EXPANSION OF THE BALANCE OF PAYMENTS FRAMEWORK**

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Background and Introduction

Although exports, imports, and factor income from abroad remain the balance-of-payments variables of primary interest for macroeconomic analysis of jobs and output in a country, sales through foreign affiliates have an increasing importance to the domestic economy beyond the direct effect of these foreign affiliates on net factor income from abroad. For example, 32 percent of U.S. exports of goods and services and 40 percent of U.S. imports of goods and services are accounted for by affiliated, or related, party trade. In recognition of these backward and forward linkages, a study panel of the National Academy of Sciences (NAS) recently recommended that the Bureau of Economic Analysis (BEA) develop a supplement to the existing residence-based balance of payments framework for the United States. This supplement would be based on net sales of U.S.-owned companies to foreigners and net sales of foreign-owned companies to U.S. residents. Some have described this supplement, which would cover both cross-border sales as traditionally defined for balance of payments purposes and sales through locally established direct investment enterprises, as an ownership-based rather than a residence-based framework.

** The alternative ownership-based estimates for the United States presented here were developed by Obie Whichard and Jeffrey Lowe of BEA's International Investment Division.

In addition to the NAS proposal, a somewhat different framework proposed by Anne De Julius has received a good deal of attention as another means of measuring international trade and competitiveness. Ms. Julius' proposal is similar to the NAS proposal in that it tries to explicitly identify those portions of current account transactions in goods, services, and income that are attributable to foreign affiliate sales and purchases. However, it differs from the NAS proposal in that it retains the conventional balance of payments focus on residence.

The new concepts reflected in these proposals are particularly important for trade in many types of services, such as advertising, engineering, legal and other services that must to a great extent be conducted on site. For most of these business, professional, and technical services, the services' delivery typically must take the form of face-to-face transactions adapted to local laws, customs, and needs. As a result, with the notable exceptions of travel and transportation, and telecommunications, most services are delivered through foreign affiliates located in the countries of the purchaser rather than through cross-border transactions between residents and nonresidents. For example, in 1991, over 80 percent of the sales of services to unaffiliated foreigners by U.S. parent companies and their majority-owned foreign affiliates took the form of sales by affiliates, with only a little under 20 percent being accounted for by direct exports of services by the parents.

Outside of the United States there has also been considerable interest in alternative accounting frameworks for trade in goods and services. OECD, for example, currently has a working group studying the collection and preparation of data for the analysis of countries competitiveness using affiliated, or establishment, trade data. This paper uses the NAS and a modified version of the Julius framework to explore the feasibility, as well as conceptual and empirical issues, associated with such ownership-based measures of a country's trade status.

Ownership-based Balance of Payments Statistics

The NAS study panel, chaired by Robert Baldwin, proposed an ownership-based measure of net sales by U.S.-owned companies to foreigners. This measure is computed by dividing net export sales into three categories: net cross-border sales by U.S. residents to unaffiliated foreigners, net sales to foreigners by foreign affiliates of U.S. firms, and net U.S. sales to U.S. affiliates of foreign firms.

These three categories are computed in turn as follows:

- o Net cross border sales to foreigners is computed by first subtracting U.S. exports to foreign affiliates of U.S. companies and exports by U.S. affiliates of foreign firms from total U.S. exports of merchandise and services to obtain an estimate of cross-border exports by U.S. residents, other than from foreign-owned firms in the United States, to unaffiliated foreigners. Next, imports from foreign affiliates of U.S. companies and imports by U.S.

affiliates of foreign firms are subtracted from total U.S. imports to obtain an estimate of net cross-border imports from unaffiliated foreigners. Subtracting these unaffiliated imports from the unaffiliated exports produces net cross border sales to unaffiliated foreigners.

- o Net sales to foreigners by foreign affiliates of U.S. firms is computed by first subtracting foreign affiliates of U.S. companies' sales to the United States and to other foreign affiliates of U.S. companies from their total sales. Next, local (non-U.S.) purchases abroad of goods and nonfactor services by foreign affiliates of U.S. companies is subtracted to obtain net sales to foreigners by foreign affiliates of U.S. companies.

- o Net U.S. sales to U.S. affiliates of foreign companies is computed by first subtracting U.S. affiliates of foreign companies' sales to other U.S. affiliates and their sales to other countries from their total sales. From this total, U.S. affiliates' local purchases in the United States of goods and services are subtracted to obtain net U.S. sales to (or purchases from) U.S. affiliates of foreign companies.

These computations are detailed in Table 1 and summarized and compared to conventional residence-based balance of payments statistics in Table 2. Using the conventional balance of payments framework, the United States recorded a $28 billion

Table 1.--Net Sales of Goods and Services by Americans to Foreigners, 1991

line #		Total sales	Goods	Services
	I. Cross-Border Sales to and Purchases from Foreigners by Americans			
	Exports to foreigners			
1	+U.S. exports of merchandise and services	581,197	416,937	164,260
2	-U.S. exports to foreign affiliates (MOFA's) of U.S. firms abroad 1/	133,505	108,787	24,718
3	-U.S. exports shipped by U.S. affiliates of foreign firms 1/	103,786	98,369	5,417
4	Total (line 1-2-3)	343,906	209,781	134,125
	Imports from foreigners			
5	+U.S. imports of merchandise and services	609,117	490,739	118,378
6	-U.S. imports from foreign affiliates of U.S. firms 1/	96,473	90,479	5,994
7	-U.S. imports shipped to U.S. affiliates of foreign firms 1/	186,945	179,694	7,251
8	Total (line 5-6-7)	325,699	220,566	105,133
9	Net cross-border sales to foreigners (line 4-8)	18,207	-10,785	28,992
	II. Sales and Purchases by Foreign Afiliates of U.S. Firms			
	Sales by foreign affiliates of U.S. firms			
10	+Sales by foreign affiliates of U.S. firms abroad	1,214,238	1,068,258	145,980
11	-Sales among foreign affiliates of U.S. firms abroad	194,235	181,252	12,983
12	-Sales to the U.S. by foreign affiliates of U.S. firms	122,125	109,607	12,518
13	Total (line 10-11-12)	897,878	777,399	120,479
14	Local purchases abroad by foreign affiliates of U.S. firms	526,801	474,740	52,061
15	Net sales to foreigners by foreign affiliates of U.S. firms (line 13-14)	371,077	302,659	68,418
	III. Value-Added Abroad by Foreign Affiliates of U.S. Firms			
16	+Sales by foreign affiliates of U.S. firms (line 10)	1,214,238	1,068,258	145,980
17	-Local purchases abroad by foreign affiliates (line 14)	526,801	474,740	52,061
18	-Imported goods and services (line 2)	133,505	108,787	24,718
19	-Purchases from other foreign affiliates of U.S. firms (line 11)	194,235	181,252	12,983
20	+Inventory change	-803	-749	-54
21	Total (line 16-17-18-19+20)	358,894	302,730	56,164
22	Foreign content of foreign affiliate sales (line 17+19+21)	1,079,930	958,722	121,208
	IV. U.S. Sales to and Purchases from U.S. Affiliates of Foreign Firms			
23	U.S. sales to U.S. affiliates of foreign firms (local purchases)	690,683	560,904	129,779
	U.S. purchases from U.S. affiliates of foreign firms			
24	+Sales by U.S. affiliates of foreign firms	1,133,222	955,208	178,014
25	-Sales among U.S. affiliates of foreign firms in the U.S.	n.a.	n.a.	n.a.
26	-U.S. exports shipped by U.S. affiliates of foreign firms (line 3)	103,786	98,369	5,417
27	Total (line 24-25-26)	1,029,436	856,839	172,597
28	Net U.S. sales to U.S. affiliates of foreign firms (line 23-27)	-338,753	-295,935	-42,818
	V. Value-Added in the U.S. by U.S. Affiliates of Foreign Firms			
29	+Sales of U.S. Affiliates of Foreign Firms (line 24)	1,133,222	955,208	178,014
30	-Purchases within the U.S. by U.S. affiliates (line 23)	690,683	560,904	129,779
31	-Imported goods and services (line 7)	186,945	179,694	7,251
32	-Purchases from other U.S. affiliates of foreign firms	n.a.	n.a.	n.a.
33	+Inventory change	2,776	2,340	436
34	Total (line 29-30-31-32+33)	258,370	216,950	41,420
35	Local content of U.S. affiliate sales (line 30+34)	949,053	777,854	171,199
36	**Net Sales by Americans to Foreigners (line 9+15+28)**	50,531	-4,061	54,692

1. Services transactions exclude, but conceptually should include, unaffiliated tranactions

TABLE 2.--A Comparison of U.S. International Economic Performance Under Two Frameworks, 1991 (Billions of dollars)

Balance-of-Payments Framework		Supplemental Framework	
Cross-border sales to foreign countries (exports)	581	Total sales to foreigners	1,933
Cross-border purchases from foreign countries (imports)	609	Total purchases from foreigners	1,882
Difference	-28	Difference	-51

Value added in the U.S. by U.S. affiliates of foreign firms	258
Value added abroad by foreign affiliates of U.S. firms	359
Domestic content of sales of U.S. affiliates of foreign firms	949 (84%)
Foreign content of sales of foreign affiliates of U.S. firms	1080 (89%)

deficit in trade on goods and services in 1991; using the NAS supplemental framework--the net sales by U.S. owned firms, located in the United States or abroad--resulted in a positive sales balance of $50.5 billion.

As noted in the bottom of the table 2, the estimated value added by U.S. affiliates of foreign firms was $258 billion, as compared to a value added of $359 billion by foreign affiliates of U.S. firms. The domestic content for foreign-owned companies in the United States was lower (84 percent) than the foreign content for U.S.-owned firms abroad (89 percent).

Although developing such a supplemental framework is a major undertaking, BEA thinks that, up to a point, tracking the global activities of U.S. and foreign multinationals has merit. However, the regular production of high-quality estimates of ownership-based trade would require significant resources and the resolution of several significant data and conceptual problems.

Conceptual issues: This supplementary ownership measure is useful in assessing U.S.-owned businesses' global competitiveness. In the latter half of the 1980s, Robert E. Lipsey and Irving B. Kravis, using BEA's data on international sales and affiliates, conducted a series of studies showing that while the U.S. share of cross-border merchandise trade around the globe had declined, U.S. multinational companies' share--whether through companies located in the United States or located abroad--had changed little. The NAS supplemental measure focuses on this sales- or market-oriented measure in a formal way and in many respects is more representative of the way in which companies and official trade representatives tend to think about international competitiveness.

Despite its usefulness for assessing company competitiveness and sales in global markets, the conventional trade measures, which focus on exports from and imports into the United States, remain the most important measures of the impact of international trade on U.S. employment, output, and income. The effect on the U.S. economy of additional sales by General Motors of Opel automobiles in Germany, for example, is already recorded in the investment income earned by General Motors and in G.M.'s trade with the German subsidiary. Given the high labor content in legal, engineering, and other professional services, it is even more important to U.S. economic welfare whether Fluor "produces" engineering and design services for a construction project in Stuttgart at their headquarters in Irvine California or through their affiliate located in Germany.

In addition to the obvious importance of the location of production to domestic jobs, the effect on national income needs to be considered. Since U.S. companies' direct ownership shares of foreign affiliates range from 10 to 100 percent, only a portion of total profits earned by foreign affiliates accrues to parent companies or add to U.S. national income or wealth. Therefore, in some sense, even on an ownership basis, companies that are interested in the "bottom line" and maximizing share value should be more concerned with net receipts from foreigners than with net sales to foreigners. For example, in 1991, net income generated by foreign affiliates of U.S. companies was $77.1 million; only about two-thirds, or $51.1 million, of this total accrued to U.S. owners.

The ownership-based method gives an equal weight to the sales of a foreign affiliate that is 10 percent owned as to those of an affiliate that is 100 percent owned (U.S., IMF, and OECD guidelines use 10-percent equity ownership as the threshold for direct investment). Even a company that is only interested in maximizing sales rather than profits would presumably value sales through a wholly-owned subsidiary more highly than sales through a joint venture in which they only have a 10-percent interest. Indeed, Generally Accepted Accounting Principles (GAAP) in the United States stipulate that only majority-owned affiliates should be included in companies' consolidated statements. Ownership of less than 50 percent is to be recorded in a fashion similar to portfolio investment.

Inclusion of sales by other than wholly-owned affiliates also may cause double counting in global totals and problems in identifying other foreign affiliates. For example, if 10 countries that have companies participating in a joint venture each report 100 percent of the "net sales" from the joint venture, there will be significant double counting of the same sales by the ten partners. Also, while foreign affiliates are probably able to identify sales to other wholly-owned U.S. subsidiaries, they probably find it difficult to identify minority-owned affiliates.

The final problem with the ownership approach is that because many U.S. companies have followed their customers overseas in order to service their customers' foreign operations, a certain proportion of what are described as net sales to foreigners by foreign affiliates of U.S. companies are probably sales to foreign affiliates of other U.S. companies. Conceptually, these sales should be included in the deduction for sales to other foreign affiliates that is made in computing net sales to foreigners by foreign affiliates of U.S. firms. In reality, such sales usually cannot be identified, and they are not separately reported to BEA.

Unfortunately, even if one asked foreign affiliates to report their sales to affiliates of other companies as well as affiliates of their own company, in many instances they would not know that other companies are foreign-owned, particularly in cases of minority-ownership.

Net Receipts

An alternative to the NAS ownership approach is suggested by work by DeAnne Julius. In her book, Global Companies & Public Policy: The Growing Challenge of Foreign Direct Investment, Ms. Julius developed a mixed ownership/residence-based framework. Her technique is similar to the NAS approach in many respects; however, it differs in one important respect: All payments to foreign residents, including payments for capital (e.g. foreign residents' share of foreign affiliates' profits) and labor are treated as local purchases by affiliates, to be netted against sales. (Under the NAS proposal, only payments outside the firm, i.e. for goods and nonfactor services, are so netted.) As Guy Stevens of the U.S. Federal Reserve Board, has pointed out, this netting of all receipts from foreigners against all payments to foreigners results in a trade balance equal to the balance on goods and services plus the balance on direct investment income in the conventional balance of payments.

Table 3 below presents our version of what may be called a net receipts version of the ownership-based balance of payments framework. It has the advantage of focusing on the fact that direct investment income receipts are really net receipts derived from foreign sales by foreign affiliates and that a large portion of the receipts from exports and imports are derived from net foreign sales. It also has the desirable characteristic of focusing on net flows that accrue to the parent company and to national income and wealth. As a result, it has none of the problems of double-counting associated with the NAS ownership-based estimates, and it appropriately weights foreign net sales contribution to the parent country's economy.

Table 3.— —Net Receipts Version of Ownership—based Balance of Payments Framework— —U.S. Data for 1991

line #		Total	Goods	Services
1	**Exports (sales)**	646,413	446,066	200,347
2	Cross—border, total	596,647	416,937	179,710
3	To unaffiliated foreigners	356,366	193,828	162,538
4	To affiliated foreigners	240,281	223,109	17,172
5	To foreign affiliates	194,235	181,252	12,983
6	To foreign parents	46,046	41,857	4,189
7	Net receipts from sales of foreign affiliates	49,766	29,129	20,637
8	equals: Sales, total	1,214,238	1,068,258	145,980
9	less: Purchases of goods and services from the United States	133,505	108,787	24,718
10	Costs and profits accruing to foreigners	836,732	749,090	87,642
11	Employee compensation	160,385	135,286	25,099
12	Other	676,347	613,804	62,543
13	Sales to other foreign affiliates	194,235	181,252	12,983
	Addenda.			
	Composition of the content of foreign affiliates' sales (to non—affiliates)			
14	Sales to non—affiliates, total	1,020,003	887,006	132,997
15	Foreign content	886,498	778,219	108,279
16	Value added by foreign affiliates of U.S. firms	358,894	302,730	56,164
17	Other foreign content	527,604	475,489	52,115
18	U.S. content	133,505	108,787	24,718
19	**Imports (purchases)**	606,124	491,690	114,434
20	Cross—border, total	609,117	490,739	118,378
21	From unaffiliated foreigners	372,949	269,400	103,549
22	From affiliated foreigners	236,168	221,339	14,829
23	From foreign affiliates	95,821	88,243	7,578
24	From foreign parents	140,347	133,096	7,251
25	Net payments for sales of foreign—owned firms (to non—affiliates)	−2,993	951	−3,944
26	equals: Sales, total	1,133,222	955,208	178,014
27	less: Purchases of goods and services from abroad	186,945	179,694	7,251
28	Costs and profits accruing to Americans	949,270	774,563	174,707
29	Employee compensation	173,911	146,592	27,319
30	Other	775,359	627,971	147,388
31	Sales to other U.S. affiliates (not available)	n.a.	n.a.	n.a.
	Addenda: Composition of the content of U.S. affiliates' sales			
33	Sales to non—affiliates, total	1,133,222	955,208	178,014
34	U.S. content	946,277	775,514	170,763
35	Value added by U.S. affiliates	258,370	216,950	41,420
36	Other U.S. content	687,907	558,564	129,343
37	Foreign content	186,945	179,694	7,251
38	**Net exports (imports)**	40,289	−45,624	85,913
39	Cross—border	−12,470	−73,802	61,332
40	Sales by affiliates	52,759	28,178	24,581

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