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EUROLAND AND EAST ASIA IN A DOLLAR-BASED INTERNATIONAL MONETARY SYSTEM: MUNDELL REVISITED

by

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Robert Mundell's long standing enthusiasm for European monetary unification was vindicated by the formal advent of the euro on January 1, 1999. For almost 30 years, he has seen clearly that the advantages of a common European currency would swamp any disadvantages.

But therein lies a paradox. The fierce scholarly debate for more than a decade before EMU's advent on whether a one-size-fits-all monetary policy was appropriate for Europe pitted politicians, who on the continent were mainly in favor, against economists, who generally were much more doubtful. And the doubters who opposed EMU used arguments drawn from Mundell's own work! Specifically, his classic article, "The Theory of Optimum Currency Currency Areas (1961) comes down against a one-size-fits-all monetary policy—and seems to argue in favor of making currency areas smaller rather than larger.

In this paper, I will first present some doctrinal history to resolve the paradox and better explain Mundell's position today. Second, I will look at how the new euro and the dollar can best co-exist—given the latter's traditional role as international money. Third, in the absence of an "Asian euro", I will argue for a common monetary standard in East Asia based on the dollar.

Some Doctrinal History

At the conference on Optimum Currency Areas held in Madrid on March 16-19 1970, Robert Mundell presented two prescient papers on the advantages of common currencies. Perhaps in part because the conference proceedings themselves were not published until several year later, in 1973, these papers were overshadowed by his earlier technical masterpieces on optimum currency areas, the redundancy problem, the assignment problem, the Mundell-Flemming model, the international disequilibrium system, and so on [Mundell, 1968]—all of which assumed more or less stationary expectations.

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The first of these little-known Madrid papers, "Uncommon Arguments for Common Currencies", is of great intrinsic interest because very early it emphasized the forward-looking nature of the foreign exchange market. As such, it counters today's received academic wisdom that asymmetric shocks—i.e., those where an unexpected disturbance to national output affects one country differently from another—undermine the case for a common monetary standard. Instead, Mundell showed how having a common currency across countries can mitigate such shocks. Under a common currency, a series of asymmetric shocks can be better smoothed because of reserve pooling and more efficient forward contracting. Otherwise, if the exchange rate between the two countries were left flexible, currency risk would inhibit proper risk pooling in the international capital market in the present because agents would worry that unpredictable shocks could move the exchange rate in the future.

Mundell's most famous article, "The Theory of Optimum Currency Areas", was published in 1961 in *The American Economic Review,* about nine years before "Uncommon Arguments", with its forward-looking analytical outlook, was written. Because at that time Mundell still assumed stationary expectations in the postwar Keynesian mode, he looked more favorably on flexible exchange rates to give regional governments autonomy to fine-tune their monetary and fiscal policies should macroeconomic shocks hit them asymmetrically when factors of production were not mobile across regional boundaries. And "Optimum Currency Areas" became enormously influential as the analytical basis for much of open-economy macroeconomics in the 1990s, and for scholarly skepticism as to whether Western Europe really was an optimum currency area.

The outstanding scholarly skeptic, Barry Eichengreen—whose many articles (with several co-authors) were consolidated in his book *European Monetary Unification* [1997]— acknowledged Mundell's influence thus

> The theory of optimum currency areas, initiated by Robert Mundell (1961), is the organizing framework for the analysis. In Mundell's paradigm, policymakers balance the saving in transactions costs from the creation of a single money against the consequences of diminished policy autonomy. The diminution of autonomy follows from the loss of the exchange rate and of an independent monetary policy as instruments of adjustment. That loss will be more costly when macroeconomic shocks are more "asymmetric" (for present purposes, more region- or country- specific), when monetary policy is a more powerful instrument for offsetting them, and when other adjustment mechanisms like relative wages and labor mobility are less effective.
>
> Eichengreen [1997], pp.1 and 2.

But this poses a paradox. How can the analysis of eminent scholars like Eichengreen—who, based on a Mundellian analytical framework, have been skeptical of a common European currency—be reconciled with Mundell's almost three decades of own unalloyed enthusiasm for European monetary unification?

One answer is that there are two Mundell models. The first is the static, but highly persuasive,

1961 model of Optimum Currency Areas—which was published in a prestigious journal and became the bread and butter of textbooks on open-economy macroeconomics. The second is contained in his forward-looking Madrid papers of 1970, which were buried in an obscure conference volume that took three years to get published. But his overriding concern that leaving exchange rates free to fluctuate would impart great volatility to, and hopelessly undermine the efficiency of, the intra-European capital market did not become evident until the Madrid conference. Indeed, it took another decade before two of Mundell's students, Michael Mussa and Jacob Frenkel [1980], succeeded in projecting the forward-looking asset-market approach to the exchange rate into the academic domain.

Mundell's second Madrid paper, "A Plan for a European Currency" makes clear his enthusiastic promotion of a common currency for Europe. Until 1970, European countries had achieved a degree of mutual exchange rate stability by all pegging to the same outside currency: the U.S. dollar. But the commitment to firm dollar parities was eroding—in large measure because the monetary anchor provided by the center country was beginning to slip. So Mundell stated:

> The only way to establish a unified money market is to kill the sporadic and unsettling speculation over currency prices that ravaged the European markets between 1967 and 1969, and permitted discounts and premia to develop on currency futures. The exchange rate should be taken out of both national and international politics within Europe.
>
> Rather than moving toward more flexibility in exchange rates within Europe the economic arguments suggest less flexibility and a closer integration of capital markets. These economic arguments are supported by social arguments as well. On every occasion when a social disturbance leads to the threat of a strike, and the strike to an increase in wages unjustified by increases in productivity and thence to devaluation, the national currency becomes threatened. Long-run costs for the nation as a whole are bartered away by governments for what they presume to be short-run political benefits. If instead, the European currencies were bound together disturbances in the country would be cushioned, with the shock weakened by capital movements.
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> [Mundell, 1973, pp. 147 and 150]

Interestingly, in 1970, Mundell's plan for weaning Europe away from dollar dependence began by selecting one European country's currency to provide a new numJraire to which the others, by mutual agreement, would fix their exchange rates. But all European countries party to the new exchange rate agreement would send representatives to sit on the numJraire country's monetary board. Although any sizable European country's currency would do in Mundell's view, he suggested that the pound sterling was the best choice for numJraire because "Britain is the largest financial power and the pound is still a world currency" (p. 158). Clearly, he wanted Britain to be in on European monetary unification right from the start!

We now know that the relatively more stable German monetary policy, with the D-mark as the numJraire currency, became the focal point to rebuild first exchange rate stability and then monetary unity in Europe—while Britain continues to dither. And over 30 years, there were many slips twixt cup

and lip before the formal advent of the euro on January 1, 1999. The forward-looking Mundell of the Madrid papers "triumphed" over his earlier Keynesian incarnation as the originator of the theory of optimum currency areas.

Updating Mundell

From the intellectual vantage point so nicely provided by Mundell's Madrid papers, what can we say about proper exchange rate policies in the new millenium among what have now become the three major industrialized "blocs": the United States, Europe, and East Asia?

The traditional role of the U.S. dollar as the world's central currency—as the invoice currency for world commodity trade, as the dominant vehicle currency in the world's spot and forward foreign exchange markets, and as the official exchange reserve asset of choice—remains, and will remain, much as it was in 1970. But America's benign neglect of fluctuations in the dollar/euro exchange rate needs to be differentiated from a more purposeful policy toward East Asia—where much greater exchange rate stability is required.

Because the euro now establishes a large zone of monetary stability in continental western Europe and its periphery, the best near-term strategy is a hands-off, laissez-faire policy over a wide range of values for the dollar/euro exchange rate. The dollar is no longer needed as the common monetary anchor as it was in the 1960s. Indeed, the euro's fall from $1.18 in January 1999 to about $1.06 in late July is not out of line with similar fluctuations in the "synthetic euro"—weighted by the importance of its constituent currencies—from 1980 through 1998 as shown in the figure. (In the longer run, more active cooperation by the U.S Federal Reserve and the European Central Bank to narrow the range of fluctuations in the dollar/euro exchange rate may well become appropriate—with a more precisely defined set of rules for doing so [McKinnon, 1996].) In the euro's shakedown phase, however, the two central banks need intervene only if obvious panic develops, for example, if the euro started plunging instead of just drifting down.

[Put figure about here]

However, economic recovery in East Asia requires different and stronger medicine. Because no region-wide "Asian euro" exists or is in prospect, the dollar is the only plausible anchor for creating an East Asian zone of monetary stability in price levels and exchange rates. In order to prevent competitive devaluations and inflationary upheavals in the future, this zone would cover both the smaller East Asian countries that fell victim to the great 1997 currency crisis and China, which did not.

The advantage to Japan of being part of the dollar zone is somewhat different. Prolonged stability in the yen/dollar exchange rate is the key to quashing the *deflationary* expectations that have gripped the Japanese economy for almost a decade. But let us consider Euroland first.

The Dollar Versus the Euro

In judging the euro's impact on the dollar, consider two competing economic interpretations of the euro's potential future role in the world economy.

The first focuses on economic integration in goods and factor markets within Europe and with surrounding countries: an extended optimum currency area. Because of the EU's huge economic size and far-reaching trade connections, this interpretation suggests a wider influence for the euro well beyond the current political borders of the European Union.

The EU countries will constitute an economic mass nearly as large as that of the United States itself, and European exports to the rest of the world (net of what are currently counted as intra-European exports) will be similar in magnitude to American exports. Many eastern European countries will opt to peg to the euro because they are so open to EU trade—as are many former European colonies in Africa. For both types of countries, the new euro could well dominate as an intervention and reserve currency.

The second interpretation focuses on the need for international money *beyond* that associated with unusually close trade linkages. The world economy itself needs a unit of account, means of payment, and store of value for both governments and private firms. In the absence of a generally accepted metallic money such as gold or even a dominant country like the United States, one of the national currencies would still be selected by habit or custom. Once selected, however, this national currency's role as international money becomes a natural monopoly. That is, the scope for more than one national currency to serve in a dual role as international and domestic money is limited.

In the aftermath of World War II, the United States provided the essential funding for the International Monetary Fund, the Marshall Plan, and the Dodge Plan, which jointly restored exchange and price-level stability among the industrial countries while replenishing official exchange reserves [McKinnon 1996]. The world's only capital market without exchange controls was the American. Thus, the U.S. dollar became the dominant international vehicle currency for private transacting, and the reserve currency for official interventions.

Even when the American money manager, the Federal Reserve System, was doing quite badly—as from the inflationary 1970s into the early 1980s—the dollar-based system proved surprisingly resilient. Although many other countries had by then opened their financial markets, the dollar was not significantly displaced as international money. Now that American monetary policy has been quite stable for more a decade, could the momentous advent of the euro--with an open European capital market--displace the dollar?

The Role of an International Vehicle Currency

Consider first a world of "N" national currencies without official interventions or foreign exchange targeting by governments. In organizing private interbank markets for foreign exchange, great savings in transactions costs can be had if just one national currency, the N^{th}, is chosen as the vehicle currency. Then all foreign exchange quotations—bids and offers—at all terms to maturity can take place against this one vehicle currency. The number of active markets can be reduced from N(N-1)/2 to just N-1. In a world of more than 150 national currencies, this is a tremendous economy of markets for the large commercial banks that make the foreign exchange market. The dollar's interbank predominance (being on one side of almost 90 percent of interbank transactions) allows banks to cover both their forward exchange and options exposures much more efficiently.

Trade in primary commodities shows a similar pattern of using one national money as the main currency of invoice. Exports of homogeneous primary products such as oil, wheat, copper, and so on, all tend to be invoiced in dollars with worldwide price formation in a centralized exchange. Spot trading, but particularly forward contracting, is concentrated at these centralized exchanges—which are usually in American cities such as Chicago and New York, although dollar-denominated commodity exchanges do exist in London and elsewhere. In periods of reasonable confidence in American monetary policy, these *dollar* commodity prices are relatively invariant to fluctuations in the dollar's exchange rate. In contrast, if any other country allows its exchange rate to fluctuate against the dollar, its domestic currency prices of primary commodities will vary in proportion—unless its trade is restricted.

Invoicing patterns for exports of manufactured goods are more complex. Major industrial country with a strong currencies tend to invoice their exports in their home currencies. More than 75 percent German exports were invoiced in marks, more than 50 percent of French exports invoiced in francs, and so on. With the advent of EMU, continental European countries will begin invoicing their net exports outside the European Union mainly in euros.

However, Japan invoices about 36 percent of its exports in its own currency—which is low by the standards of other large industrial countries, in part because the United States is its main export market. On the import side, about 70 percent of goods coming into Japan are invoiced in dollars, in part because Japan is such a heavy importer of primary products and manufactures from the United States. Thus, Japan suffers high variation in domestic yen prices, i.e., "pass-through" is high, when the yen-dollar exchange rate fluctuates.

At the other extreme, the U.S. price level is fairly immune to fluctuations in the dollar's exchange rate against other currencies because *both* its exports and imports are largely invoiced in dollars: 98 percent of American exports, of primary products and manufactures, are dollar invoiced and an amazing 88 percent or so of American imports. (For example, almost all of Japan's exports to the

United States are dollar invoiced.) In addition, for trade not directly involving the United States, the dollar is heavily used as an invoice currency for manufactured (and of course primary) exports from developing and transitional economies—in Asia, Latin America, and elsewhere.

Here then lies an important distinction between Euroland and East Asia. Euroland is naturally more insular in a monetary sense. It is a large integrated economy that uses its own currency for invoicing much of its foreign trade. Fluctuations in the euro/dollar exchange rate have little impact on Europe-wide price indexes; and thus, over moderate ranges, can be more or less ignored. In contrast, the price levels of all the East Asian countries—including Japan's—are much more affected by fluctuations in their separate exchange rates against the region's dominant trading currency, the U.S. dollar.

Once private interbank foreign exchange and commodity markets are set up with the dollar as the vehicle and invoice currency, official interventions follow the same pattern. Governments pursue their exchange rate objectives more conveniently by intervening only in dollars (at different terms to maturity) against their domestic monies. Using only one currency for intervention prevents inconsistency in the setting of cross rates with other foreign monies.

This pattern of official intervention determines the pattern of official holdings of foreign exchange. Apart from gold, about 70 percent of official reserves held outside Europe are dollar denominated. True, the desire for safety through portfolio diversification is important. But this cuts against the convenience of holding reserves in the intervention currency, with its relative stability in real purchasing power measured against internationally traded goods. Thus governments outside Europe have preferred to hold dollars--mainly U.S. Treasury bonds. Certainly, most of these governments will want to hold euros to replace their D-mark, franc, and sterling assets as these national European currencies eventually disappear. But it seems unlikely that any *official* demand to hold euro assets will be much greater than the former demand for reserve holdings in Europe's legacy currencies.

There is the further problem of what the benchmark euro asset will be. The EU central government itself does not have significant debt outstanding like the huge stock of U.S. treasuries. In Europe, government debt is lodged with the old national, now middle-level, governments who no longer control their own central banks. Now, default risk is not insignificant. In comparison to U.S. Treasuries, a position in euro-denominated bonds will involve some (possibly minor) default risk which differs by country. Although both U.S. Treasuries and European government bonds now denominated in euros will be subject to (differing) currency risk—i.e., concern for inflation and devaluation—the European bonds will probably remain marginally less attractive to foreign governments as official reserve assets.

But in Euroland private euro-denominated bond issues are now growing explosively. For the first half of 1999, the table shows overall euro bond issues growing by 80 percent compared with bond issues in the old legacy currencies during the first six months of 1998. Most strikingly, issues of euro-

denominated *corporate* bonds are running at a rate almost four times as high in 1999 compared to 1998. Why the startling difference?

[Put table about here]

In the pre-euro regime when the D-mark was king, corporations in European countries on the German periphery—such as Italy, Portugal, and Spain—suffered currency risk relative to German issuers of mark-denominated bonds because of the existence of the lire, escudo, and peseta. The resulting risk premia, i.e, higher interest rates particularly at longer term, kept finance short term and largely bank based. In 1999, the extinction of these risky currencies has allowed previously hobbled Italian, Portuguese, Spanish (and even French?) firms to lengthen the term structure of their debts by issuing euro-denominated bonds at lower interest rates while escaping from the clutches of their bankers. European banks, in turn, are madly consolidating—although unfortunately only at the national level. Thus is the term structure of corporate finance in Europe being lengthened and made more secure. Because of the elimination of currency risk, this great improvement in the operation of the European capital market is precisely what the forward-looking Mundell of the Madrid papers [1973] had in mind.

Nevertheless, on the broader global stage, the dollar's continued vehicle-currency role is unlikely to be displaced by the extended currency-area role for the new euro. However, the euro is now the world's most important regional currency, and is making possible the lengthening of the term structure of finance within Europe—particularly in those countries which had been "peripheral". Even if the dollar's role as an international vehicle currency is largely unaltered by the euro's advent, eliminating currency risk within the greater European economy is a remarkable benefit—as Mundell correctly foresaw.

Currency Crises and the Nascent EMU

Although the explosive growth in private eurobond issues is recent, *preparation* for EMU had already insulated the western European economy from the currency crises that swept through much of the rest of the world in the two years before the euro's official birth on 1 January, 1999. After the attack on the Thai baht in July 1997, the contagious flight into dollars spread to Indonesia, Korea, and Malaysia into 1998. Similar, if less acute, foreign exchange pressure on most Latin American economies developed in 1998, most notably Brazil which required a multi-billion dollar assistance program finalized in November 1998. And, then of course, there was the spectacular Russian collapse and outright default on August 17, 1998. But throughout all of this turmoil, no western European country, i.e., an actual or putative member of EMU, experienced a currency attack.

Western Europe,s not-so-distant past is a different story. In the currency crises of 1992-93, the

great flight into German marks is still fresh in people's minds. Britain, Italy, Spain, and Sweden all had to devalue, and other members of the old European monetary system (EMS) were attacked to lesser degrees. Before 1987, precarious exchange-rate stability in Europe was only sustained with the aid of capital controls in the balance of payments. However, by 1997-98 with capital controls removed,western Europe had become much less vulnerable. Why?

By 1997, remarkable economic convergence--of inflation rates toward zero, of exchange rates toward purchasing power parity, and then interest rates to within a half a percentage point of Germany's--had occurred. This convergence, together with the fiscal constraints imposed by the Maastricht agreement, and then the Growth and Stability pact, led markets to expect that future exchange rates among various European currencies would be close to what they are today. (This of course is also the key to the emergence of a long-term Europe-wide bond market .) Because macroeconomic convergence had created a common monetary standard *before* EMU, speculators saw little point in attacking the regime of fixed exchange rates leading up to EMU.

After the currency attacks of 1997-98, East Asia now faces a monetary rebuilding problem similar to what the western Europeans faced after the attacks of 1970-71 and again of 1992-93—together with the further problem of recapitalizing and properly regulating banks and other financial institutions. Although introducing a common currency into East Asia in the European mode is politically out of the question, a common monetary standard that anchors the common price level and secures exchange rates among national monies could again coalesce.

The East Asian Dollar Standard

With the important exception of Japan, a common East Asian monetary standard existed before the crises of 1997. By keying on the dollar, Indonesia, Korea, Malaysia, Philippines, and Thailand, tied their macroeconomic policies to each other—and to those of the non-crisis economies of Hong Kong, Singapore, and Taiwan. Their dollar exchange rates had been fairly stable for more than a decade and, by the purchasing power parity criterion, were more or less correctly aligned with each other and with the American [McKinnon 1999]. Besides insulating each country from beggar-thy-neighbor devaluations, these informal dollar pegs had successfully anchored their domestic (wholesale) price levels during their rapid economic growth from the 1980s through 1996. (Similarly, a credible peg of 360 yen to the dollar the was the monetary anchor in Japan's own great high-growth era of the 1950s and 1960s.)

However, before the 1997 crises, the East Asian dollar standard had two major problems.

First, in the five crisis economies, banks and other financial institutions were poorly regulated but nevertheless insured against bankruptcy by their national governments. Moral hazard was responsible

for the excessive buildup of short-term foreign-currency indebtedness throughout the region, and was exacerbated by the absence of capital controls in the balance of payments. (In the case of Korea, controls had been removed three years before as a condition for joining the OECD!) If prudential regulations requiring banks and corporations to cover their foreign-currency and term-structure risks are ineffective, then capital controls can brake the buildup of short-term indebtedness in foreign currencies. Indeed, it had been textbook wisdom that, in the optimum order of economic liberalization, capital controls should be removed only after macroeconomic and regulatory control had been secured [McKinnon 1993].

Second, the yen/dollar exchange rate was a "loose cannon". Before the 1997 crisis, cyclical variations in the real yen/dollar rate continually upset the competitive positions of the dollar-bloc countries, and destabilized inflows of direct investment from Japan. For example, the yen came down from its high of 80 to the dollar in April 1995 to 114 to the dollar in June 1997. The East Asian Five's bilateral real exchange rates against the dollar, and against each other, had been quite stable. But, when the yen fell, their *effective* real exchange rates appreciated just before the currency attacks began in July 1997. This loss of competitiveness was compounded by Japanese corporations' reducing direct investment in, and outsourcing from, the East Asian Five. Thus, before the crash, East Asian economic growth had already slowed.

But the untethered yen/dollar exchange rate had a further, more subtle, impact on the smaller Asian economies. Since 1971, the long-term upward drift in the nominal dollar value of the yen eventually became built into market expectations--which exist to the present day. This expectation of an ever higher yen drove (and still drives in 1999) nominal interest rates on yen assets far below those prevailing in other industrial countries and other parts of Asia. This unnatural interest rate disparity aggravates hot money flows in the region.

In the Asian Five debtor economies before the 1997 crises, low interest rates in Japan tempted banks with moral hazard to over-borrow by accepting cheap yen deposits without covering the foreign exchange risk. In Japan, banks and other financial institutions were tempted to over-lend by purchasing foreign-currency assets with higher nominal yields. American and European hedge funds got involved in the so-called Japan carry trade: they borrowed cheaply in Tokyo or Osaka at short-term to lend almost anywhere else--Russia, Brazil, and to the East Asian debtor economies without capital controls. (China prudently prevented over-borrowing by keeping capital controls in place.)

Japan's Problem

But the economy hurt worst of all by not being securely tethered to the East Asian dollar standard was, and is in 1999, Japan itself. The breakdown of the Bretton Woods system of fixed exchange rate parities in 1971 left Japan vulnerable to American mercantile pressure to let, or

encourage, yen appreciation [McKinnon and Ohno 1997].

The resulting anticipation of an ever-higher yen against the dollar is coupled with the expectation of domestic (WPI) deflation. This expectation depresses the Japanese economy. Potential homeowners are reluctant to buy because they feel that property values will continue to slide. Similarly, Japanese businesses are reluctant to invest in plant and equipment today because the yen might jump once more, and again make their products uncompetitive in world markets. Caught by this exchange rate-imposed low-interest-rate trap, the Bank of Japan cannot combat this slump in aggregate demand by easing monetary policy. Nominal interest rates can't be reduced below zero (people would simply hold cash balances rather than bonds with a negative yield), even though real interest rates in Japan remain high because of anticipated deflation. Nor can the exchange rate be effectively depreciated much below its currency PPP rate—about 120 yen to the dollar in 1999. [McKinnon 1999, and McKinnon and Ohno, forthcoming]

In mid-1999, as the Bank of Japan has tried to hold the rate close to 120 yen per dollar, the fear of a higher yen has returned. Despite short-term interest rates on yen assets being effectively zero and long rates 4 percentages points less than those on dollar bonds, upward pressure on the yen in June 1999 caused Japan's exchange reserves to jump by 23 billion dollars—a 10 percent increase in just one month. The markets seem to be projecting a return of American pressure for the yen to appreciate.

To prevent this, the Japanese and American governments need to go to the root of the problem. To spring the low-interest-rate trap and revive aggregate demand in Japan, today's expectation that dollar value of the yen will be higher 10, 20, or 30 years from now must be quashed. But to be credible, *both* the American and Japanese governments must agree on a benchmark forward parity for the yen/dollar exchange rate—say, 120 yen to the dollar. But the precise number is less important than the existence of an unchanging benchmark around which long-term exchange rate expectations can coalesce [McKinnon 1999a]. Then Japanese nominal interest rates can rise to more normal world levels. The so-called Asian carry trade will end, and "hot" money flows in the region should diminish correspondingly.

A Common Monetary Standard for East Asia in the 21st Century?

Clearly, if Japan and the United States succeed in stabilizing the yen/dollar rate and so ending ongoing deflation in Japan, the smaller east Asian economies will quickly come around to restoring their own, formal or informal, dollar parities. China could be the model. The renminbi has been successfully pegged at about 8.3 yuan to the dollar for almost five years. But to hold this rate, China needs the recovery of the other East Asian economies, and needs the assurance that other competitor economies—such as Korea, Thailand, or Taiwan—will not again allow their currencies to depreciate and undermine China's competitiveness.

With proper bank regulation or capital controls in place, a restored dollar-based exchange rate regime in which Japan participates would better protect the smaller East Asian economies from exchange rate shocks and from borrowing too much at short-term because interest rates will be better aligned. But the collective advantages are mutual. By being formally part of such an arrangement, Japan could be better protected politically against future American demands to appreciate the yen--and such protection is necessary for Japan's economy to recover from its deflationary slump of the 1990s.

However, even if a common East Asian monetary standard was successfully re-established by mutual fixes on the dollar, Robert Mundell would worry about dollar hegemony in the event that the U.S. economy becomes unstable. The Europeans are now significantly insulated from this uncomfortable possibility—as he wanted them to be. But the East Asians have little choice but to go along with a dollar-based system in the foreseeable future. The political conditions for establishing an independent East Asian "euro" are stringent and less likely to be realized than what Mundell in 1970 projected for Europe.

> The case for a European money is...tied up with the case for integration. Since the case for integration rests on social, political, military, cultural and intellectual grounds our arguments for a European money based on economic grounds alone is as if we had just examined the tip of the iceberg and left untouched the seven-eighths of the true case lying underneath.
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> [Robert Mundell, "A Plan for a European Currency" (1973), p.167]

General References

Eichengreen, Barry, *European Monetary Unification: Theory, Practice, and Analysis*, The MIT Press, Cambridge Mass., 1997.

Frenkel, Jacob, and Michael Mussa, "The Efficiency of the Foreign Exchange Market and Measures of Turbulence", *American Economic Review*, 70(2) 1980, pp. 374-81.

McKinnon, Ronald I., *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy,* 2nd edition, Johns Hopkins, 1993.

_____, *The Rules of the Game: International Money and Exchange Rates,* MIT Press, Cambridge, 1996.

_____, "The East Asian Dollar Standard, Life after Death?", World Bank conference on "Rethinking the East Asian Miracle", July 1999.

McKinnon, Ronald I., and Kenichi Ohno, *Dollar and Yen: Resolving Economic Conflict between the United States and Japan*, MIT Press 1997, Japanese translation, Nihon Keizai 1998.

_____, "The Foreign Exchange Origins of Japan's Economic Slump in the 1990s: The Interest Rate Trap", *The World Economy* (forthcoming).

Mundell, Robert , "A Theory of Optimum Currency Areas" , *American Economic Review*, 51, Nov. 1961, pp. 509-17.

_____, *International Economics*, Macmillan, New York, 1968.

_____, "Uncommon Arguments for Common Currencies", in H.G. Johnson and A.K. Swoboda, *The Economics of Common Currencies*, Allen and Unwin, 1973. pp. 114-32.

_____, "A Plan for a European Currency", in H.G. Johnson and A.K. Swoboda, *The Economics of Common Currencies*, Allen and Unwin, 1973. pp. 114-32.

EUROPEAN BOND ISSUES: 1999 VERSUS 1998

Volume of euro-denominated international bonds, by issuer type
1/1-30/6/1999

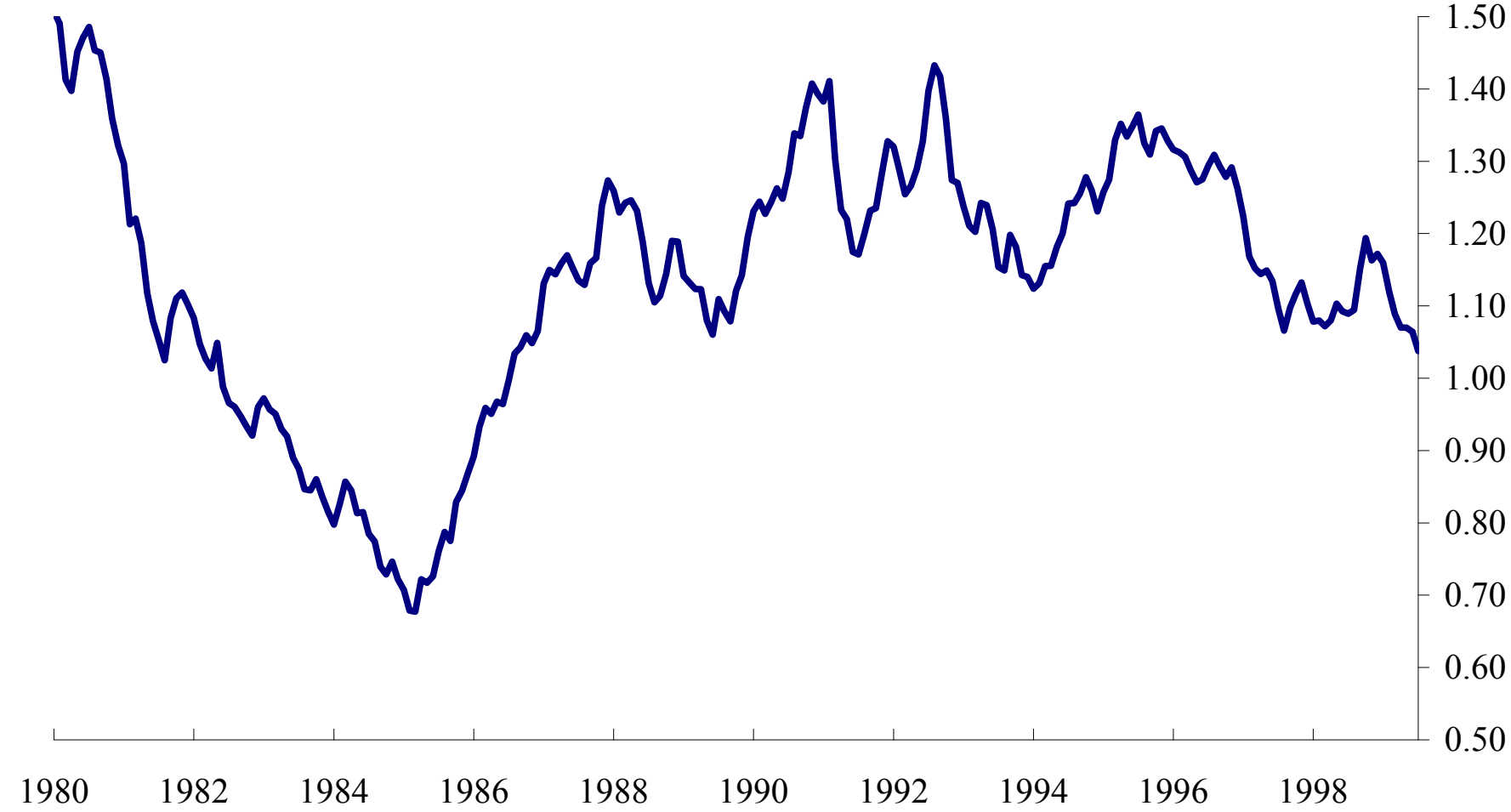
	Total		
	Amt. m (US$)		**Iss.**
Banks/Finance	240,209.117	66.15	597
Corporate	79,012.498	21.76	166
Utilities	16,771.171	4.62	33
Sovereign	16,130.135	4.44	38
Supranational	7,012.887	1.93	31
Others	4,005.959	1.10	30
Local authority	4,005.959	1.10	30
Total	363,141.767	100.00	895

Volume of international bonds issued in legacy currencies
(include. ecu & euro), by issuer type
1/1-30/6/1998

	Total		
	Amt. m (US$)		**Iss.**
Banks/Finance	131,561.740	65.85	548
Sovereign	28,462.517	14.25	49
Corporate	20,263.587	10.14	97
Supranational	11,595.437	5.80	56
Utilities	6,889.331	3.45	16
Others	1,023.143	0.51	6
Local authority	1,023.143	0.51	6
Total	199,779.755	100.00	772

Source: Capital Data, Aldwych House, London, U.K.

Euro-$ (January 1980 - July 1999)



Euro-$ = Dollars per Synthetic Euro, derived from a weighted-average of the 11component currencies (IMF weights)
Source: Bank of England, July 1999.