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REVIVING THE FEDERAL STATISTICAL SYSTEM: INTERNATIONAL ASPECTS

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ABSTRACT

Despite the impression that the federal statistical system has been starved for resources, the record over the last decade or so, judged by conventional deflation methods, has been one of rough stability. The quality of U.S. international data on commodity and service trade, direct investment, and export and import prices has improved, but there has been a serious deterioration in data on portfolio capital flows, stocks, and income.

Where improvements have taken place, the main source has been computerization, both inside and outside the federal statistical system. The standard deflators for expenditures do not adequately take account of the decline in the cost of computing and therefore impart a downward bias to the estimates of input.

Despite the gains in some areas, serious deficiencies remain for the increasingly important international sector. The improvements that have occurred have resulted mainly from Congressional and outside pressures, while successive administrations have shown little concern with the quality of the data they produce and presumably use for policy making.

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Data on the international economic relations of the U.S. are collected by, and processed in, several different government agencies. I think of the following as the major elements of U.S. international data.

1. Merchandise trade values, collected by the U.S. Customs Service and processed by the Bureau of the Census;
  2. Trade in services, direct investment flows and stocks, and the balance of payments, all the responsibility of the Bureau of Economic Analysis of the U.S. Department of Commerce;
  3. Prices in international trade transactions, of interest by themselves and also the basis for the deflation of merchandise trade values, collected by the Bureau of Labor Statistics;
  4. Portfolio capital flows other than banking transactions, collected by the Treasury Department;
  5. Banking transactions, collected by the Federal Reserve Board.
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Several agencies, including the Customs Services, the Federal Reserve Board, its agent, the Federal Reserve Bank of New York, the actual collector of the banking data, and the Treasury Department are either unable to separate the costs of collecting current international data from the costs of regulatory activities or costs of collecting domestic data or do not wish to divulge their expenditures. I am therefore unable to say much about the inputs of resources into these aspects of international data collection.

There are three questions I would like to answer about these data. The first is, what has happened to the input of resources into them. The second is, what has happened to the amount and accuracy of information about each area. And the third is whether the ability of these data to answer the questions asked of them is adequate and has been improving or declining.

#### I. Expenditures for International Data

The trends in the resources put into several elements of international data collection are described below, using expenditures deflated by the implicit deflator used by OMB for outlays other than defense and capital investment (1982=100):

Expenditures on International Data Collection

<u>Fiscal Years</u>	<u>Census Bureau Foreign Trade</u>	<u>Bureau of Economic Analysis</u> (\$ thousand at 1982 prices)	<u>BLS International Prices</u>
1977-81	13,624	4,277	3,966 <sup>a</sup>
1982-85	12,470	4,768	3,997
1986-89	12,628	5,269	4,125
1990 Request	13,816	5,741	4,277

<sup>a</sup>1981 only

Source: Appendix Table

The general picture here is of either stability of real resources or some increase, although the deflator we use is suspect, as we point out later. However, there are some differences in trends among the types of data.

Despite the growth in importance of service transaction, merchandise trade still accounts for 65 per cent of exports and more than three quarters of imports in the U.S. current account. Input into the Census Bureau's foreign trade statistics program in 1986-89, as measured by deflated appropriations, was about 7 per cent below the 1977-81 level, and for 1982 through 1989 was about 8 per cent below. The estimate for fiscal 1990 in the President's budget message is at about the 1977-81 level. Thus, there has been, at best, stagnation in input by this measure.

The Bureau of Economic Analysis international data collection effort, unlike the Census Bureau foreign trade statistics division, has seen gains in resources over the decade or so, by almost a quarter, most of which was for sur-

veys. The BEA request for 1990 also represents a relatively large increase.

Real expenditures on the BLS international price program have crept up a bit since the late 1970s, but the growth has been slow. This program too would gain if the 1990 budget request ends up as appropriations.

In the case of the data on portfolio capital, the 1984 survey is reported to have cost much less even in nominal terms than the 1978 survey (U.S. Department of the Treasury, 1989, p. 8) and the difference is attributed to computerization. However, I have no information about the cost of the monthly Treasury International Capital reporting system.

## II. The Quality of International Data

Despite the apparent decline or stagnation in resources, the quality of the trade data appears to have improved in some respects, particularly in the last few years. The so-called carry-over problem, the reporting of trade, particularly imports, in the wrong month because the data processing fell behind, which sometimes reached 8 to 14 per cent on exports, and as high as 50 per cent or more on imports in late 1985 and early 1986, has been reduced very substantially. By the end of 1988, it was only 2 to 3 per cent in unrevised data and under 1 per cent in revised data (Walter, 1989, p. 7).

This improvement in quality in terms of timing was achieved partly by sacrificing another element of quality. Beginning in March 1988, the Census Bureau delayed the publication of the trade data by two weeks. For those of us who like to look at a hundred years of data, the sacrifice was small, but there undoubtedly are some whose weighting of quality elements is different.

The Census Bureau has also recently announced, with some fanfare, a

program for correcting the data on U.S. exports to Canada for omissions that amounted to \$10 billion in 1986. The correction involves mainly substituting Canadian import data for the U.S. export data. That is encouraging, but I cannot resist pointing out that a very elaborate reconciliation of U.S. and Canadian data was published for 1970 with considerable commodity detail that has never been repeated. U.S. authorities were aware of the underreporting of U.S. exports to Canada as early as 1867, and the study of the U.S. balance of payments by Simon (1960) estimated the omissions starting in 1861 by the ingenious method of using--guess what--Canadian import data. 120 years to solve this problem seems like an unduly long time.

Even an expansion of resources in a particular area of data collection may not produce a gain in quality. The task to which the resources are directed may have become more complex. Export and import trade, for example, has roughly doubled in importance relative to GNP since the 1960s. The number of documents processed by the Customs Bureau also doubled in ten years. The share of imports subject to tariffs has declined sharply, and will decline even more with the signing of the U.S.-Canada Free Trade Agreement. The system for correcting data on U.S. exports to Canada by using Canadian import data may not work as well once tariffs are removed, and some other method, requiring more resources, may be needed just to maintain the quality of the data. Similarly, the rising share of trade that is intrafirm may make present methods for calculating trade values (and trade prices also) less and less reliable, because there is a large arbitrary element in the prices and values reported (U.S. General Accounting Office, 1989, p. 36). We have strong indications from our own work with BEA data that some U.S. affiliates manufac-

turing abroad and exporting back to the U.S. under Items 806.30 and 807.00 of the Tariff Schedules of the United States (now Subheadings 9802.00.60 and 9802.00.80 of the Harmonized Tariff Schedule) understate the sales they report to the BEA by including in their sales, and probably also in their exports, only the value added abroad, rather than the full value of the products. If imports under this section rise in importance, more resources may be needed to achieve the same quality of data.

Some trends work in the opposite direction. The shift by the United States to the international harmonized system of commodity classification should improve the comparability of trade data among countries and aid in the checking of U.S. data against foreign reports. The computerization of operations by importers, particularly brokers, should increase the accuracy of data and reduce the cost of collecting it.

Given that there has been some improvement in the quality of U.S. trade data in recent years, how was it achieved in the face of the combination of apparently constant or declining resources and increasing quantities of data to be handled? A major element was apparently the move toward computerization, by customs brokers, presumably for their own purposes, by the Customs Service, not part of the statistical system, and by the Census Bureau itself, within the statistical system, to take advantage of the changes in the operations of the customs brokers and the Customs Service. This improvement in the quality of trade data implies that either total factor productivity was increasing in the statistical system or the deflator I use gives a biased picture of resource inputs, or both. I am inclined to suspect that the bias in the deflator has been most important. The deflator does not take account of the



falling price of computing or of the rise in quality of the data supplied by other agencies or by respondents because they have computerized.

There have been many improvements in the data on U.S. direct investment abroad, foreign direct investment in the United States, and international service transactions. We now have annual reporting on the activities of U.S. direct investors abroad. In contrast to the 1966 census of U.S. direct investment abroad, the final report of which came out so late that no publication date is listed, and the preliminary reports of which did not appear until 1971 and 1972, the preliminary report for 1987 and the final report for 1986 appeared in 1989. The current reports are now available on diskette, a clear gain for researchers.

Annual data on foreign direct investment in the U.S. have been published for years since 1977 and that, too, represents a great improvement over what was available in the past. Overall, then, the increases in budget allocations to the BEA do appear to have led to improvements in the quantity and quality of data available on inward and outward direct investment.

Another area of clear improvement in international data is that of transactions in services, including the initiation of fairly comprehensive surveys of transactions with unaffiliated foreigners. An indication of the degree of improvement is the fact that 19 per cent of estimated sales of services to unaffiliated foreigners and 7 per cent of purchases of services from unaffiliated foreigners in 1987 were in categories of service for which no data existed in 1979 (Ascher and Whichard, 1989, p. 36). In addition to the data of transactions with unaffiliated foreigners, service transactions among U.S. firms and their affiliates were first segregated from goods transactions in

1982, and the same separation was extended to the U.S. affiliates of foreign firms in 1987 (Ascher and Whitchard, 1989, p. 36). Here, too, the statistical system seems to be gaining on its problems.

The BLS international price program has steadily increased in scope over the last 25 years. No price data at all were available in the early 1960s, and only selected items were included in the first decade or so of the program. The only official export and import price information available up to the beginning of the BLS program were not prices at all but only the export and import unit values indexes that have been shown many times to be unreliable as proxies for prices (Kravis and Lipsey, 1971 and 1974, Murphy, 1972, Alterman, 1989). The unit value index program is being discontinued as the BLS price collection has come in the last ten years the program has come to provide fairly complete coverage for quarterly indexes of export and import prices.

In the case of portfolio capital stocks and flows, and the income resulting from them, the quality and accuracy of the data have almost certainly deteriorated over time, to the point that one observer commented that "we have the seeds of destruction for the usability of the data on international transactions" (Dooley, 1989, p. 430). The deterioration has been a worldwide phenomenon that showed up in the enormous world net debit on current account that rose from \$10-20 billion in the 1970s to \$100 billion or so in the 1980s (Taylor, 1989, p. 401). The report of the IMF working party (IMF, 1986) concluded that a large part of the problem involved income on portfolio investment and, by implication, the data on portfolio capital flows themselves. For the United States, in 1983 for example, U.S. nonbank asset positions with foreign banks were \$53 billion in U.S. data and \$168 billion in

reports by foreign banks to the IMF, and liabilities were \$21 billion in U.S. data, as compared with \$58 billion in data reported by foreign banks (Taylor, 1989, p. 416). These discrepancies are large enough to alter the impression of the U.S. current account, but they also imply that large flows of portfolio capital have taken place unnoticed by the U.S. statistical system. It is surely no help that the last benchmark survey of U.S. portfolio investment abroad was taken more than 45 years ago. This does seem to be one case in which the U.S. data on international transactions have deteriorated badly.

### III. The Adequacy of International Transactions Data

In view of the improvements that have taken place, why is there so much dissatisfaction with the data on U.S. international transactions? While most of the data have improved in quality, the demands on them have increased faster than the improvement. The international transactions of the United States have become much more important over time to American policy makers and analysts. The rise in importance of international merchandise trade is one example of the increasing importance of international transactions, but, in addition, markets for services have been growing more rapidly than markets for goods, and the internationalization of capital markets has moved even faster than the growth of service industries in general. The better data of recent years (portfolio capital and portfolio income data being the exceptions) may still be less and less adequate for the demands put upon them.

The data on international service transactions, for example, were long known to be poorly estimated. The move by the United States to place services on the agenda for the Uruguay Round of GATT negotiations led to the need for

better data to understand trade in services in order to form negotiating positions and to carry out negotiations. What had been a mere academic complaint became a deficiency felt by Congress and by administrative agencies, and it was this inadequacy for policy needs that led to the allocation of additional resources to this activity.

While Steckler and Stevens (1989) acknowledge the relatively high quality of U.S. data on direct investment transactions and operations, they point out many areas in which the data are nevertheless inadequate to answer important questions about international policy. The recent growth of foreign direct investment in the United States had produced greatly increased demands for information on how foreign companies operate here and what the effects are on the American economy. A study of these questions would require the kind of detail on operations that could only be provided by a linking of the BEA data with those collected on an establishment basis by the Census Bureau in the Census of Manufactures and other business censuses. The current anxiety about the international investment position in the United States has made many observers dissatisfied with direct investment stock estimates based on book values, rather than on market values or current replacement cost, although the book values had been used for many years without much complaint other than the usual academic grumbling. In this case, the move toward more flexible exchange rates, and the large currency revaluations that followed, contributed to the discontent with book value data.

Thus, the relatively high grades we give the U.S. statistical system for improvements in the quality of international data must be reduced in many cases when we grade the system on the adequacy of the data for setting and

analyzing of international economic policy. Where improvements have taken place, they seem to have stemmed from Congressional pressures and, in some cases, from the consciences of the staffs of the agencies themselves. Successive administrations have shown little interest in the quality of the data they produce and presumably use for policy making. What the system needs is some realization that the costs of wrong decisions based on misinformation are probably much larger than the costs of better information.

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Appendix Table A

Budget Authority<sup>a</sup> For Three International Data Programs  
(Thousands of dollars)

Fiscal Year	Census Bureau Foreign Trade Statistics	Bureau of Economic Analysis International Economic Accounts			Bureau of Labor Statistics International Price Program
		Total	International Surveys	Other	
1977	9,476	2,945	1,470	1,475	NA
1978	9,572	2,927	1,460	1,467	NA
1979	10,907	3,206	1,552	1,654	NA
1980	11,341	3,864	2,006	1,858	NA
1981	12,355	3,945	2,149	1,796	3,696
1982	12,519	4,352	2,307	2,045	4,018
1983	13,601	4,546	2,402	2,144	4,087
1984	13,037	5,611	2,972	2,639	4,413
1985	13,911	5,863	3,108	2,755	4,502
1986	13,888	5,711	3,027	2,684	4,254
1987	15,488	6,264	3,512	2,752	4,844
1988	15,877	6,425	3,361	3,064	5,358
1989	15,781	7,100	3,600	3,500	5,520
1990	18,220	7,571	3,416	4,155	5,640

<sup>a</sup>Actual budget authority (appropriations), except for 1989 and 1990, estimated from President's budget submission.

Source: U.S. Office of Management and Budget (OMB) and U.S. Department of Commerce.



Appendix Table B

Expenditure on Three International Data Programs, in Constant (1982) Dollars  
(Thousands of 1982 Dollars)

Fiscal Year	Deflator <sup>a</sup> (1982=100)	Expenditures				
		Census Bureau Foreign Trade Statistics	Bureau of Economic Analysis International Economic Accounts			Bureau of Labor Statistics Price Program
			International			
			Total	Surveys	Other	
1977	68.52	13,830	4,298	2,145	2,153	NA
1978	72.34	13,232	4,046	2,018	2,028	NA
1979	76.38	14,280	4,197	2,032	2,165	NA
1980	83.87	13,522	4,607	2,392	2,215	NA
1981	93.20	13,256	4,233	2,306	1,927	3,966
1982	100.00	12,519	4,352	2,307	2,045	4,018
1983	104.54	13,010	4,349	2,298	2,051	3,910
1984	108.68	11,996	5,163	2,735	2,428	4,061
1985	112.60	12,354	5,207	2,760	2,447	3,998
1986	115.30	12,045	4,953	2,625	2,328	3,690
1987	118.29	13,093	5,295	2,969	2,326	4,095
1988	122.38	12,974	5,250	2,746	2,504	4,378
1989	127.26	12,401	5,579	2,829	2,750	4,338
1990	131.88	13,816	5,741	2,590	3,151	4,277

<sup>a</sup>Implicit price deflator used by the Office of Management and Budget to deflate nondefense, noncapital-investment outlays.

Source: OMB and Appendix Table A