paper analyzes the causes and consequences of the cash shortage in the former Soviet Union.

The cash shortage is documented through reports of restrictions on access to cash from banks; the emergence of different exchange rates for deposit rubles from different republics; and faster inflation of prices of goods that could be paid for in deposit rubles. Evidence is presented that real cash balances fell precipitously in the former Soviet Union, especially in the non-Russian republics.

A monetary union is modeled in which every member has unlimited capacity to create deposit money but only one member (for example, the Russian Federation) is capable of producing cash rubles, while the payment technology requires that cash be used to make retail purchases, as in the former Soviet Union. Under such an asymmetric monetary union, cash shortage is an equilibrium outcome. Inflation will be high, but not as high as in a monetary union without any constraints on cash creation by any member. Creating a cash shortage can be beneficial for the issuing country and disadvantageous for the other members of the union, who therefore have an incentive to introduce their own currencies. In the absence of counter-vailing forces, the asymmetric monetary union may be unstable.

The paper uses a cash-in-advance model to demonstrate how a rise in real interest rates can reduce demand for cash until it matches supply. Otherwise, quantitative rationing of cash or deviations from a one-for-one exchange rate between cash and deposits will be needed. The last two mechanisms may induce the diversion of resources out of the more productive sector and depress current consumption still further.

JEL Classification Numbers:
H5, H50

Summary of
WP/94/68

"Output Decline and Government Expenditures in European Transition Economies" by Ke-young Chu and Gerd Schwartz

This paper discusses the role of expenditure policies in the decline in aggregate output in European transition economies. It considers three main questions. First, it asks whether actual changes in the level and composition of government expenditures in European transition economies were largely the result of policies or of transition-induced exogenous factors. Second, the paper asks whether government expenditure policies contributed significantly to the measured output decline, and if so, whether this was attributable to specific expenditure components. Third, it asks whether there were more desirable alternatives to the expenditure policies that have been undertaken.

As regards the first question, the paper notes that transition economies showed a clear tendency to reduce the overall extent of government intervention in the economy, even though this did not necessarily manifest itself in a reduction in government expenditures. It contends that, to a large extent, the changes in the level and composition of government expenditures were an inevitable result of transition and reform. For example, reductions in producer subsidies and increases in transfers to households were inevitable once the transition got under way. But the paper finds that policymakers had some degrees of freedom for making expenditure policy choices and safeguarding fiscal sustainability.

As regards the second question, the paper observes that various measurement problems allow for conclusions of a very preliminary nature. Overall, insufficient evidence is seen for concluding that government expenditures made more than a small contribution to the decline in aggregate output. The paper suggests that, generally, government expenditure constraints were not "binding" in determining the pattern of output decline. For example, sectors that were severely input-constrained by the collapse of the Council for Mutual Economic Assistance could not have responded to increased government demand. Only in few cases could it be argued that credit tightening and producer subsidy reductions were brought about too rapidly.

As regards the third question, the paper finds it difficult to make a general case that a different set of expenditure policies by itself would have helped to mitigate the output decline. Also, government expenditure levels in European transition economies are seen still to be on the high side, at least when compared with European market-based economies. As for the future, the paper detects few reasons for pursuing expansionary fiscal policies as a way of lifting European transition economies out of the "transitional recession," even when abstracting from possible adverse macroeconomic consequences. Nevertheless, it states a further reordering of expenditure priorities is desirable. In particular, increases in the share of capital expenditures--human and physical, including operations and maintenance outlays--are recommended for improving long-run output potentials.

JEL Classification Numbers:
E62, H56

Summary of
WP/94/69

"Military Expenditure and Arms Trade: Alternative Data Sources"
by Nancy Happe and John Wakeman-Linn

The limited amount of transparent, comprehensive data from individual country sources frequently hampers the analysis of the economic impact of military expenditures and arms trade. Country-specific information can be supplemented, however, by data from multicountry statistical publications. This paper describes the major publicly available, multicountry statistical sources on military expenditures and arms transfers. Appendices describe each source in more detail and show data reported for recent years.

A great deal of data on military expenditure and arms trade is available in these multicountry sources. For expenditure data, most countries are covered by more than one source, and the data are usually available for a number of years. As a result, the available data provide, both globally and for many individual countries and groups of countries, a basis for analyzing trends and levels in military expenditure. For trade data, however, some sources cover only a limited number of countries and report trade data for many countries only for cumulative time periods.

In some cases, the data are reported directly by governments, but often the data are built up from a number of primary sources. The accuracy and comprehensiveness of the primary data can vary considerably, both by source and by country. Data sources have different purposes, and the data reported, the method of reporting, and the definitions used by a source reflect the purpose. In addition, significant differences can result from the timing of transactions, from differences on valuation technique, and from differences in exchange rates used to convert local currency expenditures into reported dollar expenditures. Unfortunately, the reported data--particularly expenditure data--generally lack sufficient detail to allow the user to discern whether a given difference is due to definition, exchange rate, timing, valuation, or information.

Comparing the published military expenditure data reveals that the sources frequently show significantly different levels and trends in global, regional, and national military expenditures from 1988 through 1991, both in individual years and for the entire period. Cross-source differences were also found in military expenditure as a percentage of GDP, whether evaluated globally, nationally, or by economic grouping. Only limited comparisons can be made of trade data, but generally the differences between sources are in the direction that would be expected from their differences in coverage.

Several things could be done to improve the usefulness of available data. First, governments are in the best position to improve the coverage and accuracy of their own published data. Second, greater detail in the multicountry sources would enable the user to understand better how the data are estimated, and how definitional and other differences affect cross-source discrepancies. Finally, improvements in the timeliness of some of the data would be helpful.

JEL Classification:
D82, D83, E31, F31

Summary of
WP/94/70

"How Does Learning Affect Inflation After a Shift
in the Exchange Rate Regime?" by Laura Papi

Stabilization programs often include a fixing of the exchange rate. One of the theoretical justifications for this can be found in the literature on policy games. In that context, it has been shown that time-consistent inflation would be lower with a fixed exchange rate system rather than a free float system where purchasing power parity always holds. However, when a stabilization program is implemented, there is often great uncertainty about the policymakers' intentions and some authors have identified these information asymmetries between the government and the public as a possible cause of the slow decline in inflation.

This paper challenges this view. It analyzes the consequences on the actual and expected inflation rate of a shift from a floating rate regime--where purchasing power parity always holds--to a pegged exchange rate regime, in an environment of asymmetric information. The framework of the analysis is a policy game in which policymaking is endogenous and the public learns rationally.

The paper presents two main findings. First, that there is a "honeymoon effect" after the regime change, where inflation is lower than in the long run. Second, that the asymmetric information outcome converges to that of symmetric information in the long run. Hence, the paper concludes that information asymmetries are not responsible for lengthy disinflations. Rather, the private sector's uncertainty about government preferences results in lower time-consistent inflation than that prevailing once private agents have learnt the policymakers' preferences.

JEL Classification Numbers:
E23, E31, P21

Summary of
WP/94/71

"The Path of Output from Plan to Market" by Thorvaldur Gylfason

This paper is intended to clarify the contribution of macroeconomic stabilization and structural adjustment to the transformation from plan to market in Central and Eastern Europe and elsewhere. At first, the restructuring of the economy is accompanied by a collapse of output, increased unemployment, and high inflation. High inflation drives a wedge between the marginal products of real and financial capital, and thus distorts production. To maximize efficiency and output, the inflation distortion must be eliminated. The static output gain from stabilizing prices and consequently improving the allocation and utilization of capital at full employment is captured in a simple formula in which the gain is approximately proportional to the square of the original inflation distortion. This formula is analytically equivalent to Harberger's triangular measure of the deadweight welfare loss from inefficient taxation. Substitution of plausible parameter estimates into the formula indicates that the static output gains from stabilization can be quite large. For example, the eradication of inflation of 250 percent per year can increase total output by about 4 percent permanently according to the model, when the elasticity of substitution of financial for real capital is between one half and one.

Moreover, successful stabilization increases the rate of growth of output per head, and not only its level, in the presence of constant returns to capital in a broad sense. The efficiency boost that is obtained through an improved allocation and utilization of capital is likely to increase economic growth, either permanently, according to the new theory of endogenous growth, or at least over an extended period, according to the neoclassical growth model. The stimulating effect of stabilization on growth through increased efficiency is complicated, however, by its interaction with the depreciation of financial capital through inflation and the endogenous determination of optimal saving.

The main conclusion of the paper is that sound monetary, fiscal, and financial policies can, by bringing inflation down, play an important role in encouraging the reallocation of resources and the reorganization of production that are necessary, in Central and Eastern Europe and elsewhere, to foster a favorable development of output and employment after the initial slump. In particular, macroeconomic stabilization not only helps raise the level of output, but also its rate of growth over time.

JEL Classification Numbers:
E42, E43, E58, F31

Summary of
WP/94/72

"Determining the Value of a Financial Unit of Account Based
on Composite Currencies: The Case of the Private ECU"
by David Folkerts-Landau and Peter M. Garber

The private European Currency Unit (ECU) has become the unit of account of a major international financial market, with the ECU comprising approximately five percent of European Union securities and bank balance sheets. Currently, however, no active official or private market mechanism guarantees that private ECUs can be exchanged for a like number of units of the officially defined Basket of component currencies. The holder of private ECU-denominated bank deposits cannot expect to convert them into the official Basket of currencies at par at all times; nor can the owner of a private ECU-denominated treasury bill or bond valued in ECU convert the asset into an equal value in units of the Basket. Indeed, recent market experience has shown that the value of the private ECU can deviate substantially from the value of the Basket, which has caused a reassessment of the foreign exchange risk relative to the Basket associated with holding ECU-denominated assets, including open private ECU positions on bank balance sheets.

That the exchange rate between the private ECU and the Basket can move substantially from par raises questions concerning the factors that influence its value and that determine the yield on ECU-denominated assets. This paper addresses the question of what determines the values of the private ECU and private ECU interest rates. The usual monetary mechanisms that impart determinate value to a nominal unit of account--the existence of a real demand for the unit, a limited supply of the realized unit, and the exogenous setting of some interest rate--are absent in the case of the private ECU. A determinate value could be imparted by a commitment of the banking sector or of some central bank to deliver the official Basket for private ECU, but no such commitment exists presently because of the risk that such a par exchange rate might experience a speculative attack.

Instead, the value of the private ECU is determined through a round-about mechanism: there is generally an expectation that the private ECU and the then current official basket will be merged by a future European Central Bank. Also, the current operation of the private ECU large-value payment and clearing system exogenously determines the private ECU overnight interest rate. The combination of an expected future fixing of the exchange rate and an exogenous ECU interest rate is sufficient to determine the current exchange rate between the private ECU and the official Basket.

The paper observes that the developments in the private ECU market provide valuable experience about the determination of the exchange rate between privately created composite currencies--that is, new units of account--and the component currencies. The possible development of additional private composite currencies, such as regional composite currencies or a private SDR, also adds interest to questions about the mechanism that ties the value of such currencies to that of their underlying baskets and determines the yields on assets denominated in such currencies. Though the paper considers these questions in the context of the private ECU, the conditions and institutional underpinning that activate a unit of account, giving determinate value and eventual use as a payment medium, transplant whole from the ECU to other units such as the SDR.

JEL Classification Numbers:
E63, F32, F41, L52, O52

Summary of
WP/94/73

"The Changing Mix of Disequilibria During Transition:
A Romanian Background" by Daniel Daianu

Romania was a special case under central planning, and the balance of payments adjustment it undertook in the 1980s offers an example of a sui generis shock therapy undertaken in a command system. Direct controls were used to cut domestic absorption to the largest possible extent. This forced adjustment can be seen as an "internalization" of external disequilibria, which created increased domestic imbalances, both open and hidden. If one conceives an optimal degree of internalization, an obvious overtaxation of domestic absorption took place during those years.

The start of transformation consisted, among other things, of the decentralization of decision making, although soft budget constraints continued to operate; a phasing out of direct control devices; an increasing fuzziness concerning property rights, with trade unions becoming key players and "managers/monitors"; and a very liberal trade and foreign exchange regime. Macroeconomic policy was unable to contain the disequilibria because of the modifying domestic institutional and economic arrangements in the country and an unfavorable international environment. This resulted in a reversal: an "externalization" of domestic imbalances, which led to a surge of imports and a dramatic reversal of the current account balance.

The stabilization and transformation policy in Romania further fuels many debatable issues, including the following: How sustainable is stabilization if financial discipline can barely be imposed, and can the latter be imposed without clearly defined property rights? What are the microfoundations of macroeconomic policy during transition? Does industrial policy have a role to play in supporting enterprise reform and stabilization? What is the role of an incomes control policy in an uncompetitive environment and how can an industrial relations policy enhance stabilization under the prevailing circumstances concerning property rights? What is the role of foreign investment in fostering industrial restructuring when domestic investment is inadequate? To what extent does hysteresis occur when resources (labor) have low mobility? And, finally, if wage dynamics will not enhance human capital accumulation, how will long-run growth potential be impaired?

JEL Classification Numbers:
E62, E63, F33, F36

Summary of
WP/94/74

"Fiscal Federalism in Europe: Is It a Necessary
Precondition for a Successful European Economic and
Monetary Integration?" by Norbert Berthold

An important question in the process of European integration concerns the best institutional level for fiscal stabilization policies. The theory of fiscal federalism provides criteria for evaluating if such stabilization policies should take place on a centralized or on a decentralized level. Instead of simply assuming that fiscal stabilization policies are a necessary part of a successful European economic and monetary integration, this paper first discusses the usefulness of such policies. It reaches the conclusion that fiscal stabilization policies are in general not an adequate way to respond to shocks. However, since fiscal stabilization policies appear to be unavoidable for political reasons, the paper then discusses on which institutional level such policies should be located. Decentralized fiscal stabilization policies are preferable because they are disciplined more by market forces, thus giving politicians less room for inefficient discretionary activities. In addition, supply side policies that make markets react more to shocks, and avoid a monetary union between countries that already have difficulty in coping with shocks, are important prerequisites for a successful European integration.

JEL Classification Numbers:
E43, F32, F41

Summary of
WP/94/75

"The Behavior of Real Interest Rates in Exchange-Rate Based Stabilization Programs" by Pierre-Richard Agénor

This paper examines the effect of expectations about future fiscal policy on the behavior of real interest rates in exchange-rate based stabilization programs. The analysis is based on an optimizing model with imperfect capital mobility. The effects of a once-and-for-all (or fully credible) reduction in the devaluation rate are first examined. The steady-state effects are shown to be an increase in the marginal value of wealth, real money balances, private wealth, consumption, a concomitant fall in the nominal interest rate, and no effect on the real stock of foreign bonds or the after-tax real interest rate. On impact, while the nominal interest rate falls unambiguously, the effect on the real after-tax interest rate is indeterminate and is shown to depend, in particular, on the degree of capital mobility. The distinction between instantaneous and gradual portfolio adjustments plays a key role in understanding the short- and long-run dynamics induced by policy shocks.

The analysis then considers a two-stage policy sequence in which policymakers implement an immediate, permanent, reduction in the devaluation rate as the first step in a disinflation program. They also announce their intention to increase the tax rate on income in the future. Private agents, however, do not entirely believe the announcement regarding the fiscal component of the program, and attribute a positive probability to the possibility that the authorities will not implement the pre-announced increase in income taxes. The behavior of real interest rates at the inception of the program is shown to depend on the degree of credibility in the policymakers' announcements. When agents believe that the increase in taxes is unlikely to be implemented, and provided that the degree of capital mobility is sufficiently high, domestic real interest rates are likely to fall. By contrast, when private agents believe with a high degree of certainty that the increase in the income tax rate will be effectively implemented, real interest rates may rise on impact. Thus, the behavior of real interest rates at the inception of exchange-rate-based stabilization programs may not reflect expectations about the sustainability of the initial exchange rate adjustment itself, but rather the degree of confidence that private agents attach to the future implementation of the fiscal measures that may be announced in conjunction with the initial set of deflationary policies.

JEL Classification Numbers:
E31, E37

Summary of
WP/94/76

"The Main Determinants of Inflation in Nigeria" by Gary G. Moser

The inflation rate in Nigeria has increased steadily and markedly since independence. By the end of 1993, inflation had reached 60 percent (on an end-period basis), and real per capita income growth had stalled. This paper reviews previous empirical studies on the determinants of inflation in Nigeria, analyzes the dominant factors influencing inflation, presents the empirical results of a reduced-form elasticities model, and discusses the policy implications of those empirical results.

The rate of inflation in Nigeria is based on a composite urban and rural consumer price index (CPI), with food items representing almost 70 percent of the CPI market basket. Consequently, factors affecting food prices dominate movements in the CPI, including agroclimatic conditions, wages, domestic inputs, and import prices. In reviewing episodes of inflation during 1985-93, this paper finds that money growth, resulting largely from expansionary fiscal policies, combined with agroclimatic conditions, significantly influenced movements in the rate of inflation. The devaluation of the naira, as expected, also affected inflation during the period.

The relative weights of the key factors influencing the rate of inflation (money, income, and exchange rates) are tested empirically using a semi-reduced form model. Given the apparent central role of expansionary fiscal and monetary policies in the inflation process, an expanded monetary model of inflation is employed. The results of the analysis confirm the basic findings of earlier studies, namely, that monetary expansion, driven mainly by expansionary fiscal policies, explains to a large degree the inflationary process in Nigeria. Regarding the exchange rate, the impact of a depreciation of the naira on the rate of inflation was found to be significant, but that impact could be moderated with appropriately tight fiscal and monetary policies. Given the considerable role of food commodities in the CPI, agroclimatic conditions (rainfall) were also found to influence overall movements in prices significantly.