

Board of Governors of the Federal Reserve System
International Finance Discussion Papers

Number 430

May 1992

THE ADEQUACY OF THE DATA ON U.S. INTERNATIONAL FINANCIAL
TRANSACTIONS: A FEDERAL RESERVE PERSPECTIVE

Lois E. Stekler
Edwin M. Truman

NOTE: International Finance Discussion Papers are preliminary materials circulated to stimulate discussion and critical comment. References in publications to International Finance Discussion Papers (other than an acknowledgment that the writer has had access to unpublished material) should be cleared with the author or authors.

ABSTRACT

This paper was prepared for the meeting of the Panel on International Capital Transactions of the National Research Council (National Academy of Sciences), April 23, 1992. There are well-documented inadequacies in the data on U.S. international capital flows, cross-border holdings of assets, and investment income. In order to set priorities for data improvements, it is necessary to evaluate our needs for information, survey possible additions and alternatives to the current data collection system, and weigh the costs and benefits of proposed improvements.

This paper focuses on only one facet of these issues, the needs of the Federal Reserve for more accurate and complete data on U.S. international financial transactions. The Federal Reserve uses such data in three basic areas: first, in formulating monetary policy, second, in meeting its supervisory responsibilities, and third, in analyzing the implications of economic and financial developments for the U.S. economy and financial system. The paper concludes with a set of recommendations for improving the quality, coverage, and usefulness of the data on U.S. international financial transactions.

The Adequacy of the Data on U.S. International Financial
Transactions: A Federal Reserve Perspective

Lois E. Stekler¹
Edwin M. Truman¹

The well-documented growing internationalization of the U.S. economy requires that the Federal Reserve have accurate and timely information on international trade and financial flows as well as on domestic developments in order carry out effectively its statutory responsibilities for monetary policy, for the safety and soundness of the financial system, and for the analysis of economic and financial developments and their implications for the U.S. economy.

Accurate and timely statistics are a public good. A wide range of users in the Federal Reserve, other government agencies, and the private sector benefit from good statistics that contribute to sound, informed decisions. Without accurate and appropriate data, decisions will still be made; they will be based on anecdotes and may be seriously biased. Hence, the need for good data; however, it may not be in the interest of any one user to sponsor the collection of these data. This is the justification for government expenditures to collect and publish them. However, as with any other expenditure of resources, costs and benefits must be balanced. The benefit of better informed public and private decisions must be balanced against the cost of government data collection efforts, including the reporting burden imposed on the private sector.

1. The authors are Senior Economist in and Staff Director of the International Finance Division of the Board of Governors of the Federal Reserve System. This paper was prepared for the meeting of the Panel on International Capital Transactions of the National Research Council (National Academy of Sciences), April 23, 1992. The authors would like to acknowledge many helpful conversations with Albert Teplin and Russell Krueger of the Flow of Funds Section.

In order to set priorities for data improvements, it is desirable to step back and ask what our information needs are and whether currently available data are adequate for these purposes. Moreover, because of the rapid pace of change in financial markets, we need to reconsider periodically whether there are alternative ways available to collect more accurate information on U.S. capital flows and holdings and, also, whether there are less costly ways. It has been many years since a comprehensive evaluation of these issues was undertaken, and such an effort is certainly overdue. In this regard, we applaud the establishment of the Panel on International Capital Transactions. The Federal Reserve hopes that your report will help to focus the efforts of the public and private sectors in this important area.

Per your request, our paper focuses on only one facet of these issues, the needs of the Federal Reserve for more accurate and complete data on U.S. international financial transactions. The Federal Reserve uses such data in three basic areas: first, in formulating monetary policy, second, in meeting its supervisory responsibilities, and third, in analyzing the implications of economic and financial developments for the U.S. economy and financial system.

I. Data for Monetary Policy

In reaching decisions on monetary policy, the Federal Reserve evaluates the general state of the U.S. economy. Changes in Federal Reserve policies (such as open market operations or changes in the discount rate or reserve requirements) affect financial markets and ultimately the economy through complex channels, sometimes with long and variable lags. At the same time, the economy is also influenced by

other developments. Because of the difficulties of forecasting all these complex interactions, the Federal Reserve also uses intermediate indicators and by law is required to establish ranges for the growth of monetary aggregates. However, deregulation and innovation in financial markets in recent years have altered the responses of many financial variables to policy changes and the responses of the economy to those financial variables. In particular, because of the increased interest rate sensitivity of the narrower money aggregates (particularly M1, but also M2), it has become more difficult to judge the importance of a change in the money aggregates without reference to the surrounding economic situation. Because of these uncertainties, the Federal Open Market Committee (FOMC) regularly reviews developments in a range of money and credit aggregates as well as interest rates and other developments in financial markets. In an interdependent world, information on international developments necessarily plays a role in these deliberations.

A. Assessments of the U.S. Economy

In assessing the state of the U.S. economy, focus has recently shifted from GNP to GDP because GDP is more appropriate as a measure of goods and services produced by labor and property located in the United States. Changes in GDP are more closely related to changes in employment, productivity, industry output, and investment in equipment and structures. International trade in goods and services plays an important role in determining GDP.

However, GNP, which includes net factor income receipts from foreigners, continues to be a useful concept. Data on GNP are necessary to estimate savings levels and rates. Large errors in estimates of net

factor income receipts from foreigners, and hence savings, could seriously mislead policy makers, for example, about the availability of savings to finance domestic investment.

The largest components in net factor income receipts from foreigners are income from U.S. direct investments abroad, payments on foreign direct investments in the United States, interest and dividends earned by U.S. holders of other foreign assets, and interest and dividends paid to foreign holders of other U.S. assets. Direct investment receipts and payments are reported on regular BEA surveys; coverage is probably relatively complete, and we can have reasonable confidence that the data reported accurately reflect the companies' books. However, the very low profits reported on foreign direct investment in the United States do raise questions that deserve further examination.

In contrast to direct investment income, U.S. receipts and payments on other investments are generally not reported in surveys; they are estimated on the basis of holdings. Their accuracy is dependent on the estimating method², the Treasury International Capital Reports (TIC), and periodic Treasury benchmark surveys of holdings of portfolio investments. The Treasury has conducted regular benchmark surveys of foreign portfolio investment in the United States, but the most recent

2. The methods used by BEA for estimating income on banks' liabilities denominated in foreign currencies and U.S. investors' earnings on foreign equities are particularly problematic. No interest is assumed paid on foreign currency deposits because, many years ago, these were largely compensating balances. However, by the end of 1991, banks' foreign currency liabilities amounted to \$75 billion. It is questionable whether compensating balances still account for the bulk of this total. Dividends are estimated for additions to U.S. holdings of foreign equities and added to estimated dividends on previous holdings. Dividends on previous holdings are assumed constant forever.

survey of U.S. portfolio investment abroad dates back to World War II. A new survey is currently in the planning stage; successful completion of this portfolio benchmark survey will fill a critical need by providing a sounder basis for estimates of U.S. receipts of portfolio investment income and, hence, GNP and savings. The Federal Reserve supports this survey and hopes it will be as comprehensive as possible and can be carried out expeditiously.

B. Money and Credit Aggregates

International components are included in many of the money and credit aggregates that are the intermediate focus of Federal Reserve monetary policy.

1. Narrow Aggregates (M1)

In recent years, large increases in currency in the hands of the public have been very important in explaining the growth of M1³; for example, in 1990 currency accounted for three-quarters of the growth of M1 -- M1 grew \$32 billion from December 1989 to December 1990, and the increase in currency was \$24 billion. A variety of evidence suggests that more than half the U.S. currency outstanding is held abroad and that most of the increased demand for U.S. currency in 1990 came from foreign residents. However, the United States currently does not collect adequate data on shipments of currency in and out of the United States, and no estimate of such shipments is included in the U.S. international transactions accounts. We believe this omission accounted for, perhaps, \$15 billion of the positive statistical discrepancy in the U.S. international transactions accounts in 1990.

3. In December 1991, U.S. currency outstanding averaged \$267 billion, approximately 30 percent of M1.

As part of law enforcement efforts, the U.S. Customs Service is empowered to require reports from certain persons entering or leaving the United States with more than \$10,000 in currency. However, since the focus of the Customs' Currency and Monetary Instruments Report (CMIR) is law enforcement, not data collection, certain exemptions from the requirement to report must be modified before these reports can be used to provide comprehensive data on legal business shipments of currency.⁴ These changes in the CMIR should receive high priority and should be implemented as soon as possible.

2. Broader Aggregates (M2 and M3)

M2 and M3 as currently defined both include deposits of U.S. residents at banks outside the United States. However, our data on these deposits are incomplete. The Federal Reserve uses reports from the foreign offices of U.S.-based banks,⁵ supplemented with information provided quarterly by the Bank of England⁶ and the Bank of Canada. The Federal Reserve does not currently have information on U.S. residents' deposits at foreign-based banks outside these two countries. Examination of the data supplied to the Bank for International Settlements' (BIS) by

4. U.S. currency also ends up abroad as the result of tourist expenditures, remittances, and illegal transactions. The improved CMIR would not address this problem.

5. The FR 2050 is a weekly report covering daily data on overnight and call deposits of U.S. nonbanks at a sample of foreign branches of U.S. banks. The FR 2077 is a weekly report, as of Wednesday, of the time deposits of U.S. nonbanks at a sample of foreign branches of U.S. banks and negotiable CDs held in custody for U.S. addressees (excluding IBFs). The FR 2502 is a monthly report by a larger sample of foreign branches of U.S. banks of their balance sheets, including information on liabilities to U.S. nonbanks.

6. The Bank of England provides data on deposits held at non-U.S. banks in the United Kingdom and negotiable CDs held in custody for U.S. banks and nonbanks. In calculating the Eurodollar component of M3, it is assumed that banks in the United States are not holding the Euro-CDs themselves, but are holding them in custody for U.S. nonbanks.

the Cayman Islands suggests that this is a serious omission. As a result, the Federal Financial Institutions Examination Council (FFIEC) has decided to require agencies and branches of foreign banks in the United States to file quarterly reports on the balance sheets of their offshore shell offices. We hope to implement this new reporting requirement shortly.

The Federal Reserve chose not to rely on the TIC data on U.S. residents' dollar deposits at banks outside the United States for two principal reasons. First, the TIC data aggregate deposits with other claims on foreigners.⁷ Moreover, comparison of TIC categories that include deposits with alternative data sources suggests that the TIC data are seriously understated.⁸ In general, it is far easier to obtain adequate coverage from the several dozen banks abroad where deposits are placed, than from the thousands of U.S. depositors. We believe that serious consideration should be given to separating deposits from the other assets that currently are aggregated in the TIC system and substituting for the TIC data on deposits data supplied by banks. BEA is hampered now in making this substitution in the U.S. international accounts by the current aggregation in the TIC reports.

7. CDs held in custody by banks are aggregated with other negotiable instruments. Overnight deposits are not classified as deposits and are aggregated with other claims.

8. The Federal Reserve conducted a special survey of U.S. nonbanks' deposits and liabilities to banks outside the United States as of the end of 1982 (FR3022). The results of this survey indicated that the TIC data understated deposits of U.S. nonbanks by about \$75 billion and borrowing by about \$25 billion. These understatements in the TIC data have persisted, as noted in the Final Report of the IMF Working Party on the Measurement of International Capital Flows. The IMF Working Party estimated that the TIC data underestimated the increase in U.S. nonbanks claims on foreign banks by about \$20 billion per year on average for the period 1986 through 1989.

3. Credit Aggregates (Debt)

The FOMC sets an annual monitoring range for the growth of domestic nonfinancial debt. This aggregate measures the credit market debt of the U.S. government, state and local governments, and private nonfinancial sectors. The last consists of corporate bonds, mortgages, consumer credit (including bank loans), other bank loans, commercial paper, bankers acceptances, and other debt instruments. The Flow of Funds section at the Federal Reserve Board relies on data from the TIC reports to construct some components of the debt aggregate. In particular, the TIC data are used to estimate borrowing from foreigners by nonfinancial businesses. Comparison of the TIC data with alternative data sources suggests that the data on such borrowings are seriously understated,⁹ no doubt resulting in measurement errors in the level of and changes in the debt aggregate.¹⁰ The proposed report by foreign-

9. The BIS data (and the IMF'S International Banking Statistics (IBS) data which are closely related) are not strictly comparable to the TIC data because some countries include holdings of securities and negotiable instruments (such as U.S. Treasury bonds or bills) in their data on banks' claims on U.S. nonbanks. The IMF Working Party sought information on these holdings and made a crude adjustment for them. The Working Party concluded that, after adjustment, the TIC data understated the increase in U.S. nonbanks borrowings from foreign banks by about \$25 billion on average per year for the period 1986 through 1989. However, the Working Party, in its calculations, appears to have made the questionable assumption that U.S. banks' custody liabilities (other than negotiable instruments) to banks outside the United States (BL2 column 6) would be reported in the BIS and IBS data as claims on U.S. banks. However, even if it is assumed that all these custody holdings are reported as claims on nonbanks in the BIS and IBS data, the discrepancy between the TIC and IBS data remains very large.

10. The data are drawn from the TIC-C report of nonbanks' financial liabilities to foreigners and the TIC-BL2 report of banks' custody liabilities to foreigners other than short-term U.S. Treasury obligations and other negotiable and readily transferable instruments. Apart from banks and certain securities dealers, other financial businesses are aggregated with nonfinancial businesses. In addition, the TIC-C data are reported with a lag that seriously compromises their usefulness for the Flow of Funds Accounts.

based banks on their Caribbean shell operations should help to close this gap.

Net issues of Eurobonds by U.S. nonfinancial businesses, another component of the debt aggregate, are estimated from information available in the financial press.¹¹ The TIC data cannot be used because Eurobond issues are not reported separately and because no distinction is made between issues of financial and nonfinancial businesses.

II. Data for Supervisory Responsibilities

In order to ensure the safety and soundness of the U.S. banking system, the Federal Reserve must closely monitor U.S. banks' consolidated operations. In the case of foreign-based banks, reliance is also placed on supervisors abroad.

A. Monitoring Banks' Operations

To monitor the activities of banks, the Federal Reserve requires information on the balance sheets of U.S.-based banks (both their domestic and foreign offices), the U.S. offices of foreign-based banks, as well as information on the operations of bank holding companies. These data are supplied through a number of Federal Reserve and FFIEC reports, most importantly, the "call" report of bank condition and the reports of bank holding company condition. The balance sheet information

11. Before the change in the withholding tax rules in 1984, most Eurobonds issued by U.S. corporations were issued through Netherlands Antilles finance affiliates and the funds were channeled back to the U.S. parent. In the Flow of Funds Accounts, these capital inflows were treated as foreign purchases of U.S. securities and excluded from direct investment flows. As bonds still outstanding come due, the resulting outflows to these finance affiliates are excluded from the direct investment flows and treated instead as reductions in foreign holdings of U.S. securities. The data to estimate these flows come from BEA's direct investment reports.

includes data on foreign lending and borrowing. In general, for supervisory purposes, the Federal Reserve relies on its own statistical reports for these data, and does not use the TIC data. However, one major exception is that the Federal Reserve relies on the TIC data to provide monthly information on International Banking Facilities (IBFs).¹²

The Federal Reserve is also concerned with the growth of banks' off-balance-sheet transactions and their implications for the safety and soundness of banks. This is an area in which data on cross-border transactions are almost completely lacking. The current TIC system provides no information on off-balance-sheet transactions. In connection with the expansion of the Basel Accord on Capital and domestic legislative requirements, the banking agencies will soon be collecting some information in this area.

It might be useful to devote some resources to identifying duplications in the TIC, Federal Reserve, and FFIEC reports required of banks. However, some overlap is, perhaps, unavoidable. Data users have different needs in terms of timing, frequency, detail, and sample size. Reaching agreement on report forms among the agencies represented in the FFIEC is already a time consuming, and hence costly, process. Expanding the intended uses of the FFIEC reports would exacerbate the problem. Moreover, efforts to eliminate duplication should be informed by the fact that inconsistencies between reports are one of the main tools used to identify reporting errors. This suggests that a certain degree of deliberate duplication and overlap can be useful.

12. The monthly Federal Reserve report on the balance sheets of IBFs was eliminated in order to reduce reporting burden.

B. Bank Ownership

The Federal Reserve also collects information on the ownership of banks in the United States. BEA reports on foreign direct investment in banks in the United States are limited in scope in order to avoid duplicating Federal Reserve reporting requirements and imposing unnecessary reporting burden.

The Federal Reserve is also concerned about the competitive position of U.S.-based banks and whether U.S. regulation puts these banks at a disadvantage. This concern is shared by other major central banks and has resulted in international efforts to coordinate regulations and to impose consistent capital requirements. Data on U.S. capital flows shed little light on the question of competitiveness.

C. Exposure to Country Risk

Another international aspect of the Federal Reserve's supervisory concerns is the exposure of U.S. banks and the banking system to cross border or country risk. The FFIEC requires U.S.-based banks to file information quarterly on their world-wide claims. However, this information is available with a lag of several months and is more useful in tracking the gradual development of problems than in detecting sudden crises. In times of crisis, the geographic detail provided by the TIC reports on bank claims provides incomplete but somewhat more up-to-date information.¹³

The monthly TIC reports of claims and liabilities currently cover more than 80 countries. One issue that should be considered is whether a shorter list of countries might be required and whether any

13. In addition, information on the country exposure of the foreign branches of U.S. banks is available from the FR 2502S.

significant cost savings could be attained by requiring detailed geographic information less frequently. The usefulness of this vast geographic detail is undermined by the fact that many foreign governments and private investors frequently place funds in the Eurodollar markets or invest in the United States through intermediaries in international financial centers. The geographic details in the TIC reports can give a misleading picture of the sources and uses of funds.

On the other hand, the Federal Reserve is also concerned in general about the movement of financial intermediation to inadequately regulated or supervised markets. For this reason, some information on the participation of foreigners in U.S. financial markets and the participation of U.S. residents in foreign financial markets (by country) is useful. However, such country detail may not necessarily be needed on a monthly basis.

III. Data for Economic Analysis

In addition to the specific data needs detailed in the previous sections, the Federal Reserve uses a wide variety of other data on international capital flows in order to understand developments abroad and their implications for the U.S. economy.

A. Flow of Funds Accounts

The Flow of Funds Accounts are one way of organizing these data to assess their implications. The Flow of Funds Accounts provide an integrated set of financial accounts that are used to analyze economic developments in the United States, and in particular to assess the financial condition of sectors of the U.S. economy and sources of financing. Data on international financial flows are drawn from the TIC

reports and BEA's direct investment surveys supplemented by other data on international transactions from bank regulatory reports.

The Flow of Funds Accounts use TIC data on securities transactions between U.S. residents and foreigners.¹⁴ However, the TIC data suffer from a number of inadequacies. First, it has become increasingly common for U.S. investors to deal directly with foreign intermediaries, bypassing the intermediaries in the United States that form the core of the TIC reporting system. Although the investor in such cases is expected to file TIC reports, preliminary discussions between the Treasury and major investors such as pension funds suggest that the required reports frequently are not filed. As noted by the IMF Working Party, the number of TIC reporters of securities transactions other than brokers, dealers, and banks is suspiciously small. A major effort to ensure adequate reporting by large investors such as pension funds, mutual funds, insurance companies, and money managers appears to be required to close this loophole.

Similarly, reporting failures arise from direct dealings with foreigners by U.S. borrowers. Information on Eurobonds issued by U.S. corporations is supposed to be reported by the corporations. Issues announced in the financial press can be tracked, and missing reports can be requested, assuming adequate funding for personnel to do so. However, private placements are, potentially, an even more serious problem because, by their very nature, they are not reported in the press.

The TIC system also fails to cover adequately transactions in derivative instruments (such as options, warrants, futures, or swaps) or to identify them separately. The dollar volume and number of

¹⁴. TIC-S Reports.

transactions in these innovative instruments increased sharply over the last decade. In theory, warrants and options are included in the TIC reports if the underlying security is a stock or long-term bond. However, the data are aggregated with purchases and sales of the underlying security, making judgments about the adequacy of coverage impossible. Options and warrants not based on long-term securities as well as data on other derivative instruments are omitted entirely from the TIC reports. Omission of these transactions is a serious hole in the TIC reporting system.

Coverage in the TIC system of short-term negotiable instruments is also inadequate. In addition to problems in the reporting of U.S. holdings of Euro-CDs, discussed earlier, holdings of foreign commercial paper appear to be seriously understated. Foreign commercial paper outstanding in the United States as reported on the monthly Federal Reserve Bank of New York (FRBNY) Survey appears far larger than the amounts included in the TIC reports. As a result, the FRBNY survey data are used in the Flow of Funds Accounts instead of the TIC data to estimate U.S. holdings of foreign commercial paper.

Many of the short-term negotiable instruments, such as commercial paper, are held for investors by custodians. Reporting by these custodians has not been monitored carefully. Recent discussions between the FRBNY and several global custodians suggested that they were reporting any commercial paper issued in the United States as domestic and any commercial paper issued abroad as foreign regardless of the residence of the borrower. Moreover, the division of reporting responsibility between custodians and investors is potentially a serious source of confusion and errors. The custodians are instructed to report

only instruments that are held for investors in the custodian's name. Investors are supposed to report instruments they hold in their own name or through a foreign custodian. (Only custodians in the United States can be required to report.) It may not be clear to the investor in which name the custodian is holding an asset. One way to avoid confusion would be to require custodians to notify investors which instruments are held in the customers' name and must be reported by the customer. Alternatively, the custodians could be required to report all instruments they hold in custody, regardless of whose name they are held in.

In piecing together a picture of the financial condition of various sectors and their sources of financing for the Flow of Funds Accounts, data also are needed on trade credit received and extended across international borders. The TIC-C reports are the source of this information, but given the small number of TIC-C reporters, coverage is undoubtedly inadequate.

Finally, the sector and instrument breakdowns in the Flow of Funds Accounts are much more disaggregated than those used in the TIC reports. Such detailed disaggregation of the TIC data would impose an unreasonably large increase in burden on reporters. However, as part of the periodic benchmark surveys of portfolio investment, greater disaggregation should be sought for short-term instruments as well as securities. In particular, separate data on RPs, commercial paper, limited partnerships, and mortgage backed securities would be useful. In addition, a sector breakdown between nonfinancial businesses and financial businesses (i.e., mutual funds, pension funds, insurance companies, etc.) would be useful.

B. Implications of Direct Investment for the U.S. Economy

Apart from the Flow of Funds Accounts, the Federal Reserve is also concerned about other international developments and their implications for the U.S. economy. For example, foreign direct investment in the United States and U.S. direct investment abroad may have implications for U.S. trade, employment, and investment in plant and equipment. The data needed to analyze these implications go far beyond those needed for balance-of-payments purposes. Because of these more comprehensive needs for data, BEA conducts a wide range of surveys on direct investment, and publishes much of the resulting information. In addition, efforts are currently underway to identify affiliates of foreign direct investors in the Census data bases. Completion of this effort will greatly facilitate comparisons of the behavior of U.S. and foreign owned companies and will greatly enhance the ability of economists to assess the impact of foreign direct investments in the United States.¹⁵

C. Shifts in Investors' Preferences

In addition to the Flow of Funds Accounts and direct investment, other developments that are of interest to the Federal Reserve include movements in exchange rates and interest rates. They are watched carefully by policy makers as indicators of shifts in investor preferences and expectations about future inflation.

Under fixed exchange rates, data on private capital flows could be monitored to assess changes in demands for assets of specific

15. For a more detailed evaluation of the adequacy of the data on direct investment see Lois E. Stekler and Guy V.G. Stevens, "The Adequacy of U.S. Direct Investment Data" in Peter Hooper and J. David Richardson, editors, International Economic Transactions: Issues in Measurement and Empirical Research, University of Chicago Press, 1991.

countries. Under flexible exchange rates, however, data on actual capital flows provide only limited insights into such shifts. In the short-run, changes in preferences and expectations are reflected in changes in exchange rates and interest rates, rather than in changes in realized capital flows. This is because the current account responds only with lags to changes in exchange rates and interest rates and any overall change in realized net capital flows must necessarily be balanced by changes in the current account. Unless there is substantial official intervention, the net of all private capital flows will remain essentially unchanged in the short-run, even in the face of substantial shifts in investor preferences or expectations. Only over time, as the current account adjusts, will shifts in the quantity of net capital flows be observed.

Moreover, to the extent that the coverage of capital flows is incomplete, resulting in a large and fluctuating statistical discrepancy, incorrect inferences can be and often are drawn from the changes in the capital account. For example, in 1990 the statistical discrepancy in the U.S. international transactions accounts shot up from \$18 billion to \$64 billion; in 1991 the discrepancy fell to minus \$3 billion. While there are certainly errors and omissions in the recording of current account transactions and official capital flows, there are no apparent reasons to assume that these errors and omissions increased dramatically in 1990. It seems most likely that the increase in the statistical discrepancy in 1990 reflected unrecorded net private capital inflows. Under these circumstances not much confidence can be placed in comparisons of recorded private capital flows in 1990 and 1991.

D. Composition of Capital Flows

From the perspective of macroeconomic policy concerns for a country like the United States, it is usually not particularly fruitful to focus on the composition of capital flows. Distinctions drawn between short-term and long-term flows or between so called permanent flows and flows that respond to financial incentives shed little light on underlying motivations. A 30-year U.S. Treasury bond may be more liquid than a 3-month CD. A long-term loan may be at a variable interest rate, while the rate on a short-term loan may be fixed. Direct investors may be unlikely to sell factories in response to expectations about the dollar exchange rate, but accounts receivable and payable between parents and direct investment affiliates (which are recorded in the direct investment lines in the accounts) can move by billions of dollars in response to financial incentives. The huge decline in capital inflows associated with foreign direct investment in the United States between 1989 and 1990 largely reflected a shift in the location of financing, and not a sharp decline in foreign acquisitions of U.S. businesses. Thus, the traditional distinction between short-term and long-term capital flows provides little useful information and, indeed, can be misleading to uninformed analysts.

Moreover, in general, U.S. financial markets are not highly segmented; the particular instruments that certain investors choose to buy usually make only a marginal difference from a macroeconomic perspective. Spreads between the rates on U.S. Treasury securities and other securities do vary, but the role of shifts in foreign demand in causing changes in these spreads generally appears to be marginal. In this connection, concerns about the absence of large Japanese purchases

in Treasury mid-quarter refundings are misplaced as are recent concerns about the adverse implications for the U.S. economy of the recent decline in the Japanese stock market.¹⁶ During a period of expanding Japanese current account surpluses, the Japanese must increase their holdings of foreign assets or reduce their liabilities to foreigners; the latter frees other investors' funds to purchase U.S. Treasury securities or other assets in the United States or other foreign countries. The fact that the foreign exchange value of the dollar has been rising on balance this year indicates that investors have needed no added inducement to invest in dollar-denominated assets.

E. Questions not Addressed by Data on U.S. Capital Flows

Even if the data on U.S. capital flows were completely accurate for balance-of-payments purposes, they are not suited to answer certain questions. For example, there has been much interest in the press on who holds U.S. securities. However, the current U.S. data collection system can supply information only on the initial foreign purchaser of a U.S. security. Subsequent trading abroad between foreign residents escapes the reach of U.S. reporting requirements.¹⁷ Such information could be supplied by foreign governments if they all collected data on their residents' purchases and sales of foreign securities on a debtor/creditor

16. See testimony by Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve System, before the Senate Banking Committee, April 17, 1992.

17. The Treasury, in connection with the periodic benchmark surveys of foreign portfolio investments in the United States does obtain information on foreign owners of record of registered securities from the issuers of stocks and bonds and from custodians. (No information is available on bearer Eurobonds.) These reporters might form the basis of an alternative data collection system. However, reliance on these reporters probably would be much more costly because it would involve a much larger number of reporters (every corporation with publicly traded stocks or bonds would be a potential reporter) and it would only supply information on changes in holdings and not the volume of transactions.

basis rather than a transactor basis.¹⁸ However, since it is only practical to collect data on a debtor/creditor basis for one side of countries' balance sheets, a shift to this basis would make bilateral comparisons of data impossible.¹⁹ It would seem preferable to continue to collect transactions data on a transactor basis and to collect data on holdings on a debtor/creditor basis through periodic benchmark surveys.²⁰

Another question the capital flows data could not address, even if they were completely adequate for balance-of-payments purposes, is the issue of currency exposure. Information on whether certain types of flows are dollar or foreign-currency denominated is available, for example, on bank claims and liabilities.²¹ No information is requested in the TIC reports, however, about the currency denomination of bonds. Moreover, since currency exposure can be hedged by use of a variety of off-balance sheet transactions, currency breakdowns for securities would provide an incomplete and perhaps misleading picture of currency

18. The United States currently collects bilateral data on the basis of the nationality of the transactor. For example, a U.S. purchase of a Eurobond issued by a Japanese company in London would be recorded as a purchase from the United Kingdom. If we shifted to a debtor/creditor basis, such a purchase would be recorded as a purchase of a Japanese security. While it is possible for the United States to record U.S. purchases of foreign securities on a debtor/creditor basis, the United States lacks the information to record foreign purchases of U.S. securities on anything other than an initial transactor basis.

19. Bilateral comparisons when countries collect data on a transactor basis also encounter problems because transactions between foreigners in foreign securities are frequently excluded from the reporting systems.

20. The revised IMF Balance of Payments Manual will recommend that holdings data be collected on a creditor/debtor basis. For bilateral transactions data the new manual does not rule out using either the transactor or the debtor/creditor basis.

21. Since the TIC reports collect data on the dollar equivalent of banks' holdings of foreign currency assets or liabilities it is impossible to distinguish between changes in holdings and changes in values resulting from exchange rate changes. The same problem occurs in interpreting changes in foreign currency claims and liabilities vis-a-vis unaffiliated foreigners reported by nonbanks (TIC-C reports) and in BEA's direct investment reports.

exposure.²² There is another Treasury report designed to identify foreign currency positions, published quarterly in the Treasury Bulletin. However, it is generally recognized that the current report is outdated and fails to cover many innovative means of hedging currency exposure. Revisions have been discussed, but not implemented.

Another issue frequently raised in the press is foreign investments in U.S. real estate. Purchases of residential real estate for personal use are completely omitted from the U.S. international transactions accounts, a failure in our own statistics on which the IMF Working Party has commented critically. Certain other investments are covered in the direct investment surveys, but these surveys cover only investments involving purchase of 10 percent or more of the voting equity of a business.²³ Much real estate investment is in the form of limited partnerships, and if it is reported at all, it is aggregated with other portfolio capital inflows. Perhaps some consideration should be given to disaggregating limited partnerships in real estate from other portfolio investments.

The desirability of greater disaggregation might also be explored with reference to foreign investments in U.S. mutual funds or unit investment trusts. For example, if foreigners invest in a U.S. unit investment trust that purchases mortgage-backed securities, that investment shows up in the TIC data as a purchase of shares not a

22. Nor would information on the currency denomination of bond issues alone be adequate for estimating interest payments since the obligations may be swapped.

23. Various direct investment surveys provide information on capital flows and the value of real estate purchased. Because of mortgage borrowing to finance real estate transactions, the total value of the real estate held by foreigners is likely to be many times the size of the associated capital inflow.

purchase of U.S. government agency securities. If one is interested in foreign participation in the market for mortgage-backed securities, one might want to include such purchases. There are, undoubtedly, other examples of types of investments that one might want disaggregated in the TIC data. However, the increase in reporting burden and data collection costs must be weighed against the gain in information.

IV. Conclusions

Given the current framework for collecting data on U.S. international capital transactions, major efforts are clearly required to improve the quality, coverage, and usefulness of these data.

1. Changes should be made as soon as possible in the Custom's Currency and Monetary Instruments Reports so they can be used to collect data on legal business shipments of currency in and out of the United States.

2. The proposed benchmark survey of U.S. portfolio investment abroad should be undertaken as scheduled and should be adequately funded.

3. Both the inward and outward portfolio benchmark surveys should not be confined to providing information on holdings of long-term securities. Both surveys should be designed to supplement TIC information on short-term instruments as well.

4. Reporting responsibility for claims and liabilities held in custody should be clarified or perhaps modified.

5. Large institutional investors should be canvassed to ensure that they report transactions directly with foreigners that bypass intermediaries in the United States.

6. Resources at both Treasury and the Federal Reserve Bank of New York (which acts as agent for the Treasury in collecting the TIC data) should be devoted to monitoring financial market developments and to ensuring that reporting systems are adapted to maintain adequate coverage. In addition, reporting accuracy must be monitored through frequent reviews of reports and discussions with reporters, uncovering changing market practices, ambiguities in reporting responsibilities, and problems with inadequate coverage and missing reporters. In periods of tight budgets and competing demands, it is tempting to strip resources from data collection efforts. In the long run, this is highly wasteful; resources are used to produce data that no one should use with any confidence.

7. Consideration should be given to alternatives to current data collection systems. Given the trend toward securitization in financial markets, the proliferation of short-term negotiable instruments in place of bank loans, improved communications around the world, and trends towards global diversification by investors (and borrowers), the number of reporters required to provide adequate coverage under the current data collection systems has skyrocketed. The question of whether there are more cost effective ways of collecting certain kinds of information must be explored.

One obvious substitution would be to use information from banks outside the United States on U.S. residents' deposits and borrowings rather than trying to collect data from the depositors and borrowers themselves. The Federal Reserve already collects data on U.S. residents deposits and borrowings from the foreign offices of U.S.-based banks and is preparing to collect comparable data from the Caribbean shell offices

of foreign-based banks. The Bank of England and the Bank of Canada also supply comparable data to the Federal Reserve and are willing to provide information to BEA as well. In the long run, efforts exploiting the BIS reporting system could yield comparable data from virtually all major financial centers. Substitution of this information for the current TIC data would require changes in the TIC definitions and instructions. However, in many respects it would provide more complete and accurate data than is currently included in the TIC reports.

Other substitutions may also be possible in the long run and should be considered. For example, the problem of collecting information on securities purchases by U.S. residents directly on foreign markets might be solved by exchanges of information with foreign statistical authorities. International cooperation with authorities in Canada and the United Kingdom might be particularly fruitful.

We may be approaching an era when no individual country will be able to collect complete and accurate data without international coordination and cooperation. In this context, efforts by international organizations such as the BIS and the IMF to encourage the use of consistent concepts and definitions and to identify sources of discrepancies between countries' data will become vital to maintaining the integrity and comprehensiveness of the data series on U.S. capital transactions.

International Finance Discussion Papers

<u>IFDP NUMBER</u>	<u>TITLES</u>	<u>AUTHOR(s)</u>
<u>1992</u>		
430	The Adequacy of the Data on U.S. International Financial Transactions: A Federal Reserve Perspective	Lois E. Stekler Edwin M. Truman
429	Whom can we trust to run the Fed? Theoretical support for the founders views	Jon Faust
428	Stochastic Behavior of the World Economy under Alternative Policy Regimes	Joseph E. Gagnon Ralph W. Tryon
427	Real Exchange Rates: Measurement and Implications for Predicting U.S. External Imbalances	Jaime Marquez
426	Central Banks' Use in East Asia of Money Market Instruments in the Conduct of Monetary Policy	Robert F. Emery
425	Purchasing Power Parity and Uncovered Interest Rate Parity: The United States 1974 - 1990	Hali J. Edison William R. Melick
424	Fiscal Implications of the Transition from Planned to Market Economy	R. Sean Craig Catherine L. Mann
423	Does World Investment Demand Determine U.S. Exports?	Andrew M. Warner
422	The Autonomy of Trade Elasticities: Choice and Consequences	Jaime Marquez
421	German Unification and the European Monetary System: A Quantitative Analysis	Gwyn Adams Lewis Alexander Joseph Gagnon
420	Taxation and Inflation: A New Explanation for Current Account Balances	Tamim Bayoumi Joseph Gagnon
<u>1991</u>		
419	A Primer on the Japanese Banking System	Allen B. Frankel Paul B. Morgan
418	Did the Debt Crisis Cause the Investment Crisis?	Andrew M. Warner
417	External Adjustment in Selected Developing Countries in the 1990s	William L. Helkie David H. Howard

Please address requests for copies to International Finance Discussion
Papers, Division of International Finance, Stop 24, Board of Governors of the
Federal Reserve System, Washington, D.C. 20551.

<u>IFDP NUMBER</u>	<u>INTERNATIONAL FINANCE DISCUSSION PAPERS</u> <u>TITLES</u> <u>1991</u>	<u>AUTHOR(S)</u>
416	Did the Debt Crisis or the Oil Price Decline Cause Mexico's Investment Collapse?	Andrew M. Warner
415	Cointegration, Exogeneity, and Policy Analysis: An Overview	Neil R. Ericsson
414	The Usefulness of P* Measures for Japan and Germany	Linda S. Kole Michael P. Leahy
413	Comments on the Evaluation of Policy Models	Clive W.J. Granger Melinda Deutsch
412	Parameter Constancy, Mean Square Forecast Errors, and Measuring Forecast Performance: An Exposition, Extensions, and Illustration	Neil R. Ericsson
411	Explaining the Volume of Intraindustry Trade: Are Increasing Returns Necessary?	Donald Davis
410	How Pervasive is the Product Cycle? The Empirical Dynamics of American and Japanese Trade Flows	Joseph E. Gagnon Andrew K. Rose
409	Anticipations of Foreign Exchange Volatility and Bid-Ask Spreads	Shang-Jin Wei
408	A Re-assessment of the Relationship Between Real Exchange Rates and Real Interest Rates: 1974 - 1990	Hali J. Edison B. Dianne Pauls
407	Argentina's Experience with Parallel Exchange Markets: 1981-1990	Steven B. Kamin
406	PC-GIVE and David Hendry's Econometric Methodology	Neil R. Ericsson Julia Campos Hong-Anh Tran
405	EMS Interest Rate Differentials and Fiscal Policy: A Model with an Empirical Application to Italy	R. Sean Craig
404	The Statistical Discrepancy in the U.S. International Transactions Accounts: Sources and Suggested Remedies	Lois E. Stekler
403	In Search of the Liquidity Effect	Eric M. Leeper David B. Gordon
402	Exchange Rate Rules in Support of Disinflation Programs in Developing Countries	Steven B. Kamin
401	The Adequacy of U.S. Direct Investment Data	Lois E. Stekler Guy V.G. Stevens