

**Beyond the Dollar**  
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Let me be bold and look many years ahead.

What currency, if any, might challenge the role of the dollar as the dominant international currency, assuming that no great economic or political calamity befalls the United States? There is, I submit, no plausible candidate.

The euro is today the second most important international currency, but it has shown no sign of raising its role in the international monetary system. Its share of global reserves covered by the IMF's data base has remained fairly constant since its introduction, at little more than a quarter of total official reserves. When measured at current exchange rates, it has risen from 20.1 per cent in 1999, when it was introduced to 30.6 per cent at the end of 2009 (see Table 1 appended). When measured at constant 1999 exchange rates, however, its share has averaged only 22.6 per cent of the total reserves covered by the IMF's data base (see Table 2 appended). I see no obvious reason, moreover, to expect its share to rise greatly in the years ahead. In fact, its share could even fall when EU countries not now members of the European Monetary Union qualify for membership in EMU, at which point they cannot continue to hold euros as reserve assets.

Looking at the matter from a different standpoint, the 2010 survey of foreign-exchange trading by the Bank for International Settlements finds that the dollar is involved in some 42 per cent of all foreign-exchange transactions, compared with 20 per cent for the euro, the next most widely traded currency.<sup>1</sup> The reason is obvious; it is easier to foreign-exchange traders to monitor a single vector of exchange rates than a whole matrix of bilateral rates, and the huge volume of transactions in dollars permits its use a vehicle currency even when traders are moving from one non-dollar to another. Finally, the dollar is used to price many key commodities, including oil.

What about the Chinese yuan? Given the huge size of the Chinese economy and the country's large role in world trade, the yuan is a plausible candidate for reserve-currency status. China's public debt is large; it was estimated at the equivalent of \$4.9 trillion dollars in 2009, compared with \$8.0 trillion for the United States. Yet the supply of readily tradable securities of the sort typically held as reserve assets appears to be smaller and market access to them is more limited. The situation may change radically, of course, during the next two decades; even then, however, foreign official access to Chinese debt instruments may still be limited.

Let me now shift the focus of my remarks by asking a different question: What might be required for the IMF's own quasi-currency, the Special Drawing Right, or SDR, to become a major reserve asset? The idea was born about thirty years ago, when the staff of the IMF proposed the creation of a Substitution Account, into which official holders of dollars could deposit them in exchange for SDR-denominated claims on the IMF. The proposal failed of adoption, however, partly because the dollar strengthened in foreign-exchange markets as the proposal was under consideration, but mainly because the United States declined to provide a firm maintenance-of-value guarantee on SDR balances held by the Substitution Account.

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<sup>1</sup> Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivative Markets in April 2010; Preliminary Results*, September 2010, Table 3. As two currencies are involved in any foreign-exchange transaction, the BIS data add up to 200 per cent; the figures reported above have therefore been divided in half.

Since then, moreover, the role of the SDR has diminished gradually, and net cumulative allocations now total only 203 billion SDRs, roughly equivalent to \$310 billion US dollars, whereas total currency reserves total more than \$8 trillion.

The idea of a Substitution Account lay dormant for three decades, but it was revived in 2009 in a much cited speech by the Governor of the People's Bank of China. The reasons for the Governor's interest are obvious. China holds some \$2.5 trillion of foreign-currency reserves, including huge amounts of dollars, and it would suffer large losses if the dollar were to depreciate sharply against other major currencies.

I have taken up his suggestion enthusiastically, publishing no fewer than three papers on the subject. My own suggestion, moreover, goes beyond the original proposal for a Substitution Account, which envisaged transactions between national holders of SDRs and the IMF itself, whereas I have suggested that SDR-denominated claims on the Account should be used not only for transactions between national governments and the IMF but also for transactions between participating national governments. Hence, a government needing another country's currency to intervene in the foreign-exchange market, repay sovereign debt, or for other purposes, could obtain that other currency from the issuing country in exchange for SDR-denominated claims on the Substitution Account. Furthermore, it would not be obliged to reconstitute its holdings of SDR-denominated claims, although it would be free to do so by presenting newly acquired holdings of another country's currency to the issuing country in exchange for SDR-denominated claims.

Under an arrangement of this sort, the SDR would become a full-fledged reserve asset without becoming a full-fledged currency available directly for intervention in the foreign-exchange market or other monetary purposes.

How to solve the problem that bedeviled the negotiations thirty years ago? Note first that no participant would be allowed to present SDR-denominated claims to the IMF for conversion into a national currency. Hence, the solvency of the Substitution Account would be an accounting problem, not an operational problem, unless or until the Substitution Account were wound down. I have offered various proposals.

First and most implausibly, the United States could consent to maintain the solvency of the Account whenever the number of dollars held by the Account fell short of the dollar value of the SDR claims on the account. I say 'implausibly' because I cannot believe that the US Congress would consent to any such open-ended commitment, and the Congress would presumably have to approve US participation in the Account.

Second and somewhat less implausibly, the United States could consent to maintain the solvency of the Account, but the burden involved would be offset in part by rebates to the United States, whenever the dollar holdings of the Account came to exceed the dollar value of the SDR claims on the Account. Those rebates might be set at, say, half of the notional surplus in the Account, defined as the difference, when positive, between the dollar value of the SDR claims on the Account and the dollar holdings of the Account.

Third and most plausibly, the United States, the participating countries, or both would pay an annual fee to the IMF equal in total to one per cent of the dollars initially deposited in the Account, and these fees would be held by a Substitution Account Reserve Fund (the SARF, for short), which would earn interest from the United States on its dollar holdings). Whenever the

number of dollars in the Account, including accumulated interest, fell short of the dollar value of the SDR claims on the Account, dollars previously held by the SARF would be transferred to the Substitution Account to top up its dollar holdings. If the dollar assets of the SARF were inadequate to this task, the SARF would borrow dollars from the IMF itself, repaying them in due course with the proceeds of the annual fees paid thereafter to the SARF.

A simulation run annually from 1980 through 2008 shows that the SARF *would* have exhausted its dollar holdings in the mid-1990s, but it would have repaid its debt to the IMF within four subsequent years. At the end of 2008, moreover, the final year covered by my simulations, the SARF would have wound up with dollar holdings equal to nearly nine per cent of the dollar amount in the Substitution Account itself.

At some point, of course, allocated SDRs (i.e., those created by the IMF itself and distributed to member governments), and those created *via* the Substitution Account should be consolidated, the maintenance-of-value regime associated with the latter should be terminated, and the transferability of SDRs created *via* the Substitution Account should be extended to all members of the IMF, not confined to members that had deposited currency reserves with the Substitution Account. At that point, the SDR would indeed become what it was designed to be – the principal reserve asset of the international monetary system.

Is this proposal idealistic? Yes. Yet it could well be prudent for the United States itself to take the lead in proposing reform of the global reserve regime, lest the role of the dollar be eroded gradually as the currencies of emerging economies, including China, gradually assume a larger role in the international monetary system.

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## Appendix

The first two tables attached summarized the evolution of official foreign-exchange reserves from 1999 through 2009. They are based on the data compiled and published by the IMF (the so-called COFER tables)\* As the reporting of these data is voluntary,, unlike data on member countries' total reserves, they are incomplete. At the end of 2009, foreign-exchange reserves totaled \$8,087 billion, of which only \$4,566 billion were allocated by currency. (The numbers strongly suggest that China is one of the countries that do not report the currency composition of their reserves.)

Table 1 compares data for two years, 1999 and 2009, showing the shares of the dollar and euro in the reported total of official foreign-exchange holdings.\* The share of the dollar has fallen over this interval, modestly in the case of the advanced countries' holdings but sharply in the case of the developing countries' holdings. There is, of course, no way to know how the inclusion of China's huge reserves would alter the story.

Table 2 traces the year-by-year evolution of officially reported dollar and euro reserves. When euro reserves are valued at current exchange rates, the share of the euro in the subtotal of dollar and euro reserves rises sharply, from 20.1 per cent of the subtotal in 1999 to 30.6 per cent in 2009. But when they are valued at a constant dollar-per-euro exchange rate (the end-1999 rate in this instance), the euro's share rises only slightly, from the same 20.1 per cent to only 23.4 per cent. Thus, most of the increase in the euro's share is due to the appreciation of the euro; it rose from 1.007 dollars per euro in 1999 to a peak of 1.460 dollars per euro in 2007, and it ended at 1.441 in 2009.\*\*

Table 3 displays a year-by-year simulation of a regime proposed in the text, under which the solvency of a Substitution Account is maintained by drawing on the assets of a Substitution Account Reserve Fund (SARF) financed by annual contributions by the United States, the participating countries, or both. The simulation begins with the deposit of \$500 billion US dollars, and accumulates interest thereafter. The annual contributions are assumed to total one per cent of the dollar assets held by the Substitution account, but they would not have been sufficient to maintain the solvency of the Account throughout the 29 years covered by the simulation. The SARF would have exhausted its assets in 1995 and would have had to borrow temporarily from the International Monetary Fund. By 1999, however, it would have repaid its debt to the IMF and would have built up a substantial balance by 2008, the final year of the simulation.

\*Table 1 is an abbreviated version of the COFER table for the end of 2009.

\*\*The shares of the euro at a constant exchange would, of course, be higher if calculated at the average of euro-dollar exchange rates, as the euro appreciated substantially during the period covered by the table, but its path would not be substantially different.

**Table 1. Currency Composition of Official Foreign-Exchange Reserves, 2009**  
(billions of US dollar equivalents and percentages of total allocated reserves)

| Category                                 | Dollar<br>Equivalents | Percentage<br>of Total<br>Allocated<br>Reserves |
|--|-----------------------|---|
| All currencies                           | 8,166                 | ---   |
| Allocated reserves                       | 4,563                 | ---   |
| US dollars                               | 2,837                 | 62.2  |
| Euros                                    | 1,246                 | 27.3  |
| Other currencies                         | 479                   | 10.5  |
| Unallocated reserves                     | 3,602                 | ---   |
| <i>Advanced Economies</i>                |                       |   |
| All currencies                           | 2,775                 | ---   |
| Allocated reserves                       | 2,775                 | ---   |
| US dollars                               | 1,586                 | 65.4  |
| Euros                                    | 602                   | 24.8  |
| Other currencies                         | 69                    | 9.7   |
| Unallocated reserves                     | 350                   | ---   |
| <i>Emerging and Developing Economies</i> |                       |   |
| All currencies                           | 5,391                 | ---   |
| Allocated reserves                       | 2,138                 | ---   |
| US dollars                               | 1,251                 | 58.5  |
| Euros                                    | 647                   | 30.3  |
| Other currencies                         | 242                   | 11.3  |
| Unallocated reserves                     | 3,252                 | ---   |
| Of which China                           | 2,399                 | ---   |

Source: International Monetary Fund, *International Financial Statistics Yearbook*, 2010.

**Table 2. Euro Reserves as Percentages of Dollar plus Euro Reserves**

| End of Year | Dollars per Euro | Dollar Reserves* | Dollar Value of Euro Reserves* |                    | Euro Percentage       |                    |
|-------------|------------------|------------------|--------------------------------|--------------------|-----------------------|--------------------|
|             |                  |                  | Current Exchange Rate          | 1999 Exchange Rate | Current Exchange Rate | 1999 Exchange Rate |
| 1999        | 1.007            | 989.8            | 246.9                          | 245.2              | 20.1                  | 20.1               |
| 2000        | 0.939            | 1079.9           | 277.7                          | 295.8              | 20.5                  | 21.5               |
| 2001        | 0.890            | 1122.4           | 301.0                          | 338.2              | 21.1                  | 23.2               |
| 2002        | 1.048            | 1204.7           | 427.3                          | 407.5              | 26.2                  | 25.3               |
| 2003        | 1.260            | 1465.7           | 559.2                          | 443.9              | 27.6                  | 23.2               |
| 2004        | 1.354            | 1751.0           | 658.5                          | 486.4              | 27.4                  | 21.7               |
| 2005        | 1.184            | 1902.5           | 683.8                          | 577.4              | 26.4                  | 23.3               |
| 2006        | 1.320            | 2171.1           | 831.9                          | 630.4              | 27.2                  | 22.5               |
| 2007        | 1.460            | 2641.6           | 1082.3                         | 741.1              | 29.1                  | 21.9               |
| 2008        | 1.392            | 2699.1           | 1112.2                         | 799.1              | 29.2                  | 22.8               |
| 2009        | 1.441            | 2837.8           | 1250.0                         | 867.7              | 30.8                  | 23.4               |

*Source:* International Monetary Fund, *Currency Composition of Foreign Exchange Reserves* (COFER).

\*Billions of dollars or dollar equivalents.

**Note:** At the end of 2009, the dollar and euro together accounted for 90 per cent of all allocated reserves when measured at current exchange rates, but for only 51 per cent of total currency reserves. The difference between these two numbers reflects the fact that reporting is voluntary, and some \$3,500 billion of currency reserves were unallocated at the end of 2009 (with China presumably accounting for about \$2,400 billion).

**Table 3. Solvency of a Substitution Account Maintained by Substitution Account Reserve Fund (SARF)  
One per cent annual fee paid to SARF by the United States, by the Depositors, or by Both  
Billions of US Dollar equivalents**

| End of Year | US\$ per SDR | SDR Interest Rate | US Interest Rate | Dollar Amount in SA | SDR Amount in SA | Dollar Value of SDR Amt | Annual Fee | Dollar Deficiency Payment by SARF | Gross Assets of SARF* | SARF Debt to IMF |
|-------------|--------------|-------------------|------------------|---------------------|------------------|-------------------------|------------|-----------------------------------|-----------------------|------------------|
| 1980        | 1.299        | 9.06              | 11.24            | 500.00              | 384.91           | 500.00                  | 5.00       | 0.00                              | 5.00                  | 0.00             |
| 1981        | 1.176        | 12.66             | 14.35            | 571.75              | 433.64           | 509.86                  | 5.72       | 0.00                              | 10.72                 | 0.00             |
| 1982        | 1.099        | 11.17             | 10.77            | 633.33              | 482.08           | 529.80                  | 6.33       | 0.00                              | 17.05                 | 0.00             |
| 1983        | 1.064        | 8.60              | 8.87             | 689.50              | 523.54           | 557.04                  | 6.90       | 0.00                              | 23.95                 | 0.00             |
| 1984        | 1.020        | 8.92              | 9.81             | 757.14              | 570.24           | 581.64                  | 7.57       | 0.00                              | 32.11                 | 0.00             |
| 1985        | 1.020        | 7.81              | 7.73             | 815.67              | 614.77           | 627.07                  | 8.16       | 7.57                              | 23.95                 | 0.00             |
| 1986        | 1.176        | 6.39              | 6.15             | 865.83              | 654.06           | 769.17                  | 8.66       | 0.00                              | 40.77                 | 0.00             |
| 1987        | 1.299        | 5.87              | 5.95             | 917.35              | 692.45           | 899.49                  | 9.17       | 0.00                              | 49.94                 | 0.00             |
| 1988        | 1.351        | 6.25              | 6.88             | 993.97              | 735.73           | 993.97                  | 9.94       | 13.50                             | 46.38                 | 0.00             |
| 1989        | 1.282        | 8.27              | 8.39             | 1077.36             | 796.57           | 1021.21                 | 10.77      | 0.00                              | 57.16                 | 0.00             |
| 1990        | 1.351        | 9.09              | 7.74             | 1174.00             | 868.98           | 1173.99                 | 11.74      | 13.25                             | 55.65                 | 0.00             |
| 1991        | 1.370        | 7.72              | 5.53             | 1282.41             | 936.07           | 1282.41                 | 12.82      | 43.49                             | 24.98                 | 0.00             |
| 1992        | 1.408        | 6.26              | 3.51             | 1400.49             | 994.66           | 1400.49                 | 14.00      | 73.07                             | 0.00                  | 34.09            |
| 1993        | 1.389        | 4.64              | 3.06             | 1445.69             | 1040.82          | 1445.69                 | 14.46      | 2.34                              | 0.00                  | 21.97            |
| 1994        | 1.429        | 4.29              | 4.35             | 1551.13             | 1085.47          | 1551.13                 | 15.51      | 42.56                             | 0.00                  | 49.02            |
| 1995        | 1.515        | 4.58              | 5.65             | 1719.80             | 1135.18          | 1719.80                 | 17.20      | 81.03                             | 0.00                  | 112.85           |
| 1996        | 1.449        | 3.90              | 5.14             | 1808.20             | 1179.45          | 1709.03                 | 18.08      | 0.00                              | 0.00                  | 94.77            |
| 1997        | 1.360        | 4.07              | 5.20             | 1902.23             | 1227.46          | 1669.34                 | 19.02      | 0.00                              | 0.00                  | 75.75            |
| 1998        | 1.351        | 4.11              | 4.90             | 1995.44             | 1277.91          | 1726.45                 | 19.95      | 0.00                              | 0.00                  | 55.80            |
| 1999        | 1.370        | 3.48              | 4.77             | 2090.62             | 1322.33          | 1811.59                 | 20.91      | 0.00                              | 0.00                  | 34.89            |
| 2000        | 1.316        | 4.44              | 6.00             | 2216.06             | 1381.04          | 1817.44                 | 22.16      | 0.00                              | 0.00                  | 12.73            |
| 2001        | 1.266        | 3.43              | 3.48             | 2293.18             | 1428.35          | 1808.29                 | 22.93      | 0.00                              | 10.20                 | 0.00             |
| 2002        | 1.299        | 2.24              | 1.63             | 2330.55             | 1460.37          | 1897.02                 | 23.30      | 0.00                              | 33.50                 | 0.00             |
| 2003        | 1.408        | 1.65              | 1.02             | 2354.33             | 1484.45          | 2090.10                 | 23.54      | 0.00                              | 59.04                 | 0.00             |
| 2004        | 1.471        | 1.84              | 1.39             | 2387.05             | 1511.70          | 2223.71                 | 23.87      | 0.00                              | 82.91                 | 0.00             |
| 2005        | 1.471        | 2.60              | 3.21             | 2463.68             | 1551.07          | 2281.62                 | 24.64      | 0.00                              | 107.55                | 0.00             |
| 2006        | 1.471        | 3.69              | 4.85             | 2583.16             | 1608.34          | 2365.86                 | 25.83      | 0.00                              | 133.36                | 0.00             |
| 2007        | 1.538        | 4.05              | 4.45             | 2698.11             | 1673.47          | 2573.80                 | 26.98      | 0.00                              | 160.36                | 0.00             |
| 2008        | 1.587        | 2.56              | 1.37             | 2735.08             | 1716.32          | 2723.79                 | 27.36      | 0.00                              | 187.71                | 0.00             |

\*Sum of Annual Fees Paid by US and/or Depositors