

**THE GEOPOLITICS OF CURRENCIES
AND THE FUTURE OF THE INTERNATIONAL SYSTEM**

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Paper prepared for a conference on The Geopolitics of Currencies and Oil, Real Instituto Elcano, Madrid, 7 November 2003.

Geopolitics, the dictionary tells us, is about international great-power rivalries – the struggle for dominance among territorially defined states. Conflict is at the heart of geopolitics. Geopolitical relations are dynamic, strategic, and hierarchical. In geopolitics, the meek definitely do not inherit the earth.

Today, much the same can be said about currencies, which in recent years have become increasingly competitive on a global scale. Monetary relations, too, have become conflictual and hierarchical; and the meek are similarly disadvantaged. At issue is a breakdown of the neat territorial monopolies that national governments have historically claimed in the management of money, a market-driven process that elsewhere I have described as the *detritorialization* of money (Cohen 1998, 2003a). In lieu of monopoly, what we have now is more like oligopoly – a finite number of autonomous suppliers, national governments, all vying ceaselessly to shape and manage demand for their respective currencies. Since state are no longer able to exercise supreme control over the circulation and use of money within their own frontiers, they must instead do what they can to preserve or promote market share. As a result, the population of the monetary universe is becoming ever more stratified, assuming the appearance of a vast Currency Pyramid -- narrow at the top, where the strongest monies dominate; and increasingly broad below, reflecting varying degrees of competitive inferiority.

What are the geopolitical implications of this new geography of money? At present, one currency stands head and shoulders above the rest – the U.S. dollar, familiarly known as the greenback. The dollar is the only truly global currency, used for all the familiar purposes of money – medium of exchange, unit of account, store of value -- in virtually every corner of the world. From its dominant market share, the United States gains significant economic and political advantages. The question is: Can the dominance of the dollar be challenged? The answer comes in two parts – first, if we look to the logic of market competition; and second, if we factor in government preferences as well.

Looking to the logic of market competition alone, the answer is clear. The dollar will continue to prevail. Presently, only two other currencies are used at all widely outside their countries of issue. These are the euro, the new joint money of the European Union (EU), and the Japanese yen. Together, these are the Big Three of currency geopolitics. But neither the euro nor the yen, I submit, poses a serious competitive threat to the greenback in today's global marketplace.

Once we factor in government preferences, however, the outlook becomes cloudier. That the Europeans and Japanese will do all they can to sustain the market appeal of their currencies may be taken for granted. But whether they will go further, to seek formation of organized monetary blocs with foreign governments, is less certain. Japan may well to seek to challenge the dollar's present dominance in East Asia; likewise, Europe could be tempted to make a battleground of the Middle East. Neither, however, is likely to carry currency confrontation with the United States to the point where it might jeopardize more vital political and security interests. Mutual restraint among the Big Three would appear to be the safest bet.

I. The Dollar

I begin with the dollar. Broadly speaking, currencies may be employed outside their country of origin for either of two purposes – for transactions either between nations or within foreign states. The former is conventionally referred to as international currency use or currency internationalization; the latter goes under the label currency substitution and can be referred to as foreign-domestic use. For both purposes the greenback today is indisputably the market leader, the Top Currency perched at the peak of the Currency Pyramid. Its only possible rivals are the euro and, more distantly, the yen. Because of the dollar's market leadership, it may be argued, the United States is privileged both economically and politically.

The dollar's market leadership

The clearest signal of the dollar's leadership in *international* currency use is sent by the global foreign-exchange market where, according to the Bank for International Settlements (2002), the dollar is the most favored vehicle for currency trading worldwide, appearing on one side or the other of some 90 percent of all transactions in 2001 (the latest year for which data are available). The euro, in distant second place, appeared in just 38 percent of transactions – higher than the share of its popular predecessor, the deutsche mark (DM), which had appeared in 30 percent of transactions in 1998, but lower than that of all euro's constituent currencies taken together that same year (53 percent). The yen was even further behind with only 23 percent.¹

The greenback is also the most favored vehicle for the invoicing of international trade, where it has been estimated to account for nearly half of all world exports (Hartmann 1998), more than double America's share of global trade. The DM's share of invoicing in its last years, prior to its replacement by the euro, was fifteen percent, roughly equivalent to Germany's proportion of world exports. Preliminary evidence from the European Central Bank, the ECB (2002: 39-42), suggests that the euro's share may have increased modestly since its introduction as a "virtual" currency in 1999, albeit mainly for Europe's own trade with the outside world rather than in exchanges between third countries. The yen's share of global invoicing was just five percent, significantly less than Japan's proportion of world exports.

A parallel story is evident too in international markets for financial claims, including bank deposits and loans as well as bonds and stocks. Using data from a variety of sources, Thygesen et al. (1995) calculated what they call "global financial wealth," the world's total portfolio of private international investments, estimated at more than \$4.5 trillion in 1993. Again the dollar dominated, accounting for close to two-fifths of international bonds and nearly three-fifths of foreign-currency deposits. The DM accounted for 10 percent of bonds and 14 percent of deposits; the yen, 14 percent of bonds and 4 percent of deposits. More recently, the euro has cut into the greenback's share of the bond market, accounting now for close to 30 percent of all issues as against 44 percent for the dollar and just 13 percent for the yen (ECB 2002: 17-19). But in international banking the dollar still dominates, with a share of 55 percent of deposits as compared with 24 percent for the euro and 7 percent for the yen (ECB 2002: 16).

The clearest signal of the greenback's leadership in *foreign-domestic* use is sent by the swift increase in the currency's physical circulation outside the borders of the United States, mostly in the form of \$100 bills. Authoritative studies by the Federal Reserve (Porter and

Judson 1996) and U.S. Treasury (2000) put the value of all Federal Reserve notes in circulation abroad at between 50 and 70 percent of the total outstanding stock -- equivalent at the turn of the century to roughly \$275 billion to \$375 billion in all.ⁱⁱ Estimates also suggest that as much as three-quarters of the annual increase of U.S. notes now goes directly abroad, up from less than one-half in the 1980s and under one-third in the 1970s. By the end of the 1990s, as much as 90 percent of all \$100 notes issued by the Federal Reserve were going directly abroad to satisfy foreign demand (Lambert and Stanton 2001). Appetite for the greenback appears to be not only strong but growing.

By contrast, estimates by Germany's central bank, the Bundesbank (1995), put foreign circulation of the DM in its last years, mainly in East-Central Europe and the Balkans, at no more than 30 to 40 percent of total stock, equivalent at end-1994 to some DM 65-90 billion (\$45-65 billion).ⁱⁱⁱ It remains unclear to what extent euro notes may surpass the level of popularity previously enjoyed by the DM (ECB 2002: 48-52). On the other side of the world, Bank of Japan officials have been privately reported to believe that of the total supply of yen bank notes, amounting to some \$370 billion in 1993, no more than ten percent was located in neighboring countries (Hale 1995).^{iv}

Advantages for the United States

Not surprisingly, all this international and foreign-domestic use of the dollar appears to translate into considerable advantages for the United States, both economic and political. Though minimized by some (e.g., Wyplosz 1999: 97-100), the benefits of market leadership in currency affairs can in fact be quite substantial. Four distinct gains may be cited.

Most familiar is the potential for seigniorage. Expanded cross-border circulation of a country's money generates the equivalent of a subsidized or interest-free loan from abroad -- an implicit transfer that represents a real-resource gain for the economy as a whole. Consider just the circulation of Federal Reserve notes, which are a form of non-interest bearing liability. Updating earlier estimates by Jeffrey A. Frankel (1995) and Alan S. Blinder (1996), current interest savings from foreign circulation of the greenback may be conservatively calculated at some \$16-22 billion a year. To this may be added a saving of interest payments on U.S. government securities, which are uniquely attractive to foreign holders because of their greater liquidity. Richard Portes and Hélène Rey (1998: 309) call this an "often neglected source of seigniorage to the issuer of the international currency." In their words (1998: 309): "This international currency effect reduces the real yields that the United States government has to pay" -- a "liquidity discount" that they suggest could amount to at least \$5-10 billion a year. Put these numbers together and, paraphrasing former Republican Senator Everett Dirksen's celebrated remark about the Federal budget, we are beginning to talk about real money.

A second gain is the increased flexibility of macroeconomic policy that is afforded by the privilege of being able to rely on one's own money to help finance foreign deficits. Expanded cross-border circulation reduces the real cost of adjustment to unanticipated payments shocks by internalizing through credit what otherwise would be external transactions requiring scarce foreign exchange. In effect, it reduces the need to worry about the balance of payments in formulating and implementing domestic policy. Who can remember the last time Washington decision makers actively incorporated concern for our large current deficits or our exchange rate

in debating the course of monetary and fiscal policy?

Third, more psychological in nature, is the gain of status and prestige that goes with market dominance. Money, as I have written elsewhere (Cohen 1998), has long played a key symbolic role for governments, useful – like flags, anthems, and postage stamps -- as a means to cultivate a unique sense of national identity. But that critical role is eroded to the extent that a local currency is displaced by a more popular foreign money, especially a money like the greenback that is so widely used on a daily basis. Foreign publics are constantly reminded of America’s elevated rank in the community of nations. “Great powers have great currencies,” Nobel laureate Robert Mundell once wrote (1993: 10). In effect, the dollar has become a potent symbol of American primacy – an example of what political scientist Joseph S. Nye (1990) has called “soft power,” the ability to exercise influence by shaping beliefs and perceptions. Though obviously difficult to quantify, the role of reputation in geopolitics should not be underestimated.

Finally, there is the gain of “hard” geopolitical power that derives from the monetary dependence of others. On the one hand, an issuing country is better insulated from outside influence in the domestic arena. On the other hand, it is also better positioned to pursue foreign objectives without constraint or even to exercise a degree of coercion internationally. As political scientist Jonathan Kirshner reminds us (1995: 29, 31): “Monetary power is a remarkably efficient component of state power... the most potent instrument of economic coercion available to states in a position to exercise it.” Money, after all, is simply command over real resources. If another country can be denied access to the means needed to purchase vital goods and services, it is clearly vulnerable in political terms. Kirshner lists four ways in which currency dependence can be exploited: (1) enforcement – manipulation of standing rules or threats of sanctions; (2) expulsion – suspension or termination of privileges; (3) extraction – use of the relationship to extract real resources; and (4) entrapment – transformation of a dependent state’s interests. The dollar’s widespread use puts all of these possibilities in the hands of Washington policymakers.

Admittedly there are limits to these benefits, which are likely to be greatest in the early stages of cross-border use when confidence in a money is at a peak. Later, as external liabilities accumulate increasing supply relative to demand, gains may be eroded, particularly if an attractive alternative comes on the market. Foreign holders may legitimately worry about the risk of future depreciation or even restrictions on the usability of their holdings. Thus the currency leader’s autonomy may eventually be constrained, to a degree, by a need to discourage sudden or substantial conversions through the exchange market. Both seigniorage income, on a net basis, and macroeconomic flexibility will be reduced if a sustained increase of interest rates is required to sustain market share. Likewise, overt exploitation of political power will be inhibited if foreigners can switch allegiance easily to another currency. But even admitting such limits, there seems little doubt that on balance these are advantages of considerable significance, as numerous sources acknowledge (e.g., Portes and Rey 1998: 308-310).

II. The Logic of Market Competition

Can the dominance of the dollar be challenged? As indicated, the greenback’s only possible rivals at the moment are the euro and the yen. But the logic of market competition, I contend, suggests that neither will be able to match, let alone surpass, the dollar’s popularity in the

foreseeable future. Left to their own devices to choose among the Big Three, market actors will continue to give a distinct preference to the dollar.

Barriers to displacement

Displacement of a market leader is not easy, for two reasons – first, because the qualities required for competitive success tend to be highly demanding; and second, because of inertia, which is a characteristic inherent in all monetary behavior.

Fundamentally, currency choice in the global marketplace is shaped by three essential attributes. First, at least during the initial stages of a money's cross-border use, is widespread confidence in its future value backed by political stability in the country of origin. Second are the qualities of “exchange convenience” and “capital certainty” -- a high degree of transactional liquidity and reasonable predictability of asset value. The key to both qualities is a set of well developed financial markets, sufficiently open to ensure full access by non-residents. Markets must not be encumbered by high transactions costs or formal or informal barriers to entry. They must also be broad, with a large assortment of instruments available for temporary or longer-term forms of investment, and resilient, with fully operating secondary markets for most if not all financial claims. And third, a money must promise a broad transactional network, since nothing enhances a currency's acceptability more than the prospect of acceptability by others. Historically, this factor has usually meant an economy that is large in absolute size and well integrated into world markets. The greater the volume of transactions conducted in or with a country, the greater are the potential network externalities to be derived from use of its money. Not many currencies can meet all these demanding conditions. Today there are only the Big Three.

Moreover, even with the requisite attributes, displacement is difficult because of inertia in currency choice. The principle source of inertia is the pre-existence of already well established transactional networks, which generate a well documented stickiness in user preferences – what specialists call hysteresis or ratchet effects. In effect, prior use confers a certain natural advantage of incumbency. Switching from one money to another is costly, involving an expensive process of financial adaptation. Considerable effort must be invested in creating and learning to use new instruments and institutions, with much riding on what other market agents may be expected to do at the same time. Hence as attractive as a given money may seem, adoption will not prove cost-effective unless others appear likely to make extensive use of it too. In the words of economists Kevin Dowd and David Greenaway (1993: 1180): “Changing currencies is costly -- we must learn to reckon in the new currency, we must change the units in which we quote prices, we might have to change our records, and so on.... [This] explains why agents are often reluctant to switch currencies, even when the currency they are using appears to be manifestly inferior to some other.”

Inertia is also promoted the exceptionally high level of uncertainty that is inherent in any choice between alternative monies. Uncertainty encourages a tendency toward what psychologists call “mimesis”: the rational impulse of risk-averse actors, in conditions of contingency, to minimize anxiety by imitative behavior based on past experience. Once a

currency gains a degree of acceptance, its use is apt to be perpetuated -- even after the appearance of powerful new competitors -- simply by regular repetition of previous practice. In effect, a conservative bias is inherent in the dynamics of the marketplace. As one source has argued (Orléan 1989: 81-83), “imitation leads to the emergence of a convention [wherein] emphasis is placed on a certain ‘conformism’ or even hermeticism in financial circles.”

The salience of inertia in this context is well illustrated by the dollar’s own experience when it first began to rival the pound sterling, the dominant currency of the nineteenth century. Even after America’s emergence as the world’s richest economy, it took literally decades for the greenback to ascend to top rank among currencies. As Paul Krugman has commented (1992: 173): “The impressive fact here is surely the inertia; sterling remained the first-ranked currency for half a century after Britain had ceased to be the first-ranked economic power”. Similar inertias have been evident for millennia in the prolonged use of such international moneys as the Byzantine solidus (otherwise known as the bezant) or the Spanish silver peso (later known as the Mexican silver dollar) long after the decline of the imperial powers that first coined them (Cohen 1998: ch. 2). In fact, such inertias are very much the rule, not the exception, in global monetary relations.

Exceptional or not, even the most stubborn inertias can in time be overcome, as these historical examples also illustrate. But to defeat the conservative bias in market behavior, a new contender must do more than merely *match* the attributes of the market leader. It must be able to offer substantial *advantages* over the existing incumbent. The dollar was able to do that in relation to sterling once New York overtook London as the world’s pre-eminent source of investment capital. The problem for the euro and yen is that for the foreseeable future, neither can realistically hope to offer comparable advantages in relation to the greenback.

The yen

Consider first the yen. Little probability can be attached to a successful challenge by the vaunted Japanese currency, despite Japan’s evident strengths as the world’s top creditor nation and its enviable long-term record of success in controlling inflation and promoting exports. Cross-border use of the yen did accelerate significantly in the 1970s and 1980s, during the heady years of Japanese economic expansion. Internationalization was strongest in bank lending and securities markets, where because of an appreciating exchange rate yen-denominated claims were especially attractive to investors. But the yen never came close to overtaking the popularity of the dollar, or even the DM, and was little used for either trade invoicing or currency substitution. Worse, its upward trajectory was abruptly halted in the 1990s, following the bursting of Japan’s “bubble economy,” and there seems little prospect of resumption in the near term so long as Japanese domestic stagnation persists.

In fact, use of the yen abroad in recent years has, in relative terms, actually decreased rather than increased. In exchange markets, the 23 percent yen share of global turnover reported in 2001 represented a sharp decline from a high of 27 percent in 1989; similarly, in central-bank reserves, the yen’s share of the total has shrunk from some seven percent at the end of the 1980s to under five percent a decade later. Overall, the yen’s position near the peak of the Currency

Pyramid has slipped substantially below both the other market leaders, as informed observers now readily acknowledge. In the words of one knowledgeable group of experts (Bergsten *et al.* 2001: 234), “the yen is now a distant third among global currencies, far behind the new euro as well as the dollar.”^v

Largely, the yen’s decline of popularity abroad mirrors Japan’s economic troubles at home, which include not only a fragile banking system but also a level of public debt, relative to GDP, that is now the highest of any industrial nation. Perhaps the greatest burden for the yen is Japan’s financial system, which despite recent improvements has long lagged behind American and even many European markets in terms of openness or efficiency. Starting in the mid-1970s, a process of liberalization began, prompted partly by a slowing of domestic economic growth and partly by external pressure from the United States. Most dramatic was a multi-year liberalization program announced in 1996, dubbed the Big Bang in imitation of the swift deregulation of Britain’s financial markets a decade earlier. But the reform process is still far from complete and could take many years to come even close to approximating market standards in the United States or Europe, where transactions costs are considerably lower.

Without further progress in financial-market liberalization, the yen will remain at a distinct competitive disadvantage. International traders and investors will have little incentive to bear the costs and risks of switching from either the dollar or the euro to the yen. Indeed, if left to market forces alone, the trend is more likely to continue moving the other way, toward gradual erosion of the yen’s standing as an international currency in a manner reminiscent of sterling’s long decline in an earlier era.

The euro

In principle, prospects for the euro should be much brighter. Europe’s new currency started life in January 1999 with many of the attributes necessary for competitive success already well in evidence. Together, the twelve present members of the EU’s Economic and Monetary Union (EMU) – familiarly known as “Euroland” -- constitute an economy nearly as large as that of the United States, with extensive trade relations not only in the European region but around the world. The potential for network externalities is considerable. Likewise, Euroland started with both unquestioned political stability and an enviably low rate of inflation, backed by a joint monetary authority, the European Central Bank, that is fully committed to preserving confidence in the euro’s future value. Much room exists, therefore, for a quick ascendancy toward the peak of the Currency Pyramid, as many have predicted. Typical is the attitude of Robert Mundell, who expresses no doubt that the euro “will challenge the status of the dollar and alter the power configuration of the system” (2000: 57). In the oft-quoted words of Jacques Delors, former head of the European Commission, “*le petit euro deviendra grand.*”

In practice, however, the outlook for the euro is anything but rosy. Indeed, with each passing year it becomes increasingly clear that serious obstacles lie in the path of the euro’s ascent. Within the European region, of course, the euro will dominate easily; and its influence may even be extended as well to some neighboring areas, such as the Mediterranean littoral or sub-Saharan Africa – what the ECB (2001) has called the “Euro-time zone.” In these areas the euro is the natural currency of choice. As Wyplosz remarks: “This is the euro’s turf” (1999: 89). But that appears to be as far as the new money’s domain will expand as a result of

market forces alone. Virtually all the growth of cross-border use of the euro since its introduction has occurred within the Euro-time zone (ECB 2002: 54). Elsewhere, left to the logic of market competition, the currency seems fated to remain a distant second to the greenback. In a recent analysis (Cohen 2003b), I spell out three critical reasons for this negative assessment.

Transactions costs. First is the cost of doing business in euros, which directly affects the currency's attractiveness as a vehicle for foreign-exchange transactions or international trade. Euro transactions costs, as measured by bid-ask spreads, are historically higher than those on the more widely traded dollar. Whether they can be lowered to more competitive levels will depend directly on what happens to the structural efficiency of Europe's financial markets. On the face of it, prospects for euro transactions costs look good. In purely quantitative terms, introduction of the euro promises to create the largest single-currency capital market in the world; and that expansion, in turn, should trigger major qualitative improvements in depth and liquidity as previously segmented national markets are gradually knitted together into an integrated whole. As a practical matter, however, progress to date has been disappointing, owing to stubborn resistance to many market-opening measures; and as a result is not at all clear that the euro's promise in this respect can ever be converted fully into performance. As a recent EU report on Europe's financial markets – the so-called Lamfalussy Report – firmly insisted (European Union 2001: 8): “The European Union has no divine right to the benefits of an integrated financial market. It has to *capture* those benefits” – and so far, at least, the EU has not done a very good job at doing so.

In certain key respects the dollar's advantages will persist no matter what the EU does. Most important is the lack of a universal financial instrument in Europe to rival the U.S. Treasury bill for liquidity and convenience – a deficiency that will be difficult, if not impossible, to rectify so long as the Europeans, with their separate national governments, lack a counterpart to the Federal Government in Washington. Full consolidation of Euroland's markets for public debt is stymied by the persistence of differential credit and liquidity risk premiums among participating countries as well as by variations in legal traditions, procedures, issuance calendars, and primary dealer systems. Market segmentation has also been prolonged by intense competition among governments to establish their own issues as EMU benchmarks.

On balance, therefore, it seems unlikely that anticipated efficiency gains, though substantial, will soon suffice on their own to displace the greenback from top rank. To date, there is little evidence of reduced transactions costs for Europe's new money. Indeed, for some types of transactions, bid-ask spreads have actually increased relative to the corresponding spreads for the DM, Europe's most widely traded currency prior to EMU (Hau *et al.* 2002a, 2002b). In reality, no one expects that euro transactions costs will ever decline to a level substantially below those presently quoted for the dollar.

Anti-growth bias. A second critical factor is a serious anti-growth bias that appears to be built into the institutional structure of EMU. By impacting negatively on yields on euro-denominated assets, this structural bias directly affects the new currency's attractiveness as an investment medium. When EMU first came into existence, eliminating

exchange risk within the European region, a massive shift was predicted in the allocation of global savings as compared with holdings of European assets in the past. In fact, however, international portfolio managers have been slow to move into the euro (Detken and Hartmann 2002), evidently because of doubts about prospects for longer-term growth of output relative to productive capacity. In turn, the main cause for such doubts seems to lie in the core institutional provisions of EMU governing monetary and fiscal policy, the key determinants of macroeconomic performance. In neither policy domain is priority attached to promoting real production. Rather, in each, the main emphasis is on other considerations that can be expected to limit opportunities for future expansion – imparting a distinct anti-growth bias to the economy of Euroland as a whole.

On the monetary policy side, the European Central Bank, unlike many other monetary authorities, was created with just a single policy mandate – to maintain price stability. Moreover, the ECB is endowed with absolute independence, insulating it from political influence of any kind. Legally, the ECB is free to focus exclusively on fighting inflation, even if over time this might be at the cost of stunting real growth. In practice, naturally, the ECB is not wholly insensitive to growth concerns. Nonetheless, the overall orientation of ECB priorities is clear. Since EMU's start, monetary conditions in Euroland have been among the tightest in the industrial world. The bias of policy has plainly been toward restraint, not expansion.

Likewise, on the side of fiscal policy, Euroland governments have formally tied their own hands with the controversial Stability and Growth Pact (SGP), which mandates a medium-term objective of fiscal balance in all participating economies as well as a strict cap on annual budget deficits. These fiscal restraints make it exceedingly difficult for elected officials to use budgetary policy for contracyclical purposes, to offset the anti-growth bias of monetary policy. Here too, we know, practice has at times diverged from principle; and many specialist in Europe have called for revision or repeal of the Pact's principle provisions. Until now, however, such appeals have made little headway. So long as the SGP remains officially binding on all Euroland governments, an anti-growth bias will be perpetuated in fiscal policy too.

Governance. Finally, there is the governance structure of EMU, which for the euro's prospects as an international currency may be the biggest obstacle of all. The basic question is: Who is in charge of Euroland? The answer, regrettably, has never been clear. From the start, much confusion has reigned concerning the delegation of authority among governments and EU institutions. The Maastricht Treaty, which brought EMU into existence, embodies a variety of artful compromises and deliberate obfuscations in provisions for the political management of the euro, resulting in a high level of ambiguity. Prospective users of the new currency, therefore, may be excused for hesitating to commit themselves to what seemingly amounts to a pig in a poke -- even if in fact transactions costs could be lowered to competitive levels and rewards to European capital could be significantly improved.

Three key provisions are at issue. First is the governance of EMU's core institution, the European Central Bank itself. Immediate operational control of monetary policy lies in the hands of the ECB's Executive Board, made up of the President, Vice-President, and four other members. Ultimate authority, however, is formally lodged in the Governing Council, which in addition to the six-member Executive Board include heads of central banks of the participating states – a number seemingly greater than consistent with efficient collective decision making. Sooner or later, therefore, as so often happens in large multinational institutions, real power will

have to devolve to a smaller “inner” group formally or informally charged with resolving differences on critical issues. But who will be allowed to join this exclusive club? Would it be the members of the Executive Board, who might be expected to take a broad approach to Euroland’s needs and interests? Or would it be a select coterie of central-bank governors, whose views could turn out to be more parochial? For the moment, no one knows.

Second is the critical matter of exchange-rate policy. Under the Maastricht Treaty, the ECB is assigned day-to-day responsibility for the euro’s external value. Authority over the more general orientation of policy, however, is uneasily shared with both the Council of Ministers, representing national governments, and the European Commission in Brussels. Plainly, power over exchange rates was meant to be shared in some form of consensual process. But, equally, these provisions could turn out to be a sure recipe for political deadlock and drift. Again, no one knows.

Finally, there is the issue of external representation. Who is to speak for Euroland on broader macroeconomic issues such as policy coordination, crisis management, or reform of the international financial architecture? Here there is no answer at all, leaving a vacuum at the heart of EMU. No single body is designated to represent EMU at the International Monetary Fund or in other global forums. Instead, the Maastricht Treaty simply lays down a procedure for resolving the issue at a later date, presumably on a case-by-case basis. This is a cop-out that, at a minimum, compounds confusion about who is in charge. At worst, the vacuum condemns Euroland to lasting second-class status, since it limits the group’s ability to project power in international negotiations. As one source warns (McNamara and Meunier 2002: 850): “As long as no ‘single voice’ has the political authority to speak on behalf of the euro area, as the U.S. Secretary of the Treasury does for the American currency, the pre-eminence of the U.S. in international monetary matters, as in other realms, is likely to remain unchallenged.”

III. Government Preferences

But is Europe really likely to accept such an unfavorable geopolitical outcome? Is Japan? Whatever the logic of market competition, the Europeans and Japanese can hardly be expected to leave market actors entirely to their own devices – particularly if that means passively submitting to the continued dominance of the dollar. Currency rivalries, in practice, reflect the influence of government preferences as well as market forces. Once we introduce government preferences, however, the outlook for the geopolitics of currencies becomes considerably more cloudy.

A critical distinction

One thing is certain. A strategy to maintain or enhance market position will be the preferred choice of both Europe and Japan. Rational policymakers are unlikely to turn their back on the considerable benefits that may be derived from broader circulation of their currency. But following a suggestion I have made elsewhere (Cohen 2003a), a critical distinction must be drawn between two different kinds of geopolitical monetary conflict: *informal* and *formal*.

Given the stakes involved, there seems little doubt that both Europe and Japan will all do what they can to sustain the underlying competitiveness of their currencies, with the objective of

defending or promoting widespread use by *market* actors. Rivalry for market share – what we may call informal conflict -- is natural in an oligopoly. It is less evident, however, whether either will be motivated to go a step further, to seek to influence the behavior of *state* actors – that is, to sponsor formation of an organized currency bloc, what we may call formal conflict. Will Europe or Japan seek to offer direct inducements to foreign governments to encourage greater reliance on their money? About this prospect there is more uncertainty, not least because the balance of benefits and costs implied by that extra step is not at all clear.

What is clear is that whatever either one does is sure to be closely watched by Washington. Any move to promote organized currency blocs would transform the low politics of market competition, by definition, into the high politics of diplomatic confrontation. The risk is that policy maneuvering could lead to increased geopolitical tensions, particularly if monetary initiatives were perceived to be encroaching on established regional relationships. Precisely for that reason, however, it is more likely that both Japan and Europe, ultimately, will act with restraint to avoid direct confrontations with the United States that could jeopardize more vital political and security interests. The safest bet is that currency rivalries among the Big Three will be restricted mainly to the realm of market transactions. The one exception could be in the Middle East, where rivalry for the monetary favor of OPEC governments could conceivably generate a serious battle between Europe and Washington.

Informal conflict

In the oligopolistic setting created by deterritorialization, both Europe and Japan have obvious incentives to promote the competitiveness of their respective currencies – to “sell” their brand of money to as many potential users as possible. On the European side, the successful launch of EMU has created a golden opportunity to move up significantly in the Currency Pyramid. Conversely, on the Japanese side, recent setbacks have increased pressure to take defensive measures to prevent any further slide down in global ranking. The obvious target for both is the dollar, the incumbent Top Currency. Rivalry at the market level, therefore, is apt to be intense.

Japan, for example, has given every indication that it intends to stay in the race, competing actively to preserve as much as possible of the yen’s shrinking international role. Indeed, reversal of the currency’s slide in standing was made an official policy objective in 1998 and was given further impetus the next year by a widely publicized report of a Ministry of Finance advisory group, the Council on Foreign Exchange and Other Transactions (1999). Declared the Council (1999:1-2): “Internationalization has not necessarily kept pace with what is warranted by the scale of the Japanese economy.... Recent economic and financial environments affecting Japan point to the need for the greater internationalization of the yen.... The question of what Japan must do to heighten the international role of the yen has re-emerged as a vital issue.”

Most emphasis in Japan has been placed on continued implementation of the Big Bang reform process, which it is hoped will eventually succeed in lowering yen transactions costs to levels more like those for the dollar or euro. Along the same lines, the government has also floated a plan to drop two zeros from the yen, currently valued at over one hundred yen for either the dollar or the euro. Establishing a rough parity with the U.S. and European monies, Japanese

authorities think, might also facilitate wider use of their currency. Simplifying the yen's denomination, said one official when the plan first came to light, "would be good for internationalizing and regaining trust in the yen."^{vi} Commented a foreign banker in Tokyo: "If there's a liquid market in dollars and a liquid market in euros, there's a risk of Japan becoming a sort of second-string market.... They don't want the yen to become the Swiss franc of Asia."^{vii} It is evident that Tokyo will not allow further erosion of its currency's market standing without a fight.

On the European side, official aspirations remain more modest. According to authoritative statements by the European Central Bank, the development of the euro as an international currency – to the extent it happens – will mainly be a market-driven process, simply one of many possible byproducts of EMU. Europe, says the ECB (2002: 11), "does not pursue the internationalisation of the euro as an independent policy goal... It neither fosters nor hinders this process." These carefully considered words, however, may be dismissed as little more than diplomatic rhetoric, revealing nothing. Behind the scenes it is known that there is considerable disagreement within European elites, with the eventual direction of policy still unsettled. Many in Europe are indeed inclined to leave the future of the euro purely to the logic of market competition. But many others, resentful of the dollar's strong incumbency advantages, favor a more proactive stance to reinforce EMU's potential. Few Europeans are unaware of the advantages that the United States derives from the greenback's perch atop the Currency Pyramid – what Charles De Gaulle famously denounced as America's "exorbitant privilege." The euro has long been viewed in some circles, particularly in France, as the EU's best chance to challenge U.S. pre-eminence in monetary affairs. Charles Wyplosz (1999: 76) calls this "the hidden agenda of Europe's long-planned adoption of a single currency."

Much more revealing, therefore, is not what the ECB says but what it does. Especially suggestive is the bank's controversial decision to issue euro notes in denominations as high as 100, 200, and 500 euros – sums far greater than most Eurolanders are likely to find useful for everyday transactions. Why issue such large notes? Informed sources suggest that the plan may have been decided in order to reassure the German public, fearful of losing their beloved deutsche mark, that notes comparable to existing high-denomination DM bills would be readily available. But that is hardly the whole story. As knowledgeable experts such as Wyplosz (1999) and Kenneth Rogoff (1998) have observed, it is also likely that the decision had something to do with the familiar phenomenon of currency substitution: the already widespread circulation of large-denomination dollar notes, especially \$100 bills, in various parts of the world. In Rogoff's words (1998: 264): "Given the apparently overwhelming preference of foreign and underground users for large-denomination bills, the [ECB's] decision to issue large notes constitutes an aggressive step toward grabbing a large share of developing country demand for safe foreign currencies." Europeans who favor more widespread use of the euro have openly applauded the plan. Writes one (Hüfner 2000: 25): "The United States is able to obtain goods and services by simply giving foreigners pieces of green paper that cost pennies to print.... There is no reason why the United States should monopolize these benefits."

What more could Europe do, apart from issuing high-denomination notes? The answer lies in the three reasons for the euro's sluggish ascent to date. More could be done to lower transactions costs for non-residents in European financial markets. International investments in euro bonds and stocks might be encouraged with selected tax incentives, including abolition of

any withholding or reporting requirements. Similarly, broader cross-border use of the euro as a vehicle currency could be underwritten with targeted subsidies for European banks, lowering the cost of commercial credit for third-country trade. More could also be done to reverse the anti-growth bias built into Euroland's institutional structure and to clarify the governance structure of EMU. As indicated, much room exists for policy actions to make the euro more appealing to market actors.

How will Washington react to such competition? Officially, the United States remains unconcerned. Policy statements regarding prospective challenges from the yen or euro have been studiously neutral, avoiding provocation. But such words too may be dismissed as diplomatic rhetoric, concealing as much as they reveal. As Richard Portes (1999: 34) observes: "It is difficult to believe that the American authorities are indifferent." In fact, in Washington too there is considerable disagreement behind the scenes about what should be the eventual direction of policy. But much sentiment exists to respond in kind to any direct threat to the dollar. Introduction of the ECB's large-denomination bills, for example, quickly generated counterproposals to issue a rival \$500 Federal Reserve note, designed to preserve America's seigniorage earnings abroad. Japan's efforts to revive the yen are no less likely to arouse opposition and even irritation in Washington. As even a yen enthusiast like David Hale acknowledges (1995: 162), there is "a risk that [Japanese initiatives] will be interpreted as a threat by some Americans [and] could intensify the economic conflicts that are already straining U.S.-Japan relations." The probability is that aggressive policy measures from either Japan or Europe will ultimately provoke countermeasures from Washington, with all of the Big Three doing what they can to maximize market use.

IV. Formal Conflict

This does not mean, however, that either Japan or Europe must necessarily go the next step, to seek to influence *state* behavior. As compared with the benefits of market leadership, the additional gains from sponsoring a formal currency bloc could be considerable. But so too could be the costs, political as well as economic, discouraging new initiatives. Prediction, therefore, is chancy. Though the safest bet is that both Japan and Europe ultimately will act with restraint to avoid direct geopolitical confrontation with the United States, a key exception could be in the Middle East, where serious friction between Europe and Washington is a distinct possibility.

Japan

From the Japanese side, a formal challenge of some kind must be anticipated. The reason is simple. If Tokyo does nothing the yen's slide in standing could become irreversible, even in East Asia, a region that the Japanese prefer to think of as their own backyard. It is difficult to imagine that Tokyo will accept such a loss of status without a struggle. But it is also difficult to imagine that any Japanese challenge would be carried to the point of open confrontation with the United States, which has its own established relationships in East Asia. There are good reasons to believe that tensions between the two governments on currency matters, though almost certainly unavoidable, will not be unmanageable.

Japanese officials have made no secret of the fact that their aspirations now extend well beyond mere market competitiveness. The best defense for a beleaguered yen, they seem to have decided, is a strong offense. Beyond “selling” its brand of money to market users, the Japanese seem intent on “selling” it to neighboring governments, too – in short, to do what they can to build a formal East Asian currency bloc – even though this would unavoidably come at the expense of America’s dollar. Tokyo hopes to persuade neighbors to anchor their exchange rates to the yen and to make the yen their principal reserve currency, displacing the greenback. Efforts along these lines have persisted despite the risk of provoking Washington.

Symptomatic was Japan’s response to the great Asian financial crisis that began in mid-1997. Tokyo seized the occasion to propose a new \$100 billion regional financial facility, quickly dubbed the Asian Monetary Fund (AMF). Ostensibly, the aim of the AMF was to help protect local currencies against speculative attack. In practice, an “Asia-for-Asians” fund excluding the United States would have gone far to institutionalize Japanese dominance in regional currency affairs, undermining American interests. Though the Japanese denied any ulterior motives, the prospect frankly dismayed U.S. officials, and the proposal was quickly suppressed.

Nonetheless, despite economic troubles at home and the steady repatriation of private investments from abroad, Tokyo has persisted in seeking new ways to promote its regional currency role. In October 1998, then Finance Minister Kiichi Miyazawa offered some \$30 billion in fresh financial aid for Asia in a plan soon labeled the New Miyazawa Initiative; and more recently, in May 2000, agreement was reached on a planned new network of swap arrangements with Asian nations, named the Chiang Mai Initiative after the town in Thailand where negotiations took place. Because both initiatives were confined to the so-called “ASEAN+3” (the ten nations of the Association of Southeast Asian Nations plus China, Japan, and Korea), with no explicit part for the United States, many see them as further affirmation of Tokyo’s continued interest in creation of an exclusive yen bloc – subtle attempts to achieve the aims of the AMF by incremental means while avoiding the politically more provocative step of establishing a formal institution. As such initiatives multiply, tensions with Washington seem set to continue, perhaps even to grow.

Tension, however, is not the same as conflict. Tokyo may aspire to assume more of the role of a great monetary power, but almost certainly not at the expense of the broader political and security relationship that it has long enjoyed with the United States. “The bilateral relationship with the United States,” writes one expert (Green 2001: 3-4), “is the indispensable core of Japan’s position in the world....On issues of fundamental interest to the United States, Japan remains deferential and cautious.” In fact, a delicate balancing act is involved, as students of Japanese foreign policy have long understood (Vogel 2002). The delicacy of the balance is well illustrated by the Chiang Mai Initiative, which is directly premised on involvement of the International Monetary Fund – and thus indirectly assumes a part for the United States, the IMF’s most influential member – as a condition for assistance.

Nor can Japan ignore the threat of an emergent China looming on the horizon, which increases even more the value of preserving a special relationship with Washington. China has already gained a good deal of diplomatic clout throughout East Asia as a result of its rapid economic expansion in recent years and shows every sign of intending to challenge Japanese aspirations for regional leadership. Resistance to the Chinese juggernaut would be especially

difficult without backing from the Americans.

Tokyo, in short, has no interest in alienating its most powerful ally. Nor is Washington eager to jeopardize a decades-old relationship that is still valued highly for the stability it helps bring to a troubled part of the world. Both sides can be expected to continue to maneuver for advantage in Asian finance. But neither is likely to let their monetary rivalry get out of control.

Europe

A formal challenge from Europe is also possible – but, outside the Middle East, improbable. The Europeans, as indicated, will no doubt make every effort to promote use of their new money at the market level wherever they can. It is also evident that they will not discourage greater reliance on the euro by nearby governments, particularly in East-Central Europe and the Balkans. But none of this will trigger geopolitical conflict with Washington unless the EU's aspirations begin to spread beyond its immediate neighborhood to regions more traditionally aligned with the United States. Arguably, only in the Middle East is there a significant risk of direct confrontation.

That is not to say that there are no Europeans with more global ambitions for the euro. Quite the contrary. Portes and Rey (1998), for example, plainly favor what they call the “big euro” scenario, where the euro would join the dollar as the peak of the Currency Pyramid. The dollar, they declare (1998: 308), “will have to share the number-one position.” But this is a minority view. Most informed opinion in Europe accepts that there are limits to what might be regarded as the natural home for a formal euro zone.

An EMU bloc would naturally include most if not all of the countries of Europe itself, including first and foremost the ten applicant states due to join the EU in 2004. Beyond EMU's present dozen members, six regional jurisdictions have already adopted the euro as their exclusive legal tender, including the tiny enclaves of Andorra, Monaco, San Marino, and the Vatican as well as Montenegro and Kosovo, two special cases in the Balkans. In addition, several regional economies are pegged to the euro via currency boards, including Bosnia and Herzegovina, Bulgaria, Estonia, and Lithuania; and most other nearby currencies are more loosely linked. Some maintain basket pegs that give greatest weight to the euro; others have adopted systems of managed floating with the euro unofficially used as an anchor. Momentum toward full “euroization” will only grow as EU enlargement proceeds. As Pier Carlo Padoan suggests (2000: 101): “The case is easily stated. What matters is not ‘if’ but ‘when.’” Every regional government aspiring to join the EU club expects to adopt the euro, too.

Indeed, for the EU, the problem is not whether to speed up the euro's spread to the rest of Europe but rather to slow it down. Though all new entrants must commit to adopting the euro as a condition of EU membership, full participation in EMU will not occur automatically. Formally, after joining the EU, governments will first be obligated to meet a number of demanding conditions – the same “convergence criteria” that were demanded of present participants before they could become full partners in EMU. Aspirants must also participate successfully for a minimum of two years in the pegging arrangement to the euro known as the Exchange Rate Mechanism. Several of the candidate countries, however, have spoken openly of the possibility of adopting the euro unilaterally, without waiting first to meet the Maastricht conditions. Why postpone the advantages of access to one of world's leading currencies?

EU authorities, however, have been doing all they can forestall a rush to the euro, mainly on the grounds that participation without adequate preparation could prove unmanageable, straitjacketing governments at just the time when flexibility will be most needed. Strains could arise because of changing economic structures and shifts in monetary demand, as well as sizable and possibly volatile capital flows and differential growth trends in productivity. A gradual approach has been forcefully advocated by both the Council of Ministers and European Parliament. In November 2001, EU heads of government formally insisted that candidate countries should follow the prescribed path. In public, the European Central Bank is more equivocal, suggesting that candidates could adopt the euro if they wish so long as they understand that the ECB would not be obligated to take them into account when making policy. In private, monetary officials are more adamant, worrying about the impact that unilateral euroizations might have on their control of the supply of euros in circulation. The last thing they want at this stage is to be burdened with responsibility for underwriting still underdeveloped and fragile banking systems.

Whatever the rate of momentum, though, Washington is unlikely to take offense. The United States has never questioned the EU's privileged interests in what is universally acknowledged as its own backyard. Indeed, for geopolitical reasons Washington might even be inclined to prod the Europeans along. More positive support for inclusion of candidate countries promises to bring greater stability to a potentially volatile region. As Randall Henning has observed (2000: 18): "The consolidation of the monetary union contributes to economic and political stability in Central and Eastern Europe.... If the monetary union were to fail, Central and Eastern Europe would probably be considerably less stable... As a consequence, U.S. manpower and resource commitments would have to be correspondingly greater. This geopolitical consideration is profoundly important for U.S. foreign policy."

Nor is Washington likely to take offense if the growing EMU bloc were to be extended to encompass as well countries of the Mediterranean littoral and sub-Saharan Africa that have close economic and political linkages with the EU. These too are regarded as Euro-time zone states. Some of their currencies are already pegged to the euro, including most prominently the CFA Franc in central and west Africa, for which Europe's new money has seamlessly taken over the anchor role previously played by the French franc; and for most the euro is already an important reserve currency. Here too Washington might even prod the Europeans along in the interest of regional stabilization.

The critical question is: Might Europe aspire to go further? There is no evidence that the EU would seriously consider challenging the dollar in Latin America or Asia, where it is Washington's interests that are clearly seen as privileged. These areas, Europeans acknowledge, are America's turf. But what about the Middle East, with its concentration of wealthy oil exporters? If the geopolitics of currencies is to lead to direct confrontation anywhere, it will be here.

The Middle East

Three factors explain why the Middle East could become a currency battleground. First is the sheer scale of monetary riches in the area controlled directly or indirectly by national governments. Exports of oil generate massive revenues for state authorities in Saudi Arabia,

Kuwait, and other countries scattered around the Persian Gulf; and much of this wealth, in turn, is either stored away in central bank reserves or invested abroad in publicly held portfolios. What these governments decide to do with their money can have a major impact on the relative fortunes of international currencies.

Second is the instability of great-power alignments in the area. Within the Euro-time zone, the United States may happily defer to Europe; conversely, across Latin America and Asia, Europe may still accept Washington's strategic dominance. But in geopolitical terms the Middle East is a contested region, as the still unfinished war in Iraq clearly testifies. For the moment, most local governments find it prudent to accept U.S. leadership and even U.S. troops. But with their ample economic and cultural ties to the area, Europe's governments remain committed to playing an important regional role. Resentment of Washington's displacement of Europe's historical pre-eminence in the area is rife among Europeans.

And third is the seeming contradiction between the region's commercial ties with the outside world and its financial relations. Foreign trade is dominated by Europe, which is by far the biggest market for the Middle East's oil exports as well as the largest source of its imports. Yet financial relations are dominated by the United States and the almighty greenback. America's dollar is not only the standard for invoicing and payments in world energy markets. It also accounts for the vast majority of central bank reserves and government-held investments outside the region and is the anchor, *de jure* or *de facto*, for most local currencies. In the eyes of many the disjunction seems anomalous, even irrational. Repeatedly, the question is asked: Would it not make more sense to do business with the area's biggest trading partner, Europe, in Europe's own currency rather than the greenback? And if so, would it not then make sense to switch to the euro as a reserve currency and monetary anchor as well?

Together, these three factors add up to an obvious recipe for geopolitical conflict, should Europe choose to promote such a switch. Certainly, the possibility is tempting from a European perspective. Almost immediately, given the large sums involved, the EU's new currency would be vaulted to the "big euro" scenario favored by Portes and Rey (1998) and others, while restoring a measure of Europe's historically privileged position in the Middle East. Arguably, the prospect might be tempting from the perspective of local governments too, for sound financial reasons as well as to curb America's presently overweening influence in the region. It is well known that from time to time oil exporting states have actively explored alternatives to the dollar, only to be discouraged by the lack of a suitable substitute. Now, with the arrival of the euro, they see the possibility of a truly competitive rival for their affections. In the artfully composed words of a high official of the Organization of Petroleum Exporting Countries (OPEC): "It is worthwhile to note that in the long run the euro is not at such a disadvantage versus the dollar.... I believe that OPEC will not discount entirely the possibility of adopting euro pricing and payments in the future."^{viii}

Indeed, some straws are already in the wind. As early as October 2000, in a deliberate snub to the United States, Iraq's now deposed dictator Saddam Hussein began demanding payment in euros for his country's oil exports. He also converted his \$10 billion United Nations reserve fund into euros, making a considerable profit once Europe's currency began to appreciate two years later. And more recently Iran is known to have considered a similar strategy. Should Europe seek directly to "sell" its brand of money to regional governments, it might find itself pushing against an open door.

Any effort along these lines, however, would provoke determined opposition from the United States, which clearly prefers to keep the region's door as firmly shut to the euro as possible. For Washington today, there is no higher politics than the Great Game being played out in the Middle East. With so much at stake, the level of tolerance for a formal currency challenge from Europe would be correspondingly low, making geopolitical conflict a virtual certainty. For some observers, the conflict has already begun with America's attack on Iraq, which is said to have been motivated above all by the euro's threat to the dollar. In the words of one widely circulated commentary (Clark 2003: 1): "It is an oil currency war. The Real Reason for [the war] is this administration's goal of preventing further OPEC momentum towards the euro as an oil transaction currency standard." Such a theory, wholly unsubstantiated by plausible evidence, obviously smacks of conspiratorial thinking.^{ix} But one does not have to be a sensationalist to recognize, nonetheless, just how serious the battle might become.

Would Europe risk it? In the end, however strongly tempted, Europeans are more likely to keep their aspirations in check, in order to avert direct confrontation with Washington. Like the Japanese, most Europeans have no wish to jeopardize the broader political and security relationship that they have long enjoyed with the United States. Hence like the Japanese, they too can be expected to act with restraint beyond their currency's natural home. In the Middle East, as in East Asia, maneuvering for advantage will persist, but monetary rivalry will not be allowed to get out control.

V. Conclusion

Overall, therefore, the outlook for the geopolitics of currencies appears relatively benign. In the global marketplace, competition between the dollar and its two main rivals, the euro and yen, will continue to be intense, and governments will do all they can to sustain the competitive appeal of their currencies. But at the level of inter-state relations, the low politics of market competition is unlikely to be transformed into the high politics of diplomatic confrontation, largely because neither Japan nor Europe will be eager to seriously provoke the United States. Miscalculations are always possible, of course, despite the best of intentions. Japan could overstep its efforts to sustain the role of the yen in Asia; Europe, likewise, might well go too far in promoting use of the euro in the Middle East. The safest bet, however, is for mutual restraint by all of the Big Three at the top of the Currency Pyramid, keeping great-power rivalries in check.

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NOTES

i. Because each foreign-exchange transaction involves two currencies, the total of shares sums to 200 percent rather than 100 percent.

ii. Porter and Judson 1996; U.S. Treasury 2000; Judson and Porter 2001. But see also Feige 1996 and 1997, who suggests a lower figure of about 40 percent.

iii. The estimate, based on Seitz 1995, may be conservative. According to Doyle 2000, a more accurate figure for the mid-1990s could have been as high as 69 percent. See also Feige and Dean 2002. On the other hand, there is evidence to suggest that after 1999, when Europe's monetary union first got under way, foreign holdings of German currency declined somewhat owing to uncertainties about the conversion of DM notes into euro notes that was scheduled for January 2002. See Sinn and Westermann 2001a, 2001b; Stix 2001.

iv. Hale 1995. Rogoff 1998, inferring from indirect evidence, suggests a higher figure of 25 percent. Publically, the Bank of Japan is unwilling to offer any kind of official estimate. See e.g. Bank of Japan 1994.

v. The yen's retreat since the start of the 1990s is well documented by Katada 2002.

vi. As quoted in *The Economist*, 30 October 1999: 85.

vii. As quoted in the *New York Times*, 19 November 1999: C4.

viii. Yarjani 2002. Yarjani is head of OPEC's Petroleum Market Analysis Department.

ix. For a direct critique of the oil-currency war theory, see Caffentzis 2003.