Capital Flows and the International Financial Architecture

A Paper from the Project on Development, Trade, and International Finance

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John Eatwell and Lance Taylor

A Council on Foreign Relations Paper

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FOREWORD

In the wake of the 1997–98 financial crises in emerging economies, many prominent thinkers focused their energies on what went wrong, how it could have been prevented, and what reform measures are required for the future. While some concentrated specifically on financial markets within the economies in question, others examined the larger system-wide implications. The Council on Foreign Relations Project on Development, Trade, and International Finance convened a Working Group in an attempt to look at the problem from both levels, to investigate the problems in the world economy that led to the crises, and to propose policy options calculated to prevent future large-scale disturbances.

Specifically, the goal of the Working Group, which began in 1999, was to promote discussion of different perspectives about the necessity for change in the world economic system, and to look at concrete forms that change might take. These included, but were not limited to, discussions about reforming the international financial architecture to facilitate a transition from export-led growth to internally or regionally demand-driven development strategies that offer the populations of the developing world an improved standard of living.

One of the Working Group's several undertakings was to commission papers from the participants on a broad range of subjects related to the international financial architecture. The authors come from a variety of backgrounds, and their papers reflect a diversity of perspectives. However, we believe that all of them provide useful insights into international financial architecture, and that they represent collectively factors that should be considered by both U.S. and international economic policy makers.

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Capital Flows and the International Financial Architecture

The Asian crisis of 1997 precipitated a worldwide reappraisal of the performance of international financial arrangements. This debate has been labeled "Reform of the International Financial Architecture." Almost all serious commentators have now abandoned the presumption, widely held before 1997, that financial liberalization is invariably beneficial. But there is as yet no consensus either about the appropriate analysis of the impact of financial liberalization, or about what should be done. This paper addresses both questions.

Our analysis is based on a research project, sponsored by the Ford Foundation, that began in mid-1997. For that project, we gathered together a number of colleagues to evaluate the effects of liberalization on the performance of real economies throughout the world. Our synthesis of their insights was contained in a coauthored report entitled *International Capital Markets and the Future of Economic Policy*, presented to the Ford Foundation in August. Further elaboration led to our forthcoming book, *Global Finance at Risk: The Case for International Regulation*.

Both the report and the book concentrate on the effects of liberalization. Our evaluation covers both long-term trend performance and explores the recurrent financial crises that have, during the past thirty years, periodically disrupted both developed and developing economies. While international liberalization has brought some benefits, those benefits have been tarnished by considerable costs. The costs could have been substantially mitigated if a key lesson had been drawn from the development of domestic finan-

cial markets: liberal markets are only efficient if they are efficiently regulated. The task of financial regulation is to manage the risks that follow in the wake of liberalization. Without regulation, the risks and associated costs can become unbearable. We propose the establishment of a World Financial Authority (WFA), to function in world financial markets as national regulators do in domestic markets. A natural place to build the WFA is on the foundations for global financial surveillance and regulation that have already been laid by the Bank for International Settlements in Basel, Switzerland.

Ideas similar to ours have come from prominent sources. In the United States, for example, the February 1999 *Economic Report of the President* argued that "Financial liberalization and innovation have rendered national boundaries irrelevant. If regulation was necessary within national boundaries, then it is now (at least) equally necessary in the international market." In the United Kingdom in late September 1998, one of us (Eatwell) received a telephone call from a *Financial Times* reporter asking him to comment on a speech that British prime minister Tony Blair had given the day before. The speech had covered aspects of international financial reform, and, declared the journalist, "we know you wrote it." Eatwell protested he had done no such thing. His protests were cut short by the journalist: "The Prime Minister's press officer is telling us that you did." In fact, Eatwell had not written Blair's speech. But he had sent Blair's office a copy of our Ford Foundation report, and parts of the speech were based on some of our proposals.

Despite the similarities between our analysis and arguments emanating from the White House and 10 Downing Street, our specific recommendation for the creation of a WFA has been dismissed by some (including a few people generally sympathetic to our analysis) as "utopian" and "lacking political feasibility." To us, these criticisms seem misconceived.

First, even if the WFA as a specific institution is not created, it is still important to identify the *WFA function*, i.e., the tasks that need to be done by somebody. In this respect the WFA is a template for our analysis of markets and of policies to enhance the effi-

ciency of international finance. In the book we stress that financial markets are not automatically self-regulating, and we illustrate the point in four key areas:

- There has been a breakdown of national regulatory capacities as liberalization has spread worldwide during the past four decades. Consequences have included high and variable real interest rates, volatility of asset prices, poor national economic performances, and the contagious spread of market instabilities worldwide.
- Such developments create the possibility for massive upheavals even in the large and integrated financial markets of the industrialized economies. Past examples are presented and potential risks to the American economy are pointed out.
- The recent wave of currency crises in developing and transition economies has clearly been associated with rapid capital market liberalization and the absence both internationally and at the country level of appropriate regulatory procedures to deal with the financial flows that were unleashed.
- There is a complete absence of "fundamentals" in the determination of exchange rates; changes in rates are driven exclusively by shifting speculative "conventions" in the markets. Exchange rate volatility exacerbates all the deficiencies of unregulated markets.

In all four areas, intelligent international regulation is essential to help markets perform more effectively, and to reduce the danger of massive market failures. A major component of the WFA function is the provision of the surveillance, enforcement, and policy development that lie at the heart of efficient regulation.

Second, if the experience of policy changes in international finance over the past few years has taught us anything, it is that what is utopian one day is the conventional wisdom the next. Financial innovation happens at breakneck speed. That includes institutional and political innovation. In the nine months following the Russian default on August 17, 1998, an event that sent shock-waves around the financial world, the G-7 took the initiative to establish the Financial Stability Forum (FSF), a nascent international regulatory

institution. Whether the FSF develops to perform the WFA function only time will tell. After the Brazilian crisis of early 1999 waned, a period of relative calm in financial markets slowed the pace of institutional reform. Further storms will quicken the pace again. There are no absolute standards of what is and is not politically feasible. What does matter is the balance of powers and interests, and the fear of the consequences of doing nothing. In the face of another severe crisis, a WFA may well become politically feasible, and if that should happen it is important to think through in advance how it would actually work.

In the discussion to follow, we begin with a capsule history of world capital markets, in order to establish a common ground. We then review our analysis of the four points mentioned above, and close with a presentation of the functions and operations of a WFA.

LIBERAL CAPITAL MARKETS IN HISTORY

Since around 1870, there have been three periods during which cross-border movements of financial capital were substantially unregulated: first, under the "high" gold standard before World War I; second, the gold exchange standard between the two world wars; and, third, the new liberal financial order existing today. Was global macroeconomic stability assured during the two gold-standard episodes? In the first it was, after a fashion. In the second it most clearly was not.

The high gold standard was the linchpin of the late Victorian world economic order. Under its rules, most countries fixed their currencies in terms of gold (thus maintaining fixed exchange rates among themselves), held gold reserves to settle their international accounts, and often used gold coins as well. Between 1870 and the outbreak of World War I, international macro adjustment pivoted on the Bank of England, often acting in cooperation with other central banks. Capital flows stabilized the system, because they tended to move out of Britain when it was at the bottom of its business cycle and the London interest rate was low. When import demand fell in Britain, the low rate stimulated real invest-

ment in borrower countries of European settlement and the colonies. In time, the British economy would recover or the Bank of England would raise the discount rate to counter reserve losses. Capital would move back toward London and high rates would force raw-materials exporters to sell off stocks on unfavorable terms, improving the British terms of trade and trade balance as well. The system operated counter cyclically, stimulating demand outside Britain when local demand was low, and reducing demand outside Britain when local demand was high.

This overall stability did *not* rule out national crises. When their capital inflows dried up, capital-importing countries often could not raise exports sufficiently to avoid suspending debt payments or abandoning gold parity. The U.S. crashes of 1893 and 1907 are cases in point. But such local financial volcanoes erupted without threatening the system as a whole. Even repeated crises in Britain itself failed to topple the gold standard, primarily because of the financial support of the Banque de France, the investment of the Indian surplus in London (to the detriment of the Indian economy), and South African gold production. Nonetheless, by the outbreak of World War I, the gold standard was becoming unsustainable as more countries established central banks, complete with gold reserves that were no longer susceptible to the free-flowing influence of London interest rates.

The adjustment mechanisms central to the operation of the gold standard resulted in the *real* interest rate (that is, the nominal rate minus the rate of inflation) being very high. Between 1870 and 1890, average long-term real rates in the major industrial countries were around 4 percent. From 1950 to 1970, the so-called "Golden Age" of rapid economic growth worldwide—and a time when capital markets were highly regulated—real interest rates were about 2 percent. They fell to near zero in the inflationary 1970s. From 1981 to 1993, when the international financial market was once again deregulated, the average real rate in major industrial countries was at the historic high of 5.1 percent. Free international capital markets appear to go hand-in-hand with high real interest rates, that

is, high returns to rentiers. Some of the reasons why are taken up below.

Under the gold standard as it functioned between the two world wars (the gold-exchange standard) stability properties were very different. The United States had become the biggest international lender, meaning that its national saving (the "source" of funds directed toward financial markets) exceeded its domestic investment (the major domestic "use" of funds after they filter through the financial system). Because the excess of sources over uses had nowhere else to go, it had to take the form of international lending. Moreover, the U.S. aggregate savings supply rose substantially during a business cycle upswing, so that at the peak both its exports of financial capital and its import demand were high. In contrast to Britain under the high gold standard, capital movements out of and trade flows into the U.S. economy both moved *with* the trade cycle. They thereby tended to stimulate economies elsewhere, with further positive feedback effects on the United States: both upswings and downswings were strongly amplified.

During the inter-war years international cooperation was weak, in contrast to the earlier period when the Bank of England could always rely on help from counterpart institutions on the continent. One crucial example was the wave of banking crises that spread across Europe in 1931. Following bank failures in Austria, Germany encountered difficulties in midyear, throwing the Reichsbank into dire need of external credit. France had ample gold reserves (built up through annual trade surpluses, a partial result of the franc's having been pegged at a weak level when it re-entered the gold standard). But it attached so many political strings to the credits it offered that the Germans would not accept: money with strings is not liquid. A continent-wide crisis and the spread of the Great Depression worldwide followed in turn.

This collapse was deepened by "currency" or "locational" imbalances in balance sheets of the financial systems in many of the affected countries. In Germany (and elsewhere), a large share of domestic bank deposits were held by foreign investors and banks. At the same time, the German banks' assets were largely domestic. Rising fears of devaluation would lead almost automatically

to deposit withdrawals, possibly igniting bank runs and subsequent crises. Sixty-six years later and half the world away, these same factors exacerbated the Asian crisis of 1997 and spilled over into Russia the following year.

In the United States, the major creditor country, the financial system was fragile for a different reason. Many of its clients had borrowed heavily to undertake financial investments. In the jargon, they were highly "leveraged" or "geared." In principle, such a position cannot be maintained when the value of the collateral assets an investor holds falls below the level of his or her debt. In practice, he or she often fails when current income flows (including capital gains) fall short of current interest obligations. After the 1929 crash, the first condition applied. "Margin calls" on the loans many investors had taken out to buy shares when prices were rising bankrupted many credit-worthy borrowers when share prices fell. This process of "debt-deflation" (Yale economist Irving Fisher's term from 1933) was another contributing factor to the Great Depression. A similar process was clearly visible in Asia in 1997–98.

One effect of the competitive devaluation and beggar-my-neighbor policies of the 1930s was to encourage wartime economists (led by John Maynard Keynes from the United Kingdom and Harry Dexter White from the United States) to design a system with fixed exchange rates that did *not* rely on anachronistic national gold hordes. At the famous Bretton Woods, New Hampshire, conference in 1944 they replaced the liberal international financial markets of the gold standard with strict controls on capital movements. These controls were a fundamental characteristic of the new Bretton Woods system. Insofar as its institutional structure reflected the Keynesian theoretical concerns of the time, Bretton Woods may be interpreted as a set of rules under which national authorities might, if they wished, pursue full employment policies, free of some of the anxieties that accompany open capital markets. Exchange-rate stability was central to this system.

The success of the Bretton Woods design must be a key factor in the evaluation of the impact of the subsequent, post-1971, liberalization. Growth and employment rates during the twenty-

five years of the system's effective operation from the end of World War II until about 1970 were at historic highs in most countries. Productivity growth was also at an historic high, not only in countries that were "catching up" but also in the technological leaders. It *was* a Golden Age. How the Bretton Woods system broke down after twenty-five years of extraordinary economic success is a well-known story. For present purposes, the objective is not the resurrection of Bretton Woods—that is economically and politically impossible. Rather, the post–World War II system provides a point of reference. From there, we can study the impact of the reduction in barriers to international capital movements that got underway as the system started to fail.

THE BREAKDOWN OF FINANCIAL REGULATION

The present wave of capital-market liberalization began with the opening of Eurocurrency markets in the 1950s. But it was with the breakdown of Bretton Woods and the consequent privatization of foreign-exchange risk that the explosion of foreign-exchange markets began, followed by the creation of global bond markets in the 1980s, and global equity markets in the early 1990s.

The international financial flood of the past twenty-five years rose from the tiny spring begun by Eurodollar (later Eurocurrency) markets in the 1950s. A Eurodollar deposit is just a deposit denominated in dollars in a bank outside the political jurisdiction of the United States. As the name implies, offshore banking operations were originally limited to Europe (with London as the major trading point), but they soon could be carried out worldwide. Net Eurocurrency deposit liabilities amounted to around $10 billion in the mid-1960s and grew to $500 billion by 1980. By the mid-1980s in the industrial countries, bank deposits in currencies other than each nation's own currency amounted to around one-quarter of the total.

A major contributing factor to growth in Eurocurrency markets was the American "interest equalization tax" of 1964–73, which raised costs for banks to lend offshore from their domes-

tic branches. The resulting higher external rates led dollar depositors such as foreign corporations to switch their funds from onshore U.S. institutions to Eurobanks. A second massive Eurodeposit inflow came in 1973–74, with the onset of "recycling" of OPEC trade surpluses after the first oil shock. The developing country debt boom followed in turn, as rich countries' banks used OPEC's deposits to back massive loans to middle income economies in Latin America and elsewhere. The subsequent crash after the Mexican default of August 1982 led to a "lost decade" of growth in most of the developing world (with Asian economies as the major exceptions until 1997, for reasons discussed below).

Eurocurrency transactions rapidly taught market players that they could shift their deposits, loans, and investments from one currency to another in response to actual or anticipated changes in interest and exchange rates. These moves were early warnings of a pervasive regulatory problem that dominates the world economy today: *any nation's financial controls appear to be made for the sole purpose of being evaded*. Even the ability of central banks to regulate the supply of money and credit was undermined by commercial banks' borrowing and lending offshore. By the early 1980s, national authorities had been forced to scrap long-established interest rate ceilings, lending limits, portfolio restrictions, reserve and liquidity requirements, and other regulatory paraphernalia. These instruments acted on the supply side of financial markets by limiting the ability of private sector players to seek capital gains, hedge risk, or undertake arbitrage. They all could be circumvented by the new freedom to pursue offshore transactions. All finally had to be abandoned.

Dropping their supply-side regulatory tools meant that central banks could now operate only on the demand side of the money market, buying and selling securities to influence short-term interest rates. The result has been higher and more volatile real rates. The 1995 Annual Bulletin of the Bank for International Settlements (BIS) commented, "... interest rates generally have to become higher and more variable" as they are managed to influence demands for financial assets. The new interest-rate regime became

the norm in every major economy. The result was a powerful inducement for even greater cross-border surges of portfolio investment. As under the inter–world war gold standard, central banks in the advanced economies lost much of their power to pursue countercyclical monetary policies. And as under the nineteenth-century gold standard, high interest rates seemed to settle in for good.

ACTUAL AND POTENTIAL PROBLEMS IN INDUSTRIALIZED ECONOMIES

Capital-market decontrol is the background for three issues that have dominated the recent experiences of almost all the major industrial countries: first, the slowdown in growth to about two-thirds of the growth rate attained in the 1950s and 1960s; second, a common fall in the share of GDP devoted to investment; and third, a rise in unemployment (only in the United States is the unemployment rate at levels comparable to the 1960s, an important exception that will be considered in detail below).

This commonality of experience throughout the major industrial countries is striking. It suggests that the causes of low growth and higher unemployment during the past twenty-five years are to be found in factors that affect *all* countries in a broadly similar manner, rather than in the individual circumstances of each country.

Four candidates for the role of a common source are: first, the impact of the oil crises of the 1970s; second, the end of the post-World War reconstruction boom in which Europe and Japan were "catching up" with the United States; third, the structural changes in world trading relationships associated with the increasing mobility of capital and the rapid growth of third world manufactured exports, particularly from China and the Pacific Rim; fourth, changes in the international financial environment since 1973.

As we argue in *Global Finance at Risk,* our forthcoming book, the first three explanations are far weaker than the last. With regard to the oil shocks of the 1970s, for example, the obvious comparisons are with other big relative price movements in the postwar

world economy. During the Korean war era, the rich countries got through a large increase in all raw material prices without notable deceleration of growth. And oil and other commodity prices collapsed in 1986 without stimulating a new round of high performance (although, as the major consumer of energy, the U.S. economy benefited from the price reductions, in comparison to its rivals).

Productivity growth rates in the G-7 countries have tended to converge in those industries, such as manufacturing, that are exposed to international competition. This convergence has coincided with a general reduction in the overall pace of productivity growth. "Catching up" explains part of this process, but not all. It does not explain the common, general reduction in productivity growth observed worldwide.

Recently there has clearly been a rise in competition from the newly industrializing countries, particularly those on the Pacific Rim, which has jeopardized growth in the major industrial countries. In 1968 just 1 percent of G-7 domestic demand for manufactures was satisfied by imports from the Third World. By 1980 developing countries' market share had risen to 2 percent; by 1988 to 3.1 percent; and by 1998 to 6 percent.

The complication is that the phenomenon of low-wage competition from newly industrializing countries is not new to the developed world. The experience of the past twenty years was not dissimilar to the competition that the northern European countries experienced from southern Europe in the late 1950s; e.g., the growth of Italy's share of world manufactured trade from less than 2 percent to over 6 percent in twenty years. However, greater import penetration did *not* result in slow growth or unemployment in northern Europe. On the contrary, throughout the period in which competition was most intense northern Europe suffered from a labor shortage, with about 10 percent of the labor force in West Germany and France being immigrants. High overall growth enabled the north to absorb southern Europe's export and emigration surge.

The new international financial order is the fourth "common factor" influencing the economic performance of all countries. Is

there a credible story to be told that links financial market liberalization to the deteriorating economic performance of the major industrial countries? Such a story surely must involve deflationary pressures on both public and private sectors by the sheer scale of international capital flows, and the actual and potential volatility of those flows.

There are at least three ways in which liberalized financial markets can cause deterioration in overall economic performance. First, as Keynes profoundly observed in 1936 in *The General Theory of Employment, Interest, and Money*, finance operates along the lines of a "beauty contest" popular in down-market English Sunday newspapers in the 1930s. The contestants' goal was *not* to pick the prettiest face from the array of young women's photos that appeared in the paper; rather, it was to pick the face voted prettiest by all the players that day. The game, therefore, was to guess the players' average opinion about what average opinion regarding the prettiest face would be, and so on to "higher degrees" of conjecture.

Keynes argued that financial markets in essence operate along beauty-contest lines. Few thoughtful players or observers disagree. A crucial implication is that such a market is likely to be dominated by "conventions" about its behavior, just as conventional standards about beauty would have directed the contestants' choices in the 1930s. Financial conventions can be stable for extended periods of time. But they also can be highly *unstable* and prone to occasional severe loss of liquidity when all opinion tends to shift in the same direction. This will increase the cost of capital and sometimes lead to severe capital shortages. Both are factors that will tend to discourage investment and reduce levels of activity in the medium term.

Second, the operation of the beauty contest means that movements of asset prices and rates of return do *not* obey the normal or log-normal statistical distributions typical of many physical phenomena. Rather, their distributions have "fat tails," with changes concentrated at the extremes—at times, market conditions can jump dramatically. Because the beauty contest is intrinsically historical,

the behavior of asset markets ultimately eludes standard statistical tracking procedures.

Third, the operation of the beauty contest in a liberal environment may produce systematic changes in the behavior of both public and private sectors as conventions settle in. Even if these changes succeed in reducing instability for a time, they may achieve this position at the cost of medium-term worsening in overall economic performance.

THE PERFORMANCE OF THE PRIVATE SECTOR

The pattern of volatility in financial markets means that they generate economic inefficiencies, because volatility creates financial risk. Even if the facilities exist for hedging that risk, the cost of hedging must be added to the cost of any financial commitment. More generally, volatility may well result in decisions being made on the basis of false information, and may induce a general reluctance to take any step that will increase exposure to unpredictable fluctuations in exchange rates or interest rates. A simple premise might be: the greater the volatility, the greater the reluctance to undertake any exposure to fluctuating variables. The greatest danger of all in open capital markets is, of course, posed by a general loss of liquidity. The potential costs of liberalization are also raised by the possibilities for contagion created by the newly integrated markets.

Analyses of financial instability typically focus on short-term volatility; e.g., monthly or even daily price movements. Such indicators have risen since the end of Bretton Woods system. On average, the monthly volatility of G-7 exchange rates has tripled, with the largest increases being experienced by Japan, the United Kingdom, and the United States. There was no tendency for volatility to decrease in the 1980s and early 1990s, but equally, after the sharp increase between the 1960s and early 1980s, there has been no tendency for volatility to increase further despite the fact that currency trading has grown enormously.

Similar increases in volatility are evident in bond yields although they too generally eased a little during the 1990s, while international bond trading has increased sharply. There has also been increased volatility of short-term interest rates.

There is limited evidence of a significant impact of short-term financial volatility on the real economy. However, studies of the U.S. economy in the 1980s did reveal that for manufacturing industries the move to flexible exchange rates was accompanied by significant and widespread increases in uncertainty about real wages, the real price of materials inputs, and real output prices. This greater uncertainty about real output prices seemed to have a negative impact on the investment rate and productivity growth. The key distinction seems to be whether exchange rates are fixed or fluctuating. Major damage can come from large exchange-rate movements over the medium term.

Capital-market liberalization was accompanied in the 1970s and 1980s by huge swings in exchange rates, with no obvious relationship to the needs of production. For example, the appreciation of the sterling's effective exchange rate by more than 20 percent between 1978 and 1981 was accompanied by a doubling of the United Kingdom's inflation rate. The stronger real exchange rate resulted in a rapid deterioration in the balance of trade in manufactured goods and a 20 percent fall in domestic manufacturing output, declines from which British manufacturing has never fully recovered. Similarly the 40 percent swings in the U.S. effective exchange rate in the 1980s were associated with the growth of the U.S. current account deficit to more than $160 billion in 1987 (with a counterpart deterioration in the federal budget deficit). In the first half of 1999 the dollar strengthened as the U.S. trade balance deteriorated and U.S. jobs were lost.

As well as exchange rate instability, the 1980s and 1990s also experienced both an increase in the volatility of interest rates on bonds and a general increase in the real level of the long-term bond rate. Clear evidence links the volatility and high rates of return demanded in deregulated capital markets to bond default and corporate failure. Volatility makes the cost of capital uncertain and limits a firm's ability to borrow, and small firms in particular can be hard

hit by the impact of high interest rates on the cost of loans. But the greatest impact comes via corporate cash flow. Retained profits are the key determinant of corporate investment. High and volatile interest rates reduce cash flow and make it less predictable, and hence undermine investment plans. High and volatile rates can lead to a significant deterioration in corporate performance, especially for companies with high debt-equity ratios. In the United States, both corporate bond default and outright failure rates were low in the Bretton Woods era and rose sharply in the 1980s. The key explanatory factors were the real interest rate and the corporate debt-equity ratio.

THE PERFORMANCE OF THE PUBLIC SECTOR

It is widely believed that the power of liberal financial markets places a "healthy" discipline on the public sector, encouraging the pursuit of "market friendly," anti-inflationary policies, which should support investment and growth. For example, it was argued in *The Economist* magazine in October 1995 that:

> ….. a government's loss of powers is reason to cheer, not fear: all that is being lost is the power to pursue damaging policies and practice economic deception by letting inflation rip.

That governments have lost power is undeniable. Open financial markets place government's financial policy at the mercy of market confidence. A general loss of confidence will result in weakening exchange rates, falling bond prices, and higher interest rates.

The tendency for financial markets to move erratically is an important qualification of the alleged "healthy" discipline they are believed to impose. The International Monetary Fund (IMF) has, for example, argued that "the discipline exercised by capital markets over policy is neither infallible nor is it applied smoothly and consistently. The rise and fall and rise again of the dollar in the last two decades, the rise and fall of world bond markets in 1993 and 1994, and the Mexican peso crisis at the end of 1994

are all examples of highly erratic 'discipline'." The BIS recently concluded that operations of liberal markets often result in significant medium-term price "misalignments," and that "Such misalignments have great potential costs in terms of a misallocation of resources. They also heighten the risk of abrupt and disorderly corrections and hence of broader financial instability."

Such a "disorderly correction" in 1995 forced the United States and the IMF into the unaccustomed role of lender of last resort to the Mexican money markets and compelled Mexico to increase its already crippling burden of foreign debt. As the BIS commented at the time, the crisis was precipitated by financial factors despite the fact that "external deficits in Mexico have this time coincided with both microeconomic and macroeconomic 'fundamentals' that were healthy by any standards." The Mexican economy, far from staying "healthy," became distinctly "unhealthy," with severe social consequences.

GOVERNMENTS IN SEARCH OF CREDIBILITY

Liberalization of financial markets has clearly reduced the power of governments to manipulate the economy. If exchange rates are fixed, governments face (in the jargon) a "trilemma" or "impossibility problem": the impossibility of sustaining fixed exchange rates, free capital movements and an independent monetary policy. With flexible exchange rates, control over short-term rates is recovered, to some degree, but long-term rates are still subject to the judgments and whims of the international bond traders. Moreover, control over short rates is only recovered if, like the U.S. Federal Reserve Bank, the authorities are apparently unconcerned about movements in the exchange rate—a rare luxury, and perhaps a costly one.

If the financial markets are simply enforcing the logic of real economic efficiency and strengthening the self-adjusting powers of competitive markets, then the "disciplining" of governments would be benign. But if markets are following the rules of a beauty con-

test and imposing self-fulfilling prejudices on the workings of the real economy, then the outcome may be very damaging.

Faced with the overwhelming scale of potential capital flows, governments must today, as never before, attempt to maintain market "credibility." Credibility has become the keystone of policymaking in the 1990s. A credible government is a government that pursues a "market-friendly" policy; that is, a policy that follows what the markets believe to be "sound" and "efficient." Particularly favored are measures designed to meet a "prudent" predetermined monetary target or impose nominal anchors on monetary policy, as well as balance the budget (preferably by cutting public expenditure rather than raising taxes). Governments that fail to pursue "sound" and "prudent" policies are forced to pay a premium in higher interest rates. Severe loss of credibility will lead to a financial crisis. The determination of what is credible, and how governments lose credibility, is a product of the market players' beliefs about what other market practitioners are thinking.

The costs of losing credibility can reverberate over many years, and reacquiring credibility can be very costly in real terms. So if governments are risk-averse, the demands of credibility will impose broadly deflationary macroeconomic strategies. In the 1960s, the managed international financial framework permitted expansionary, full employment policies that were contagious both domestically, encouraging private investment, and internationally, underwriting the growth of world trade. In the 1980s, the deregulated financial framework has encouraged policies that elevate financial stability above growth and employment. This has ratcheted up real interest rates, which have in turn reduced domestic investment, reduced the growth of world trade and slowed the rate of growth of effective demand.

Markets are just as likely to settle into a low-growth, high unemployment equilibrium as into any other. The behavior of financial markets may well be an important factor driving the economy toward such an equilibrium. The markets are neither omniscient nor benign. When their influence is combined with the persistent search for government "credibility," defined in terms of "sound money"

and "prudent" deflationary policies, then the low-level position is a likely outcome.

This is in sharp contrast with the 1950s and 1960s, when public-sector objectives were expressed in terms of target levels of growth and employment (usually the target was *full* employment), rather than financial and monetary targets, today's "macroeconomic discipline." It is clearly true that *lack* of macroeconomic discipline is no way to secure sustainable growth. Burgeoning fiscal deficits and high and rising inflation will undermine any growth strategy. But what is most striking about the superior economic performance of the 1960s, when objectives were customarily defined in terms of growth and employment, is that fiscal balances typically displayed lower deficits than has been the case since liberalization. Indeed, fiscal surpluses were not uncommon. The reason for this outcome was, of course, the interdependence between public sector balances and private sector activity. High levels of investment by the private sector, encouraged by a public sector commitment to growth and employment, in turn resulted in healthy tax revenues.

There is thus a clear story linking financial market liberalization to the deterioration in overall economic performance in the major industrial countries. High and volatile interest rates, together with other uncertainties, have reduced the potential return on investment, and cut into the cash flow that finances investment. Public sector policymakers, seeking safety in a volatile financial world, set their objectives in terms of financial stability, and hope that the some stimulus may be forthcoming from the private sector.

THE POSITION OF THE UNITED STATES

The apparent exception to these generalizations is the United States. Because of the international role of the dollar, only in the United States can government policymakers safely take expansionary fiscal and monetary stances (as the Reagan experience amply demonstrated), although by the mid-1990s the push for a "balanced budget" showed that they were beginning to have their doubts.

Corporate managers can plan investment programs without nagging international worries, though volatile bond rates cause concern. The contribution of business capital formation to demand growth in the 1990s was less vigorous than in previous upswings. The American household sector was the main source of demand expansion during the latter part of the decade. Consumption-led output growth and falling unemployment were backed by internal financial expansion and external borrowing on a scale that no other economy could dream of.

However, even in the United States, growing financial imbalances may be storing up future problems with the markets. The external position bears a strong family resemblance to those in East Asia in 1997 and Brazil in 1999 as analyzed below. There is a risk of destabilizing capital movements as in Asia. The current account is vulnerable to an interest rate shock as in Brazil. Internally, the household sector's portfolio is increasingly shaky. Stock-stock and stock-flow disequilibria between financial portfolios and the real side of the economy are by no means confined to the developing world.

Analogous to foreign lending by the United Kingdom and United States under the high gold standard and gold exchange standard, respectively, the key driving force in the world economy today is the American current account deficit. The United States has been able to run large deficits for many years because global financial markets have been open and increasingly dominant institutional investors in all countries initiated a large and sustained flow of foreign capital into the United States. But the persistent American deficit has produced a peculiarly unbalanced structure of financial stocks and flows, which may well threaten the future stability of the global economy.

At the world level, there are three main financial actors—the United States, the fifteen countries in the European Union (EU) functioning as a rather tightly coordinated group, and Japan. At the core of the EU is Euroland, with eleven members that now share a single currency, the euro. China and the other historically rapidly growing economies in East Asia play supporting roles,

with the rest of the world (ROW) picking up the slack. Table 1 summarizes their current account performances during the 1990s.

The first point to note is that international payments data do not add up as they should. As shown in the last line the world seems to run a substantial current account deficit with itself—an impossibility because the sum of all nations' current accounts should be

Table 1. Current Accounts in Major Areas (billions of U.S. dollars)

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*
USA	-92	-6	-56	-91	-134	-129	-148	-166	-211
Japan	45	68	112	132	131	110	66	95	125
EU-15	-31	-80	-81	9	23	52	91	126	125
E. Asia	5	-2	3	6	-3	-22	-31	0	52
China	12	13	6	-12	7	2	7	23	12
ROW	-196	-249	-228	-200	-177	-137	-148	-150	-205
World Total	-257	-256	-244	-156	-153	-124	-163	-72	-102

Source: OECD (Figures for 1998 are estimates from the OECD Economic Outlook No. 64, December 1998

zero. After all, one country's exports are another country's imports. The error is comparable in magnitude to the flows of the major players. So the scales, though probably not the directions, of the forces about to be discussed are imprecise.

The two surplus players in the late 1990s were the EU-15 and Japan. Europe ran a current account deficit earlier in the decade, but then switched to a surplus partly as a consequence of the contractionary macro policy packages most countries adopted as part of the run-up to the introduction of the euro on January 1, 1999. Aside from 1991–92 when the Bush-era recession, prior depreciation, and payments for mercenary services rendered during the Persian Gulf War generated a transient surplus, the estimates in the table suggest that the United States has run the major deficit. An American current account gap in the $200–$300 billion range injects effective demand to the tune of about 1 percent of world GDP into the global macro system. This is not a trivial amount. The world economy can be very sensitive to "one percent" shocks. That was about the size of the 1973 oil price shock.

There are four key international financial flows:

The United States has a structural deficit, financed by borrowing from abroad. It has used the resulting capital inflows to support steady if unspectacular GDP growth beginning in the early 1990s, based on stable although not low real interest rates. Calling the decade's results a "boom" is an exaggeration. All around the world, trend output growth during recent decades has been around two-thirds as fast as in the 1960s.

Japan has been stagnant since its "bubble" economy burst around 1990, and it runs a secular surplus. As a consequence of the collapse of the bubble, the country's internal credit supply has been limited, leading to slow growth, a weakening yen through 1997, and a strong current account surplus with corresponding capital outflows. In recent years, Europe's growth has been slow and its foreign surplus large. Since the middle of the decade, the sum of the European and Japanese surpluses has exceeded the American deficit.

The ROW is the main sink for surpluses originating elsewhere. China/East Asia ran deficits in 1995–96 and then switched to a surplus position after the Asian crisis, as the countries of the region attempted to export their way out of depression. The region's famous bilateral current account surplus with the United States consistently exceeded its overall surplus. The difference is the deficit that the East Asian economies ran with the EU and with Japan. In effect, they were absorbing some of the excess saving in the EU and Japan and recycling it toward American shores. After all, the U.S. external deficit *had* to be financed from somewhere.

How do the national economies supporting these flows interact? In terms of its output dynamics, the U.S. current account deficit is pro-cyclical. When world activity is low, the U.S. deficit—and hence U.S. borrowing—rises, pumping demand into the rest of the world. Similarly, when world activity is high the U.S. deficit falls, limiting the injection of demand into the rest of the world. America's net borrowing therefore varies against the cycle, meaning that its incoming financial flows have behaved in a globally stabilizing fashion (as did Britain's outgoing flows of loans when it was the pivot of the system under the gold standard of the nineteenth century).

For a nation that borrows, however, capital movements are not a matter of its own volition. A better way to describe the current role of the United States is to say that its creditors—Japan directly and the EU at one remove—have agreed to lend pro-cyclically to finance the American injection of global effective demand. The inflows have built up a huge stock of debt. At the end of 1997, gross U.S. external "liabilities" (in a broad sense, including foreign holdings of corporate equity) were about $4.8 trillion. According to Federal Reserve data, a rough breakdown was government debt, $1.5 trillion; corporate debt, $0.5 trillion; corporate equity, $0.9 trillion; financial sector, $0.7 trillion; and "miscellaneous" (mostly obligations of business and finance), $1.2 trillion. These sums could lie at the root of at least three potential imbalances among stocks and flows of assets and liabilities, and output and trade flows from the real side of the economy:

> First, the consolidated government sector's foreign debt was 27 percent of its total obligations of $5.5 trillion. But less than 50 percent of the $1.5 trillion it owed externally was owed to foreign governments. Most corporate debt was held privately. Foreign governments' holdings of U.S. debt are at least subject to international negotiation. The same cannot be said of the U.S. debt and equity held by the private sector in the rest of the world. A jump downward of just 6 percent of total foreign holdings of American liabilities (as of 1997) would equal the projected current account deficit in 1999. Just as in East Asia before 1997, there is the potential for huge, rapidly destabilizing capital outflows. The federal government's T-bills, in particular, could be sold off very rapidly.
>
> A second potential source of trouble would be an interest rate increase. If the short-term rate went from its current 5 percent to 10 percent, for example, American payments to foreigners on government and corporate debt of $2 trillion would go up by $100 billion. To pay these bills the projected 1999 foreign borrowing would need to be increased by one-third. In this sense, the external position of the United States resembles Brazil's in 1998.

> A third source of concern is who is actually to do America's borrowing in the future. The main component of *net* U.S. external liabilities (including equity) of $1.3 trillion is government debt, built up during the long period of fiscal deficits from 1980 until 1997. Future external borrowing can only take the form of new liabilities issued by the government and/or the three main private subsectors: finance, corporate business, and noncorporate business and households. The consolidated government sector has been in fiscal surplus since 1997, thus reducing both its domestic and foreign liabilities. The corporate sector largely finances its capital formation with retained earnings and over the medium term keeps its annual increments of financial assets and liabilities in rough balance (within a range of $200 billion or so). At most, its contribution to the growth in the stock of liabilities available to the rest of the world will be well less than the current account deficit. Similar statements apply to the financial sector's and "miscellaneous" claims, for which foreign assets and liabilities are broadly offsetting. By a process of elimination, households emerge as the *only* major sector in a position to borrow from the rest of the world in the future. But in 1999 households were beginning to demonstrate financial distress just as they were supposed to begin a foreign borrowing spree that would be the fundamental corollary of a reasonable rate of growth in the United States.

So a household stock-flow imbalance threatens. Household debt is approaching $6 trillion (roughly 70 percent in the form of mortgages, 25 percent consumer credit, and the balance miscellaneous). At the end of 1997, the ratio of household debt to personal disposable income was 0.98, up from 0.89 in 1993.

Given the structure of global trade and payments, the United States will have to borrow $200–$300 billion externally every year for the foreseeable future. The government sector seems intent on running an annual budgetary surplus in the $100–$200 billion range. If they follow their traditional borrowing patterns over the cycle, the business and finance sectors will soon start saving more than they invest. It is the spending of households that must offset all these savings. If household income is (optimistically) assumed to grow steadily at 2.5 percent per year, then the household debt/income ratio would rise to about 1.12 by the end of 2002.

It is impossible to say how households and their creditors would respond to new borrowing of such magnitude, especially if a fall in the stock market (which must happen some time) results in a serious plunge in personal sector wealth ($33.6 trillion at the end of 1997, up from $19.6 trillion ten years before).

To illustrate the potential American debt trap(s), it makes sense to take a look at how the external position is likely to evolve if business continues as usual. At the end of 1997, the breakdown of U.S. *net* foreign assets by type of instrument was monetary, $0.1 trillion; credit market, −$1.7; equity, $0.1 trillion; and miscellaneous, $0.2 trillion. Historically the United States has received a strong positive return on its equity and similar holdings, with profits on net direct foreign investment (DFI) exceeding interest on America's net debt. However, that surplus vanished in 1997, when portfolio and DFI income were −$82 billion and $68 billion respectively.

Forward projections under fairly conservative assumptions about the trade deficit, volumes of DFI, and investment income flows, suggest that net foreign liabilities may rise from $1.3 trillion at the end of 1997 to $2.5 trillion at the end of 2002 *if current levels of macroeconomic activity and hence foreign borrowing are sustained*. Which of the major economic sectors—business, government, or households—will directly or indirectly run up this new foreign debt per year is a key policy question. For the reasons already discussed, households may not be able to shoulder the burden. If they do not and deep recession is to be avoided, the federal budget will have to move into substantial deficit. This is not a question of "fine-tuning." It is a question of whether the government will be capable of moving to counter a potentially very deep recession when the private sector's borrowing spree runs out. The popular prejudice against government deficits suggest that it will not.

EXTERNAL DANGERS?

The most recent runs on the dollar took place in the 1970s and 1980s. The former helped provoke the Volcker interest rate shock, a

significant recession worldwide, the developing country debt crisis, and other major adjustments. Doubts about the dollar in the mid-1980s were instrumental in triggering the 1987 stock market crash. A decade is a long span of time in terms of such events; after all, the Bretton Woods system lasted for only about twenty-five years. What scenarios may unfold if the United States in particular and the world system more generally get into trouble once again?

So far, the United States has managed to borrow in a globally stabilizing fashion and faces only potential disequilibria involving its international stocks and flows. There are risks, however, on both fronts. With regard to borrowing, the real decisions will be made in Europe and Japan. The latter has been under international pressure for years to restructure its economy so that aggregate demand can be driven by domestic spending as opposed to exports. Through early 1999, very little had been achieved and the Japanese current account surplus continued to be recycled via Wall Street. This situation may very well continue despite an uptick in Japan's growth rate in early 1999.

Europe, on the other hand, may grow more rapidly now that the Maastricht process has ended and the euro has been born. In that event, higher activity levels and interest rates in the EU would draw in imports and capital flows. U.S. borrowing could begin to be squeezed as the European trade surplus declines. It is also possible that the introduction of the euro, the only currency with a potential status in international trade and finance similar to that of the dollar, will create a potentially unstable currency duopoly. It is argued below that international arrangements might be put into place to limit fluctuations among the dollar, euro, and yen.

On the other hand, suppose the limits are not enacted, and speculative pressure mounts against the dollar. A sell-off of the dollar would produce sharp falls in U.S. bond prices, and hence a rise in interest rates. Would higher interest rates stop the rot, would they be "credible"? The potential disequilibria—portfolio shifts away from the United States, bigger interest obligations on its debt, and growing financial stress on the household sector—could begin to feed on one another, and on the views of the markets. At that point, with an expectational run on the dollar fuelled and not stanched

by higher interest rates, dollar devaluation, austerity, and the other usual policy moves, all hopes for global macro stability could disappear. A massive international rescue campaign would certainly be required, with worldwide implications impossible to foretell.

A medium-term policy mix for the United States, then, will require an expansion in government spending to offset the solvency problems that the private sector (especially the household sector) will soon confront. Monetary expansion will not do the trick, given that *some* domestic sector has to borrow to offset the current account deficit, but still more is required. The dollar is perhaps not so "overvalued" as it was in the mid-1980s, but a real exchange rate correction could help reduce the external deficit and slow the debt accumulation process just described. Talk of depreciation in the 20 percent to 30 percent range was in the air in the first part of 1999.

DEVELOPING AND TRANSITION ECONOMIES

Are there common factors that underlie the tidal waves of volatility, contagion, and crisis that have hit developing countries beginning with the Mexican events of 1994–95? Contrary to widely held perceptions, the crises were *not* caused by an alert private sector pouncing upon the public sector's foolishness, whether in pursuing overly expansionary fiscal and monetary policies, or setting up moral hazards. They are better described as private sectors (both domestic and foreign) acting to make high short-term profits when policy and history provided the preconditions and the public sector acquiesced. Mutual feedback between the financial sector and the real side of the economy then led to crises. By global standards, the financial flows involved were not large: $10–$20 billion of capital flows annually (less than 10 percent of the inflow the United States routinely absorbs) for a few years are more than enough to destabilize a middle-income economy. The outcomes have been visible worldwide.

To see how they occurred, one can think in terms of a stylized model in which initially the exchange rate is "credibly" fixed; i.e., the central bank consistently enters the market to support a chosen value of the current spot rate *e*. It is easy to sketch how an unstable dynamic process can unfold. The cycle begins in local financial markets, which set up incentives that generate capital inflows. They spill over to the macroeconomy via the financial system and the balance of payments as the upswing gains momentum. At the peak, before a (more or less rapid) downswing, the economy-wide consequences can be overwhelming.

To trace through an example, suppose that a spread on interest rates (e.g., on Mexican government peso-denominated bonds with a high nominal rate but carrying an implicit exchange risk) or asset prices (e.g., capital gains from booming Bangkok real estate) opens. A few local players take positions in the relevant assets, borrowing abroad to do so. Their exposure is risky but small. It may well go unnoticed by regulators; indeed for the system as a whole the risk is negligible.

Destabilizing market competition enters in a second stage. The pioneering institutions are exploiting a spread of (say) 10 percent, while others are earning (say) 5 percent on traditional placements. Even if the risks are recognized, it is difficult for other players not to jump in. A trader or loan officer holding 5 percent paper will reason that the probability of losing his or her job is close to 100 percent *now* if he or she does not take the high risk/high return position. Such potentially explosive behavior is standard market practice. In one description from an interview study, "...the speculative excesses of the international investors in the Asian financial crisis were not an exception,... but instead the result of normal business practices and thus to a certain degree inevitable."

After some months or years of this process, the balance sheet of the local financial system will be risky overall. It will feature "short" (indebted) positions in foreign claims and "long" positions in local assets. There may also be problems with maturity structures of claims, especially if local players borrow from abroad short-term. Nervous foreign lenders may then contrast a country's total external payment obligations over the next year (say) with its interna-

tional reserves. Such comparisons proved disastrous for Mexico in 1995 and several Asian countries in 1997.

But the real problem lies with the currency or locational mismatch of the balance sheet, which for developing countries has emerged as a convention/fundamental that can lead to exchange rate crises. Potential losses from the long position are finite: at most, they amount to what the assets cost in the first place. But losses from short-selling foreign exchange are in principle unbounded. Who knows how high the local currency-to-dollar exchange rate may have to climb?

In a typical macroeconomic paradox, individual players' risks have been shifted to the aggregate. Any policy move that threatens the overall position—for example, cutting interest rates or pricking the real estate bubble—could cause a collapse of the currency and local asset prices. The authorities will use reserves and/or regulations to prevent a crash, consciously ratifying the private sector's market decisions. Unfortunately, macroeconomic factors will ultimately force their hand.

For example, suppose that the initial capital inflows have boosted domestic output growth. The current account deficit will widen, leading at some point to a fall in reserves as capital inflows level off and total interest payments on outstanding obligations rise. Higher interest rates will be needed to equilibrate portfolios and attract foreign capital. There will be adverse repercussions for both the private and public sectors. Business saving will fall or turn negative as illiquidity and insolvency spread, threatening a systemic crisis. Bankruptcies of banks and firms may further contribute to reducing the credibility of the exchange rate. If the government has debt outstanding, escalating interest payment obligations as rates shoot up can provoke a fiscal crisis—witness events in Russia and Brazil in the late 1990s.

A downturn becomes inevitable, because ultimately no local interest rate will be high enough to induce more external lending in support of what is recognized as a short foreign exchange position at the economy-wide level. Shrewd players will unwind their positions before the downswing begins (as Mexican nationals were said to have done before the December 1994 devaluation).

They can even retain positive earnings over the cycle by getting out while the currency weakens visibly. But others—which typically includes the macroeconomic policy team—are likely to go under.

Case studies presented in *Global Finance at Risk* show that the scenario just sketched broadly describes developing country currency crises beginning with those in Latin America's Southern Cone in the early 1980s and running through Russia's and Brazil's in 1998–99. The common factors in all these events included liberalized capital markets and (more or less) fixed exchange rates. But as we now discuss, flexible exchange rates in and of themselves are unable to guarantee market stability.

EXCHANGE RATES

The key issue in a floating rate regime the exchange rate has no anchor; it only floats against its expected future values. In a fixed rate system, if the peg is out of line with expectations, then there is a danger of external attack. However, in both cases, the root cause of instability is an unregulated capital market. To see why, we have to look at how exchange rates are supposed to be determined in the standard models of open economy macroeconomics, broadly following a more formal discussion in Lance Taylor's 1999 study.[1] The bottom line is that the exchange rate has no "fundamentals." At best, its behavior is subject to the conventions of the market's beauty contest.

The so-called Salter-Swan model is the standard for the trade account. It suggests that a low ratio internally of traded to nontraded goods price indexes (for example, the ratio of indexes of producers' and consumers' prices) will be accompanied by a trade deficit

[1]Lance Taylor, "Neither the Portfolio Balance nor the Mundell-Fleming Model Can Determine the Exchange Rate—Each Has One Fewer Independent Eqution than People Usually Think," New York: Center for Economic Policy Analysis. New School for Social Research. 1999.

that could be corrected by devaluation. The logic is impeccable, but the problem is that in the world today the volume of annual currency trading is around 80 times as large as the yearly value of foreign trade and long-term investment. The trade account makes up such a tiny fraction of total external transactions that it cannot possibly play a central role in determining the exchange rate. Either the exchange rate is fixed by the authorities, or it is determined in currency markets. With the rate determined one way or the other, domestic prices and output flows adjust so that markets for non-traded goods clear. The current account of the balance of payments comes out as a consequence.

Similar observations apply to another relative price war-horse, purchasing power parity (or PPP). The basic idea is that the dollar should buy as much of a traded good in a foreign country as at home. If P and P^* are the home and foreign price indexes respectively, then the spot exchange rate e should satisfy the relationship $e = P/P^*$. If P exceeds eP^*, then the home country should be inundated with goods from its foreign providers until P is forced down or e up to restore market balance. Purchasing power parity is a "fundamental" that is conventionally supposed to hold. In the "overvalued" $P > eP^*$ case, violation of PPP should be associated with a widening trade deficit, so that two well-known fundamental indicators reinforce one another. However, such concordance is not observed in practice. By most price comparisons the United States is "undervalued." In one familiar example, price quotations in the local currency for many consumer goods in the United Kingdom and United States are just about the same, although in exchange markets it costs about $1.60 to buy one pound. At the same time the chronic U.S. trade deficit signals that the dollar is too strong.

If the exchange rate is determined in asset markets, then which ones? We must distinguish between forward and current transactions. Formulated in the 1920s by Keynes, "uncovered interest rate parity" (UIP) is an arbitrage condition that supposedly describes forward markets. In the short run, it is represented by the equation

(1) $e = \epsilon/(i - i^*)$

in which e is the current spot rate (home currency to foreign currency), i and i^* are the home and foreign interest rates, and ϵ is the expected change in the rate. For a foreign investor, a positive value of ϵ portends a capital loss if he or she moves into the home currency. Hence i has to exceed i^* to compensate.

"Testing" the validity of UIP has been a playground for econometricians for the past few decades. They have endless fun trying to formulate and quantify expectations. The general conclusion seems to be that UIP does not hold in the data. But that does not mean that expectations are irrelevant. Rather, expected future values of the exchange rate provide the only point of reference against which it can be measured. Moreover, as discussed above, wide spreads between foreign and domestic asset returns were key factors underlying payments crises in developing countries. The problem is that they provided no clear guidance as to when and how the fixed exchange rate regimes in question would get into trouble.

For current (or temporary equilibrium) asset market relationships among i, i^*, and , e the portfolio balance model is the standard. It is usually set up with four financial assets: money and bonds in the home and foreign countries. Three market clearing conditions are traditionally assumed to be independent and thereby able to determine the three variables. An economic truism known as Walras's Law then is supposed to assure that the fourth market clears as well. That is, in any economic system, if one market is out of balance with (say) its supply exceeding demand at the current prices, then in some other market demand must exceed supply. So in an economy with N markets, if N-1 are clearing, then the Nth must also clear. This is Walras's Law in a nutshell.

The problem with the standard analysis of portfolio balances is that it fails to take into account the balance sheets of its asset-holders, which add another restriction to the system. When its complete wealth accounting is respected, the model has just two independent equilibrium conditions, say for bonds in the two countries.

To trace through the details with a *given* spot rate, suppose that the central bank creates money (deposits it in bondholders' accounts) to buy home bonds in an open market operation. The bond price will rise and in a standard market response the home interest rate will fall. Home portfolios will shift toward home money and ROW bonds until the home money market clears. So now both of home's asset markets are in balance.

Foreign portfolios will also shift toward ROW bonds. The combined new demands from home and the ROW will drive up the latter's bond price or reduce its interest rate until the foreign bond market clears. But by Walras's Law applied to the foreign economy, then its money market has to clear as well. All four financial markets rebalance *without* any need for the exchange rate to change—it is irrelevant to the adjustment process.

The same sort of incompleteness carries over to the Mundell-Fleming (or IS/LM/BP) model, which is the open economy macro standard. The results just quoted extend to Mundell-Fleming. Its balance of payments or BP equation is not independent.

To see why, suppose that the home country is running up external arrears by not meeting contracted payment obligations on outstanding debt. Its capital account surplus will be less than its deficit on current account. There are two possible forms of repercussion on home's flow asset market balances and flows of funds. One is that some other flow of funds relationship will not balance. The other is that if home's domestic flows of funds equalities hold, then some flow market balance for a financial asset must fail to clear.

Consider the second case. The obvious counterpart to a non-clearing balance of payments is the domestic bond market. The run-up in external arrears would be reflected into a flow excess supply of home bonds, because foreigners would not be picking up enough domestic securities to provide home the wherewithal to meet its external obligations. Under such circumstances, a spot devaluation of appropriate magnitude could be expected to reduce the cost of home bonds to foreigners, erase the excess supply, and remove the disequilibrium. The balance of payments would clear.

The rub is that if home's other financial markets are clearing then this sort of adjustment *cannot* happen. We know from the analysis of the portfolio balance model that if the home money market clears then so will the market for bonds. And with both money and bond markets in balance, there is simply no room in the accounting for an open balance of payments gap.

The other possibility is that the non-clearing balance of payments is reflected into another flow of funds relationship. For example, one can imagine and even observe (as in recent developing country experiences) situations in which the home country is running up external arrears at the same time as the domestic business sector is borrowing in anticipation of investment projects that aren't working out. An exchange rate realignment might even reverse such simultaneous buildups of external and internal bad debt. But at the macroeconomic level such situations are unusual, because the banking sector at home is *not* usually in the business of providing non-performing loans to corporations. In harmonious times, the balance of payments emerges automatically from output and asset market equilibria. There is *no* need for the exchange rate (or any other variable) to adjust to ensure that external balance is satisfied.

In sum, neither the traded/non-traded goods price ratio, nor PPP, nor UIP, nor portfolio balance, nor a balance of payments disequilibrium serves to determine the exchange rate. The same conclusions apply to the fiscal deficit in "twin deficit" analyses and "overly expansionary" policy in the trilemma involving a fixed rate, liberalized capital markets, and a country's fiscal and monetary stance.

So where does the spot rate come from, if there are no fundamentals? From the Sherlock Holmes procedure of eliminating all possibilities until only one remains, the answer has to be that the spot rate is determined in forward markets, as it varies against expected future values of itself and other asset prices. In the real world, forward markets are intrinsically unpredictable and subject to a mix of rational and irrational behaviors.

There is no real difference between the market's "conventions" about future values of the exchange rate, and the rate's "fundamentals." There are no clear causal channels between the factors listed in

the preceding paragraphs and the spot rate. Yet if market players come to believe that a floating rate will depreciate because some fundamental is "wrong," then they will revise expectations accordingly and force the rate to move. One is reminded of a famous passage from *The General Theory*: "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done."

Liberalization of international capital markets and speculation in exchange rates have extended the reach of the casino from mere countries to the entire world. The past three decades show that destabilization and the hindrance of "capital development" are of enormous policy concern. In short, the job has been ill-done.

DEALING WITH THE PROBLEMS AT HAND

The best way to summarize the foregoing arguments is simply to observe that in the early 1970s the international financial system collapsed under the strains imposed on the fixed exchange rates that were a vital component of the Bretton Woods arrangements. That collapse, and the privatization of risk it precipitated, led in turn to the dismantling of barriers to the movement of capital in domestic and international markets. Floating exchange rates were incompatible with capital controls—they had to go. With rates floating and controls dismantled, it was vital for the successful operation of the world economy that investors should be able to spread their risks by diversifying the contents of their portfolios among different assets, currencies, and contingent contracts, and that they should be able to change the composition of those portfolios at will.

So was born the modern open financial system, a system of massive, highly liquid flows, and of complex hedging instruments, of widespread speculation, and extensive arbitrage. The scale of financial flows today dwarfs both the real economy and the financial resources of international agencies and of nation states.

Financial flows are propelled by the shifting patterns of convention. Prices in financial markets are determined by what average opinion believes average opinion believes those prices should be. In the attempt to ascertain average opinion participants in the marketplace rely on convention, otherwise known as the fundamentals. This can be a fragile foundation. The result is volatility, and, given the worldwide interconnection of financial markets, contagion.

In recent years the volatility and contagion associated with the new international financial order have produced major financial crises in both developed and developing countries. Many, though not all, of these crises have taken the form of currency crises. Most have resulted in sharp reductions in levels of output and employment, with growth being retarded for years. These reductions have been particularly severe in developing countries.

But the new international financial order has not only been characterized by recurring crises. It has also been associated with declines in the rate of growth and the rate of investment throughout the world. These declines may well be attributable to changed behavior in both the private and public sectors in the face of volatility and contagion. The private sector has become more risk averse, attempting to maintain high levels of liquidity and reluctant to commit resources to longer term real investments. The public sector has redefined the objectives of economic policy in terms of monetary and financial stability, rather than, as was the case previously, in terms of employment and growth.

Regulation can be macroeconomic in the form of capital controls and other direct interventions, or microeconomic in the form of prudential regulation of banks, securities firms, insurance companies, and of financial markets in general. The new international financial order embodies a significant reduction in the degree of regulation of financial markets. That reduction derives both from the conscious removal of controls that was a necessary part of the privatization of foreign exchange risk, and from the very process of internationalization itself. Liberalization has created a seamless financial world, with its regulators confined within what are increasingly irrelevant national boundaries. But at the same time,

from the very beginnings of the drive toward liberalization in the early 1970s, measures have been taken to attempt to recover some of the regulatory control that has been lost. A fundamental locus of this effort has been in the "Banking Committees" based at the Bank for International Settlements (BIS), in Basel, Switzerland.

As the negative aspects of liberalization became more pronounced, so did the attempt to recover some of the regulatory power that had been deployed by national economies in the era of Bretton Woods. Within countries, following the Asian crisis, there has been a growing acceptance of the proposition that capital controls, especially controls over short-term capital inflows, might be an efficient policy response in certain circumstances. Between developed countries there has been a move toward more concerted regulatory coordination exemplified by the establishment of the Financial Stability Forum (FSF).

The coordination of the regulation of international financial markets via the Basle committees has from its beginning been consensual and informal. Increasing governmental anxiety, evident in G-7 communiqués, has now, in the shape of the FSF, reached a point at which the informal procedures have been placed on a more formal basis. At the same time, however, governments are attempting to maintain the flexibility of the consensual approach. The history of national economies suggests that this tentative extension of the role of the authorities will in due course become more closely coordinated. The FSF or successor agencies may one day acquire decision-making powers. Despite the obvious difficulties in the exercise of supranational authority, the regulator will need to operate over the same terrain as the markets. The public domain will attempt to insert itself into the operations of the international market economy, to ensure that the market economy survives.

A number of proposals are on the table, aimed at assuring these ends. We take up three in rapid succession: exchange-rate bands, capital controls, and the role of the international regulator.

BANDS

The mixed records of both fixed and floating exchange rates reviewed above reflect a fundamental problem. In a world in which stocks of international debt are so large, and potential capital flows so overwhelming, something needs to be done to lessen the foreign exchange risk that is undermining confidence and reducing growth and employment. In a completely liberal financial world, a return to fixed exchange rates is just not possible. Fixed rates need to be buttressed by exchange controls. What might be feasible would be to raise market confidence by establishing broad bands in the 5 to 10 percent range above and below agreed midpoint bilateral exchange rates of the major currencies (the dollar, euro, and yen). Rates would be subject to "dirty floats" within the bands, but the authorities would make clear to the markets their official intention to maintain the limits by joint interventions.

Management of markets would be unavoidable because (to repeat) exchange rates have no clear and direct linkages to fundamentals such as trade and fiscal deficits, or relative price levels. They are the outcome of a beauty contest. The linkages that do exist are in the minds of market players, subject to the moving expectations and possibilities for rapid jumps in conventions that are the hallmark of the financial beauty game. The management of the bands would therefore be a management of conventions, with all the potentially fragility that that implies. To move rates up and down within their permitted ranges, policy coordination (including coordination among central banks jealous of their "independence") would be required. To steer them away from the bounds, international collaboration would be essential.

A system of bands would require close monitoring of markets, but it could yield considerable benefits. Private capital flows would be stabilized because the authorities would have explicitly stated their degree of tolerance of fluctuations. The entire history of liberal capital markets clearly indicates that a lack of government guidance encourages contagion when a currency is subject to speculative attack. Third-party countries would gain because they could peg their currencies to one of the big three without run-

ning the risk of major misalignment such as occurred in East Asia in the 1990s.

If the public sector were to readopt some of the foreign exchange risk that was privatized in 1973, then the authorities would need to create a system to manage that risk. In the absence of capital controls this would require a commitment to defend the limits of the bands by supporting to an indefinite degree any currency that comes under speculation. This in turn would require international collaboration in the conduct of monetary policy. The absorption of risk by the public sector would also encourage the private sector to take excessive currency risks. So the bands would need to be complemented by a regulatory regime that would diminish the moral hazard implicit in the public sector guarantee. The interrelationship of greater exchange rate stability and regulatory control will be considered further in the context of the responsibilities of a World Financial Authority.

CAPITAL CONTROLS

The fixed exchange rate regime of the Bretton Woods era was buttressed by capital controls. It is difficult to imagine such extraordinary stability without them. In the new international financial order controls have a somewhat different role. They are for the management of risk. The volatility and contagion associated with uncontrolled markets is highly inefficient. Capital controls are simply part of the regulatory framework for the management of risk at both macroeconomic and microeconomic levels. This is why so much attention has been focused of late on the control of capital *inflows*, rather than the traditional concern with outflows.

It is important to recognize that there is a significant difference between limiting short-term capital flows into a country on the one hand, and closing markets to foreign goods on the other. In the latter case a country may attempt to acquire a beggar-my-neighbor advantage. The same argument does not apply in the case of limitations on short-term inflows of capital.

The demand for the across-the-board abolition of capital and exchange controls has been pursued insistently by the United States and a few other developed countries in recent years in a number of forums, including the OECD, WTO, and IMF. What they urge on others is contrary to their own history of successful economic development experience, which in fact featured long periods of capital controls and only gradual liberalization of capital accounts. The experiences of developing countries schematized above clearly show that abrupt or premature liberalization of the capital account is inappropriate for developing and transition economies, a fact that is now generally recognized. Strong domestic financial systems, regulation, and supervision are essential elements to guarantee successful liberalization. However, even with strong performances in these areas, it has proved difficult for developing and transition economies to adapt to the volatile international flows that have followed liberalization of their capital accounts. Boom-bust cycles are frequently associated with portfolio and short-term capital flows. The composition and not just the magnitude of flows plays an essential role in generating external vulnerability.

Under these conditions, developing and transition economies should retain the right to impose disincentives or controls on inflows (particularly in times of capital surges), as well as on outflows during severe crises. A flexible approach in this regard is certainly superior to mandatory capital account convertibility. Best practices in these areas may include reserve requirements on short-term inflows, various taxes on capital inflows intended to discourage them, appropriate put and call provisions in borrowing agreements, and minimum stay or liquidity requirements for investment banks and mutual funds that wish to invest in a country. These measures will tend to increase the cost of capital to the developing country. But that is exactly what is in the interest of economic efficiency. The higher cost of capital is a measure of the externality of risk being internalized.

Controlling measures taken by developing countries could also include complementary prudential regulations on domestic financial institutions. Such regulations could include higher reserve or liquidity requirements on short-term deposits into the

financial system that are managed in anti-cyclical fashion, and upper limits on the prices of assets used as collateral during periods of economic expansion. Mechanisms to guarantee a healthy maturity structure for both external and domestic public-sector indebtedness are crucial complementary tools. Such instruments should be regarded as permanent, rather than temporary devices, as long as international financial markets remain volatile and domestic economic structures are weak. Parallel reforms should be oriented toward developing long-term segments of domestic capital markets.

MANAGING GLOBAL FINANCIAL RISK

The new international financial order requires effective regulation. The macroeconomic regulation deployed in the management of exchange rates and capital flows must be supplemented by microeconomic regulation of the behavior of banks, securities houses, insurance companies, highly leveraged institutions such as hedge funds, and other financial firms. Regulation will never be able to protect firms and markets against abnormal risk. Even the best risk management practices will be overwhelmed. But effective regulation can make a significant contribution to the management of normal systemic risk. By building confidence in the maintenance of market stability in normal times, it will make abnormality all the more rare.

The key to the effective management of systemic risk is that the regulatory authorities should operate across the same domain as the institutions that they regulating, whether that domain is defined in terms of products or currencies or legal jurisdictions. That is why the development of the new international financial order poses such a difficult challenge to the financial authorities of nation-states. Supranational jurisdiction is a very uncomfortable idea. Yet if liberal markets are to survive the challenge must be met in one way or another.

In the attempt to meet that challenge, the development of international regulation has gone through two phases since the early 1970s. First came cooperation andthen coordination. During the

next few years, the process may enter a third phase of control. In the cooperation phase, national authorities exchanged information and established the division of responsibilities in regulation of international markets. In the coordination phase, they have sought to establish common standards and procedures. In the control phase, an international authority would acquire, via treaty, responsibilities for policymaking, surveillance and enforcement.

The Financial Stability Forum (FSF, recently established by the G-7) is a bold step forward in the international structure of regulatory authorities. But the very boldness of the structure exposes the limitations of the consensual approach as currently conceived. Any international authority will need to work with and through national regulators. It is the relationship between the national regulator and the international organization that determines whether the organization does indeed exercise authority over the domain of the international market. Up until now committees of central bankers and other regulators, meeting since 1975 at the BIS, in Basel, have steadily increased their harmonizing role, moving from cooperation to coordination. Their powers have not been extended to control mediated by treaty or through similar statutory powers. Indeed, their informality is one of their strengths. Informal structures do facilitate speedy decision-making and prompt action. But experience suggests that the development of international financial markets has now reached a such level of sophistication and fragility that informal cooperation has reached the limits of its effectiveness. The FSF does not (at present) possess surveillance or enforcement powers. More importantly, it does not possess the power to make and enforce policy. Without this latter power, the ability of the FSF to adapt its principles and codes to rapid change in the marketplace is severely limited. It lacks the power to act, to impose its authority in the management of systemic risk. The FSF is probably as far as the coordination phase can go.

A WORLD FINANCIAL AUTHORITY

The concept of a World Financial Authority (WFA) provides a template for examining the scale of the challenge posed by the control phase. Whether a supranational organization would actually take the institutional form of a WFA does not matter very much. Rather, consideration of the economic advantages of a WFA, as well as the economic and legal challenges it would face, would clarify the problems that must be solved by any institution or set of institutions that can successfully and efficiently regulate the new international financial order.

If the WFA is indeed to be a regulator operating over the same domain as do the markets that it regulates, then it will need to perform the same tasks as are performed today by efficient national regulators, namely information, authorization, surveillance, guidance, enforcement, and policy. Most of these functions would in reality be performed by national authorities acting in conjunction with and as agents for the WFA. The importance of the WFA is in the harmonization of standards and procedures, and in developing the global scope and relevance of decision-making.

The primary task of the WFA is the management of systemic risk, and hence the enhancement of the stability and efficiency of international financial markets. A WFA could also play an important role in the battle against international financial crime and money laundering. However, the consideration below is devoted to the management of risk. This requires policies at both the macroeconomic level, where much market risk is created, and the microeconomic level, where market risk and counter-party risk reinforce one another to the detriment of the real economy.

MACROECONOMIC REGULATION AND RISK MANAGEMENT

The management of the market risk created by swings in exchange rates, in interest rates, and other macro variables requires international cooperation. Many of the goals of an efficient interna-

tional financial policy can be achieved by effective coordination of the activities of national monetary authorities. The problem is that the means of achieving that coordination are, at the moment, very limited. The WFA should be a forum within which the rules of international financial cooperation are developed and implemented. The key to success is mutual support.

Perhaps the most important area of macroeconomic regulation for the WFA would be the management of the restrictions imposed on capital markets by national authorities. Nation states, after appropriate consultations with the WFA, should be empowered to impose restrictions on external capital movements as they see fit. Effective controls, particularly on short-term capital inflows, may well be necessary not only to manage systemic risk efficiently, but also to sustain free trade in goods and services, because trade controls may well be imposed in the wake of financial crises. If microeconomic regulation of firms is to be effective then it may need to be supplemented with quantitative or tax-based obstacles to cross-border flows of funds. While there should be a presumption in favor of national policies, the form, scale, and duration of such restrictions (which may, if necessary, be deemed permanent) should be determined in consultations with the WFA. Those consultations, and the monitoring that accompanies them, would ensure that the management of risk does not develop into the stifling of enterprise.

Secondly, a macroeconomic "vision" within WFA policymaking would provide an important complement to microeconomic regulation. This macro "vision," fundamental to the management of market risk, is currently not prominent in the work of the BIS committees. For example, the current BIS risk weighting of capital adequacy requirements for banks *encourages* short-term flows to developing countries. Loans of less than a year's maturity are weighted at 20%, while maturities in excess of a year are weighted at 100%. The differential is entirely understandable in terms of microeconomic risk to the banks in lending countries, but tends to increase macroeconomic risk in recipient countries by providing an incentive for banks to concentrate their lending to developing countries in the short term. In a meeting in June 1999, the

G-7 heads of state recognized this problem and promised to address it, but their response would have been less tardy had an effective WFA-like regulator been in existence.

A macroeconomic vision may also provide a safeguard against the imposition of excessively pro-cyclical microeconomic regulation. Most capital adequacy requirements induce strongly pro-cyclical behavior. Most risk management techniques do too, with the added downside that they promote contagion as negative risk assessment spreads throughout financial markets. The difficulties facing the regulator are obvious: to enforce pro-cyclical behavior in the interests of the management of counter-party risk, or to relax risk management standards in the face of adverse macroeconomic developments. One goal of developing a new financial framework is to reduce these dilemmas by limiting imbalances in which national financial systems have long internal and short external net positions or blatant stock-flow disequilibrium positions.

MICROECONOMIC REGULATION AND RISK MANAGEMENT

It will be the responsibility of the WFA to provide the lead in the creation, operation, and continuous modernization of a comprehensive regulatory framework for all financial services. There is a great need for a comprehensive view, encouraging the design of efficient risk management techniques for *all* major institutions and operations. This includes banks, mutual funds, highly leveraged institutions (e.g., hedge funds), and insurance and pension funds, as well as all onshore and offshore and on-balance sheet and off-balance sheet operations (recognizing how difficult the identification of some of these operations may be). Traditional notions of capital adequacy monitoring are inadequate in today's capital markets. Capital is no substitute for effective management. Risk management should be central to regulatory activity, internalizing, as much as possible, risk externalities.

By establishing harmonious standards of regulation throughout international financial markets the WFA will spread and

establish best practice, limit regulatory arbitrage, and hence limit market distortions.

Thorough microeconomic regulation will help stabilize macromarkets. This is particularly true of foreign exchange markets. The micro regulation that limits the foreign exchange exposure of domestic institutions (by regulating both borrowers and lenders) will enhance the stability of the foreign exchange markets by increasing confidence in the ability of the economy to weather foreign exchange shocks. This will substantially ease the task of managing exchange rates among the key currencies as discussed above.

THE WAY FORWARD

The above description of the WFA is a description of what needs to be done to sustain an efficient liberal international economy. There remains the question of what kind of entity should perform these tasks and to whom it should be responsible.

It is clear that there is no appetite today (especially in Washington) for the creation of a new international bureaucracy. Fortunately, the infrastructure for the WFA already exists in the form of the BIS committees. These institutions have the experience to do the job, and enjoy the confidence of governments and of the financial community. The Financial Stability Forum (FSF), while it brings together all G-7 and international institutions with an interest in regulatory matters, derives its current character from its BIS origins. This is simply a recognition of the success of the BIS committees within their remit.

An alternative to developing the BIS committees into a WFA, would be to place the WFA function within the IMF. Given that the IMF is an international organization, accountable in principle to its membership, rather than a cozy central bankers' club, this option has some attractions. Moreover, the IMF already has statutory responsibility for surveillance of international economies, and it has the power and responsibility of an international lender. To locate the WFA function within the IMF would be to com-

bine the international roles of a quasi-central bank and a quasi-regulator. In these circumstances the grant of regulatory pre-conditionality would be a natural extension of the IMF's lending responsibilities.

However, a number of arguments suggest that locating the WFA function within the IMF would be less successful than developing the BIS system. First, it is clearly the BIS committees that have the expertise and experience to develop international regulation. It is a system that works. Second, it is increasingly recognized that there is a strong case for separating the roles of the regulator and the lender of last resort, even though they must collaborate in the management of systemic risk. The task of dealing with normal risk over the entire financial services industry is quite different from dealing with a liquidity crisis generated by abnormal risk. Third, the IMF's expertise is in dealing with the current fiscal and trade balances, not with the capital account. Confusion between the needs of an insolvent economy and the needs of an illiquid capital market was clearly an element in the IMF's mishandling of the Asian crisis. Fourth, an important part of the role of the WFA will be in developing and enforcing regulatory standards in prosperous developed economies. This is familiar territory for the BIS committees. It is unfamiliar territory for the IMF. If the WFA function were located in the IMF there would be an understandable tendency to see regulatory problems as an issue relating to borrowing countries. They are not. They are as much a problem of the prosperous lenders as the poorer borrowers. Fifth, the BIS committees command the confidence of the financial services industry and of governments. In financial regulation that is a priceless resource.

There is, however, an important problem in extending the role of the BIS and the BIS committees. Their success has been based on informality and consensus. It will be difficult to extend that effective process to fulfill the WFA function. The G-7 countries acknowledged as much in the communiqué establishing the FSF, in which they declared their intention of widening the membership of the FSF to include developing economies. A powerful WFA will certainly attract more scrutiny.

The key problem will be to balance accountability and political legitimacy with the effective informality of the BIS club. An effective regulator needs to be flexible, to be able to act quickly, and to maintain a close relationship with the industry (though regulators will never be loved). This is difficult to attain if the regulator is itself closely confined within a tight code of legal practice. It is also difficult to maintain transparency and accountability while working with confidential information, offering guidance, and reacting decisively on knowledge gleaned in some of the darker recesses of the industry. The solution must surely be to build on the achievements of the BIS committees, widen their authority and their remit, widen their role, and widen their membership. The club will undoubtedly become less club-like. But if the achievements of the past twenty years are anything to go by, the operating procedures that have been successful in the past will be adapted to the new, proactive WFA function. This is a major reason for building the WFA function on the secure foundations of the BIS and the BIS committees.

Coordination has been taken to what is probably its limit in the formation of the Financial Stability Forum. In the next few years, probably spurred by another financial crisis, international financial regulation will enter the third phase of control. The WFA functions will be performed by someone, somewhere.

But it is important to get on record that developed countries need the WFA almost as much as do developing countries. Of course the shocks to developing countries are more severe, but the long-term impact of volatility and contagion on developed countries has been no less costly. Moreover, the rising scale of exposures in highly leveraged markets is ratcheting up systemic risk throughout international financial markets, developed and developing alike.

The institutional framework of the WFA, and the role it would perform in the international economy, derive both from analysis and from historical experience. Historical experience has confirmed the necessity of regulation and of the lender of last resort in domestic markets. The same sorts of measures are now required internationally. Indeed, these measures are required if a broadly liberal world order is to survive.

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