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## *FINANCIAL FLOWS AND MULTILATERAL SETTLEMENTS*

Each country's goods and services balance with all areas of the world, if measured without error, must be compensated by some combination of private or official unilateral transfers, capital movements, and gold transactions. With any individual partner area, a country may also cover a deficit with surpluses realized from other areas (i.e., by multilateral settlements). It is convenient to refer to all of these offsetting categories as "financial transactions," and we do so without implying anything at all about the direction of causation between the offsetting transactions and the goods and services balances with which they are associated in time.

The pattern (i.e., direction) of net financial flows between world areas for the five-year period 1950-54 can be read from Table A-4 (in which private unilateral transfers are distinguished from official). Annual flows are given in Tables B-25 through B-28. We start in Section A by examining the consolidated five-year record to see the extent of agreement on measurement between paired records and the way in which financial flows compensate trade balances.

The matrix of capital flows given in the tables is comprehensive and includes (but does not distin-

guish) changes in official reserve funds and other liquid capital assets. For many purposes it would be desirable to segregate these flows of liquid capital from other capital movements, to consider their role, along with that of gold, in international settlements, and, in particular, to examine their relation to multilateral settlements as defined above. We discuss this subject using supplementary materials in Section B.

The pattern of balances met by multilateral settlements is of particular interest since it reflects all other exchanges and helps one to judge the extent of "multilateralism" in world trade and payments. The concept of multilateralism has been widely employed in discussions of international trade, and in Section C we examine this concept, the problem of measuring multilateralism, and the meaning of our final matrix of multilateral settlements.

The annual matrixes are examined in Section D to see whether annual patterns deviate seriously from the five-year average, whether paired entries in the annual matrixes are consistent, and whether the record of multilateral settlements shows systematic variation from year to year.

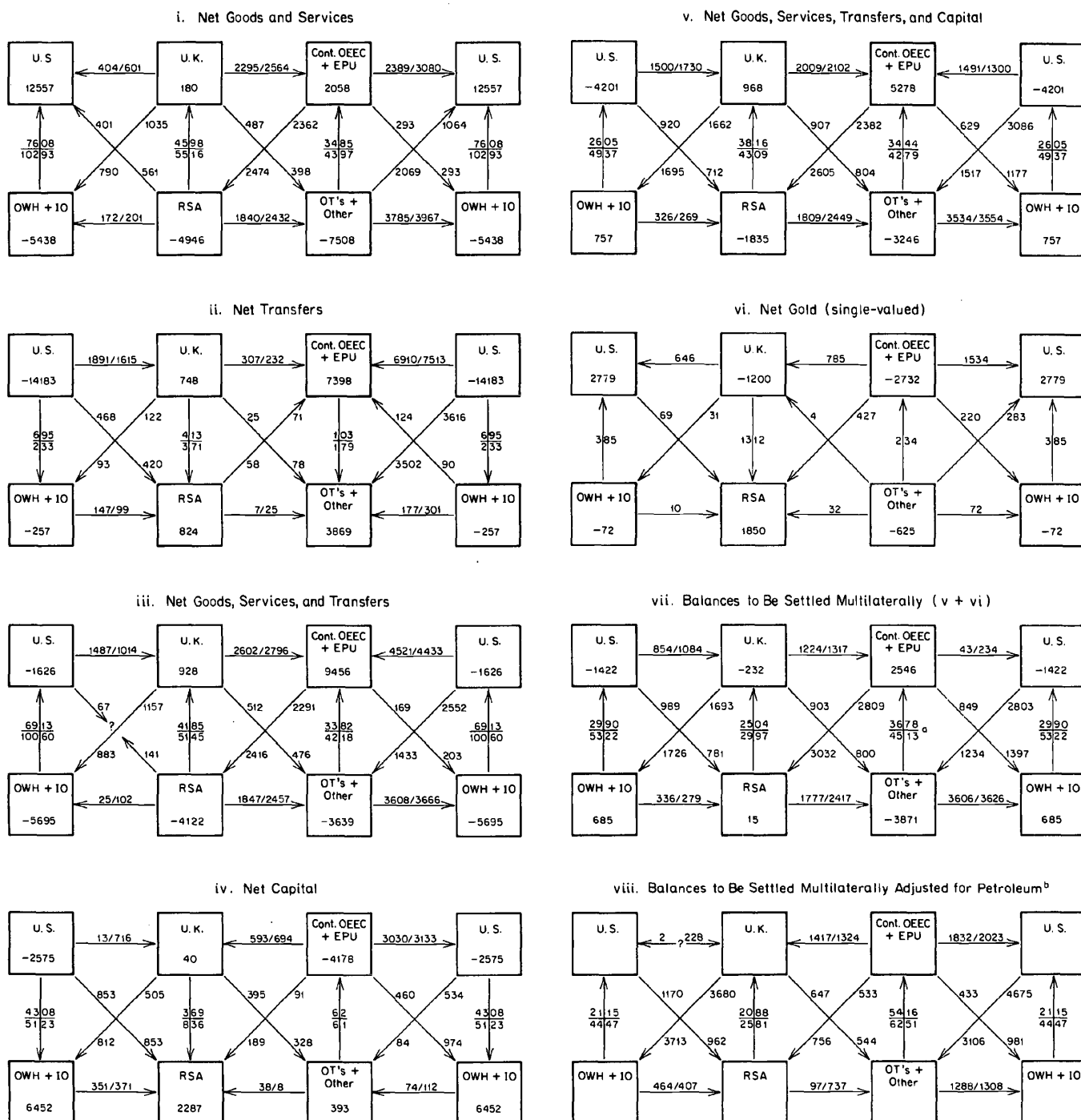
### *A. THE PATTERN OF FINANCIAL FLOWS, 1950-54*

Chart 5, made up from Table A-4, shows interarea flows between the six areas previously employed in Charts 3 and 4 in Chapter 4 and can be considered an extension of those charts. Panel i of Chart 5 repeats panel A of Chart 4; panels ii, iv, and vi of Chart 5 are for net unilateral transfers, capital, and gold; panels iii, v, and vii are the balances between areas after taking account successively of transfers, capital, and gold. Panel viii is like vii but with petroleum transactions channeled through the U.S. and the U.K.

#### *1. Unilateral Transfers, Capital, and Gold*

The record diagramed in Chart 5 is two-valued except for the gold matrix. All transactions have been allocated by partner area and the gold matrix has been reconciled as explained in Chapter 2, Section A-1. Examination of panels ii and iv shows that the paired records of transfers and capital were generally in agreement on direction and order of magnitude. The consistency of paired records of annual financial flows is examined below in Section D and

**CHART 5**  
**Financial Balances Between World Areas over the Five Years 1950-54:**  
**Six-Area Consolidation of the Two-Valued Matrix**  
*(arrow points from area debited to area credited; figures are placed adjacent to area of report; entries in boxes are the area's over-all balances)*  
*(million U.S. dollars)*



SOURCE: Table A-4.

NOTE: Balances adjusted to allocate unallocated transactions and reconcile the gold account.

<sup>a</sup> Of which 3542/3996 million dollars were balances to be settled in the direction shown within Continental currency areas; these balances were subject to large errors and omissions (see Chapter 3, Section D).

<sup>b</sup> Using Appendix Table C-1 and allocating unallocated petroleum sales of U.K. and U.S. companies. This allocation altered over-all error totals; all U.K. unallocated petroleum was taken as sold to U.K. military and charged to error in the U.K. account; all except \$42 million of U.S. company unallocated was taken as sold to U.S. military and charged to over-all error; the \$42 million was charged to Canada and Latin America.

need not be considered in detail here. We conclude that the accounting limitations of the record do not destroy its usefulness, although the deficiencies in recording unilateral transfers and capital discussed above in Chapters 2 and 3 should be borne in mind.<sup>1</sup> The largest relative divergence between paired unilateral transfers in panel ii of the chart was between the U.S. and other Western Hemisphere countries and International Organizations located in the U.S.; the most striking divergence in the capital account was between the U.S. and the U.K., although several other interarea flows (the U.K. with the Rest of the Sterling Area; Other Western Hemisphere countries and International Organizations with Continental OEEC countries) also showed large absolute and relative divergences (more than \$100 million and more than 50 per cent).

In contrast to net payments for services, which generally flowed from peripheral areas to the centers, unilateral transfers and capital flowed the other way on balance with few and relatively small exceptions.<sup>2</sup> Transfers from the U.S. consisted predominantly of government aid and flowed to every partner. There were also net transfers from the U.K. to every partner except the U.S. and Canada. They went to the Continent from every partner except Other Countries (we lack full reports on transfers between the Continent and the Overseas Territories).

Because of the large size of foreign grants by the U.S., adding them to goods and services reversed its

<sup>1</sup> Notably the omission of unilateral transfers and capital from the accounts of Soviet Bloc and oil-source countries and from the bilateral accounts of France and Portugal and their Overseas Territories. In addition, deficiencies in recording goods and services are reflected in the residual matrix of balances met by multilateral settlements. Omissions of transactions from both sides of paired records, while not affecting the over-all total of net transactions of that type (the over-all discrepancy), do alter the observed pattern of interarea flows. Thus, the over-all discrepancy in the net capital matrix is not affected by the omission of French financial transactions with the rest of the franc area but the flows shown in Chart 5 between Continental OEEC countries and their Overseas Territories would be changed if these transactions could be included.

<sup>2</sup> Small transfers appear to have gone from the Rest of the Sterling Area and Other Countries to the Continent, and a small capital flow from Other Countries went to the Continent. In the more detailed table Canada shows sizable private transfers to the U.S. and some to other countries. Other smaller exceptions can be observed: the U.K. had tiny transfers from Canada, and Latin America shows private transfers to the U.K., the Continent, and the U.S. Both the U.K. and Latin America show capital receipts from each other.

surplus before aid with three of the five partners in Chart 5 according to paired records and also with a fourth (Rest of the Sterling Area) in the U.S. record (it was greatly reduced on the partner record). The direction of the U.S. balance with Other Western Hemisphere countries was not altered by the inclusion of transfers with trade, nor were any of the relations shown in Chart 5 other than those with the U.S.

The capital matrix shows the Continental OEEC countries sending a large amount of capital to the U.S. which, in turn, sent capital to every other partner but mainly to the rest of the Western Hemisphere (including International Organizations in the U.S.). The U.K. sent substantial amounts of capital to each of the peripheral areas and drew capital from the Continent and the U.S. (the U.S. record, however, shows little capital flowing to the U.K.).<sup>3</sup> The Continent sent capital to every area except Other Countries (Table A-4).<sup>4</sup> The Rest of the Sterling

<sup>3</sup> The official U.K. account does not distinguish the U.S. as a partner. To estimate its transactions with the U.S. we have deducted from transactions reported with the dollar area transactions between the U.K. and the other countries which the official British accounting includes in the dollar area, using figures drawn from our accounts of those partners.

<sup>4</sup> The close agreement between paired entries of capital flow between Continental OEEC countries and Continental Overseas Territories and Other Countries reflects the common accounting for capital transactions between Belgium and the Belgian Congo (almost the whole of the capital flow shown in Tables A-4 and B-26 between Continental OEEC countries and Continental Overseas Territories) and the use of partner records to allocate unallocated capital transactions of Continental OEEC countries. The latter results in one value being shown in Table A-4 for the flow of capital between Continental OEEC countries and Other Countries. It will be seen from Table B-26 that the unadjusted records agree three years out of five on the direction of the flow of capital between OEEC countries and Other Countries and that the two years when the direction was not agreed the amount shown by Continental OEEC countries was less than \$10 million. The unadjusted records do not agree on the direction or magnitude of the flow over the five years (both showing an outflow), and in view of the large unallocated inflow in the account of Continental OEEC countries, we have used the partner area record in Table A-4.

The movement of capital between the Continent and its Overseas Territories is uncertain as to direction and may have been sizable (see footnote 1 in this chapter and footnote 17 in Chapter 3). Also see the U.S. Department of Commerce's *World Trade Information Service* reports on various of the Continental Overseas Territories and the United Nations studies of *The International Flow of Private Capital, 1946-52* (New York, 1954, pp. 23 ff.) and "Financing of Economic Development: The International Flow of Private Capital, 1953-55" (report by the U.N. Secretary

Area appears to have drawn capital from each of the five partner areas, and Other Western Hemisphere countries and International Organizations drew capital from the three centers and sent it to the other two peripheral areas. The outflow actually reflects the role of International Organizations, which channeled capital from each of the centers and Canada to the Rest of the Sterling area, Latin America, Overseas Territories, and Other Countries.

The capital flows in panel iv of Chart 5 modified the pattern of interarea balances for goods, services, and transfers in panel iii to the pattern shown in panel v. Capital flows made the balance between the U.S. and the Rest of the Sterling Area clearly in favor of the latter and reversed the balance of the latter with Other Western Hemisphere countries and International Organizations. Otherwise, net capital flows were not large enough to offset interarea balances for trade and transfers.

Comparing panel v with panel i, however, reveals that taking both capital and transfers into account results in balances opposite to trade balances in five out of fifteen interarea relations, i.e., the trading surpluses of the U.S. with four of its five partners (all except Other Western Hemisphere countries and International Organizations) and the trading deficit of the Rest of the Sterling Area with Other Western Hemisphere countries and International Organizations.

Panel v, which gives the balances covered by gold, multilateral settlements, and residual error, displays a nice symmetry. Each center ran a surplus with the peripheral area placed under it and a deficit with the other peripheral areas placed diagonally. Other Western Hemisphere countries and International Organizations ran a deficit with the Rest of the Sterling Area, which was in deficit with Overseas Territories and Other Countries, and in turn the last was in deficit with Other Western Hemisphere countries and International Organizations, thereby completing a circle. The U.S. was in deficit with the U.K., which was in deficit with the Continent; but here the symmetrical pattern of interarea balances is marred by an imperfection—the Continent was in surplus with the U.S. When gold transactions are taken into ac-

count, however, this departure from circularity disappears.

The conjectural nature of the gold account has been explained earlier.<sup>5</sup> The pattern of net gold trading in panel vi of Chart 5 is necessarily the result of our guesswork; it shows, first, net sales by the Rest of the Sterling Area to every partner and by the U.S. to every partner except the Rest of the Sterling Area; second, it shows net purchases by the Continent from every partner except Other Countries and by Other Countries from every partner.

## 2. Multilateral Settlements and Error

When the gold matrix is combined with the previously considered transactions, we arrive (panel vii) at the balance to be covered by multilateral settlements and error.<sup>6</sup> After taking account of gold purchases, we find that the Continental balance before gold (panel v) has been more than reversed by gold purchases from the U.S., and the Continent made settlements payments to the U.S. to cover gold payments in excess of its bilateral balance before gold. More will be said about this relationship in the next section where consideration will be given to evidence on reserve movements. No other interarea balances in panel v of Chart 5 were reversed by gold transactions.

With the Continent in deficit with the U.S. after gold transactions, we find the final circular flow of multilateral settlements between the six areas in Chart 5 perfectly symmetrical. It flows around the cylinder with paired entries agreeing in every instance on the direction of the balance, almost always on the order of magnitude of the balance (taking a 50 per cent divergence from the mean of paired entries as a criterion of agreement), and twice as often as not on the size of the balance to within 25 per cent of the mean.

The circularity of the flow of net multilateral set-

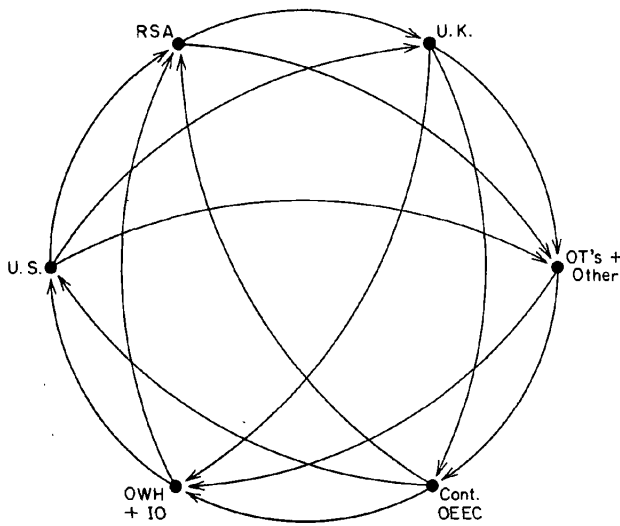
<sup>5</sup> See Chapter 2, Section A-1, p. 12.

<sup>6</sup> Multilateral settlements given on line 8 of Table A-4 are equal in magnitude but opposite in sign to the sum of entries for other types of transactions, the balances to be settled. The latter are plotted in Chart 5, panel vii (and subsequent charts in this book), since the position before settlement is analogous to the position one usually thinks of as the financial result of trading. A surplus position is shown by an arrow pointing (opposite the goods flow) toward the area in surplus. One thinks of money flowing in that direction and of a pattern of money flows from deficit to surplus areas.

General, June 21, 1956, mimeographed, pp. 34 ff). *Economic Development in Africa, 1955-56* (supplement to the United Nation's *World Economic Survey, 1956*), gives some data on public investment in several African territories (Tables 24, 25, and 26, pp. 81-83).

CHART 6

The Circular Flow of Multilateral Settlements over the Five Years 1950-54



tlements in the six-area consolidation of the two-valued matrix is emphasized by diagramming the flow in a fashion similar to that used by Hilgerdt and the League of Nations in the *Network* study.<sup>7</sup> If centers and peripheral areas are placed alternatively around a circle, as in Chart 6, then multilateral

settlements flow from any area to the next two or three ahead and are received from the three or two areas earlier in the sequence.

After allowing for the different convention employed in Chart 6 for the direction of arrows (see footnote 6 above), the reader acquainted with Hilgerdt's *Network* study will observe a formal similarity in pattern between the *Network* diagram of trade balances between areas in the interwar years and the flow of multilateral settlements over the years 1950-54 (with Hilgerdt's Regions of Recent Settlement standing in place of Other Western Hemisphere countries and International Organizations, with Non-Continental Europe standing in place of the U.K., with Tropics standing in place of the Sterling Area, with Continental Europe standing in place of Continental OEEC countries, and with Hilgerdt's Other standing in place of Continental Overseas Territories and Other Countries.)<sup>8</sup>

To investigate the reasons for this similarity, we have regrouped peripheral countries according to Hilgerdt's criterion and examined interarea balances over the five years 1950-54 for a grouping approximating that of the *Network* study. With both imports and exports valued f.o.b., the pattern of merchandise balances over the five years was found to conform in every respect but one with Hilgerdt's 1938 pattern

<sup>7</sup> *The Network of World Trade*, Geneva, 1942.

<sup>8</sup> Hilgerdt shows the following pattern of plus and minus balances between merchandise exports valued f.o.b. and imports valued c.i.f. in 1928 and 1938:

Balance of	U.S.		R.R.S.		Continental Europe		Non-Cont. Europe		Rest of World	
	1928	1938	1928	1938	1928	1938	1928	1938	1928	1938
Tropics										
Own record	+	+	+	+	+	+	-	+	+	-
Partner record	+	+	+	+	+	+	-	+	+	+
U.S.										
Own record			+	+	+	+	+	+	-	+
Partner record			+	+	+	+	+	+	+	+
Regions of Recent Settlement										
Own record					+	+	+	+	+	-
Partner record					+	+	+	+	+	+
Continental Europe										
Own record							+	+	-	-
Partner record							+	+	+	+
Non-Continental Europe										
Own record									-	-
Partner record									-	-

(*Network of World Trade*, Tables 44 and 48, pp. 77 and 90.)

The last two columns of this table reminds us that the direction of balances of areas with the Rest of the World was frequently ambiguous in Hilgerdt's data. Doubtless this ambiguity explains why he only charted relations between five areas. Note that the pattern of balances among the first five areas was the same in 1938 as in 1928, except that the balance of the Tropics with Non-Continental Europe was reversed.

(we do not have a clear-cut measure of the balance between the U.K. and the Continent). The Tropics ran merchandise surpluses with all three centers, a departure from Hilgerdt's 1928 pattern for the U.K. but like 1938.

Taking account of services, transfers, capital, and gold transactions, we found that among countries grouped in a way approximating Hilgerdt's pattern the flow of multilateral settlements over the five years 1950-54 conformed in almost all respects to the pre-war pattern for net trade (as it was then measured) and also in almost all respects to Chart 6. The latter similarity was studied in some detail and we can say that it is to be explained by three circumstances:

First, if peripheral areas are grouped as in Chart 6 or according to Hilgerdt's criterion, the pattern of multilateral settlements of these groups with the three centers (U.S., U.K., and Continental OEEC countries) is not usually typical of individual countries in each group but represents only a small minority.

Second, groupings do, however, include a majority of countries with balances directed, as the group's balance is directed, toward each center taken separately, irrespective of the direction of the balances with other centers.

Third, certain large countries (Canada in Regions of Recent Settlement and in Other Western Hemisphere countries, British Colonies in the Tropics and in the Rest of the Sterling Area, and Soviet Bloc in Other Countries in both groupings) exhibit the group

pattern of settlements with the centers and tend to set it.<sup>9</sup>

The adjustments to allocate unallocated transactions in arriving at Table A-4 are, of course, reflected in the flow of multilateral settlements depicted in Chart 5. They had the effect of improving the extent of agreement between paired entries in the matrix of multilateral settlements in contrast to the effect of widening divergence in the net goods and services matrix (see Chapter 4, Section A-3). In no case was the direction of settlements between the six areas in panel vii of Chart 5 altered by the adjustment.

The largest net settlements appear to run from a peripheral area to the economic center with which most of the countries in the group traded principally. The large net receipts of the Continent from Overseas Territories and Other Countries include, however, the \$3,542 million surplus in Continental OEEC accounts with own Overseas Territories (and \$3,996 million deficit in the accounts of Overseas Territories with their Own Currency Area). It will be recalled (Chapter 3, Section D, especially footnote 17) that this margin is balanced largely by error representing the omission of investment income, government and miscellaneous services, transfers, and capital movements between France and her Overseas Territories. If we were able to introduce the omitted transactions into the account, in combination they probably would eliminate or greatly reduce the surplus favoring the Continent.

### B. BILATERAL BALANCES, LIQUID ASSETS, AND MULTILATERAL SETTLEMENTS

The residual matrix of multilateral settlements of panel vii of Chart 5 has never before been constructed. Its meaning and significance must be explained. First, it should be related to the financial flows which are usually thought of as "settlements."

#### 1. Problem of Measuring Surpluses and Deficits

Since in any payments account the total credit and debit entries of all types of transactions should be equal, apart from error, the concept of a "payments balance" implies a division of transactions into two types: those thought of as being in some sense "basic" and the remaining transactions financing them. The same kind of distinction is drawn when one speaks of placing certain transactions "above

the line" and others "below the line." The latter are usually thought of as liquid assets—foreign exchange reserves and gold. Settlement of a country's payments balance is then thought of as an accumulation or loss of liquid assets. Multilateral settlements of the kind given in panel vii of Chart 5 should, conceptually, compensate, and are usually taken for granted

<sup>9</sup>The same explanation was found to account for a similarity which could be observed between the circular flow of multilateral settlements in Chart 6 and the flow between countries grouped by trading orientation (with U.S.-oriented countries standing in place of Other Western Hemisphere countries and International Organizations, with sterling-oriented countries standing in place of the Rest of the Sterling Area, and with Continental-oriented countries standing in place of Continental Overseas Territories and Other Countries).

or ignored. Concern usually is with a country's over-all gain or loss of reserves.

Actually, of course, the basic payments balance in a country's account with any individual partner may be offset both by changes in the liquid asset position with the partner and by the use of multilateral settlements. If it is able to meet its payments balance with every partner solely through multilateral settlement transactions and with no change in liquid asset position, the country would be in over-all balance. Otherwise it will use some combination of liquid asset transactions and multilateral settlements.

To prepare a table showing the basic payments balances between areas would require a definition distinguishing transactions to be considered part of the basic balance of each country from those to be considered liquid reserve assets. It would require, further, that this definition be the same in partner accounts. Identification of transactions according to the definition would also be required. In this book we have been able to present a gold matrix which treats gold (monetary or nonmonetary) alike in all accounts (see Chapter 2, Section A-2, and footnote 15), but we have not been able to surmount the problems of presenting a matrix of liquid capital assets and liabilities. For reasons given in Chapter 2, a special study of capital transactions was found necessary to make it possible to distinguish changes in assets and liabilities of different types—long- and short-term, official and private, etc. With further progress in the identification of different types of capital transactions, it may be possible to construct a matrix of liquid reserves. But, at best, such a matrix must be constructed according to an arbitrary standard defining the particular types of capital flows which are counted as reserves. Such an arbitrary standard cannot help but violate some country's own view as to changes in its reserve position since the treatment of liquid reserves is not symmetrical in all country accounts.

We have seen that gold transactions, for example, are not the same to South Africa (nonmonetary) and the U.K. (monetary). Similarly, private short-term capital flows may create liquid liabilities to one country without providing liquid reserve assets for another.<sup>10</sup> Countries cast up their balance of payments accounts in ways designed to reveal the finan-

cial problems they may meet under different circumstances. A country with an exchange control, formal or otherwise, may count private short-term assets abroad as reserve assets; another without controls may consider them unavailable at times of crisis and exclude them from consideration. Holdings of different types of marketable securities may be treated differently by different countries, some including them in reserves, some not. The task of producing a usable and defensible matrix of capital reserves is formidable.<sup>11</sup> We have not attempted such a task, but we can indicate from the accounts of the two main currency reserve countries, the U.S. and the U.K., how the official treatment by those countries of liquid liabilities to foreigners relates to the corresponding "payments balance" each had with partner areas and how these balances were offset by combinations of changes in liquid assets and multilateral settlements.

## 2. *Over-All Deficits of the U.S. and the U.K.*

Table 8 (column 5) shows the change in liquid U.S. and U.K. liabilities to partner areas over the five years, according to official U.S. and U.K. publications, in comparison with their other capital transactions (column 3) derived from the records of liquid capital transactions and the net capital matrix on line 6 of Table A-4. A "payments balance" is also calculated in Table 8 by combining other (i.e., non-liquid) capital with the net goods, services, and transfers balances of the U.S. and the U.K. with partner areas from Table A-4. The resulting balance (column 4) equals the negative of the sum of the offsetting financing transactions—changes in liquid capital (column 5) and gold transactions (column 6) and multilateral settlements (column 8), the last two items also being drawn from Table A-4.

Both the U.S. and U.K. experienced over-all payments deficits (column 4), the U.S. to the huge amount of \$10 billion, the U.K. about \$800 million. Thus, both the U.S. and the U.K. on balance sold liquid assets to the rest of the world, and every other area gained liquid assets. The U.S. deficit was offset by increased dollar liabilities to other countries, gold sales, and over-all net error in the ratios 4:2:1. The U.K. deficit was not as large as the increased sterling liabilities since some of these were offset by increased

<sup>10</sup> See Poul Høst-Madsen "Asymmetries Between Balance of Payments Surpluses and Deficits," *Staff Papers of International Monetary Fund*, July 1962, p. 182, and Walter S. Salant, et al., *The United States Balance of Payments in 1968*, Washington, 1963, p. 4.

<sup>11</sup> For a discussion of these problems, see Walther Michael, "International Capital Movements: The Experience of the Early Fifties, 1950-54," unpublished Ph.D. dissertation, Columbia University, 1965.



TABLE 8  
*Balance of Payments of the United States and the United Kingdom,  
 by Partner Areas over the Five Years 1950-54  
 (million U.S. dollars)*

Balance with	Goods and Services <sup>a</sup>	Unilateral Transfers <sup>a</sup>	Capital Other Than Liquid Assets <sup>b</sup>	Balance on Preceding Items (Cols. 1 + 2 + 3) <sup>c</sup>	Liquid Capital <sup>a</sup>	Gold Trans- actions <sup>a</sup>	Balance on Liquid Assets (Cols. 5+6)	Multi-lateral Settlements and Error <sup>a</sup>
A. BALANCES OF THE UNITED STATES								
All areas	12,557	-14,183	-8,438	-10,064	5,863	2,779	8,642	1,422
United Kingdom	404	-1,891	-14	-1,501	1	646	647	854
Rest of Sterling Area	401	-468	-986	-1,053	133	-69	64	989
Continental OEEC countries (incl. EPU)	3,080	-7,513	-104	-6,537	3,237	1,534	4,771	-234
Continental Overseas Territories	-470	-18	-56	-544	25	26	51	493
Canada	4,316	-25	-2,977	1,314	742	92	834	-2,148
International Organizations	140	-355	-512	-727	306	--	306	421
Latin America	3,152	-315	-2,470	367	603	293	896	-1,263
Other Countries	1,534	-3,598	-1,319	-3,383	816	257	1,073	2,310
B. BALANCES OF THE UNITED KINGDOM								
All areas	180	748	-1,740	-812	1,780	-1,200	580	232
Rest of Sterling Area	4,598	-413	-2,509	1,676	2,140	-1,312	828	-2,504
Continental OEEC countries (incl. EPU and Overseas Territories)	-2,953	-307	533	-2,727	60	785	845	1,882
United States	-601	1,615	466	1,480	250	-646	-396	-1,084
Canada	-1,133	2	-312	-1,443	60	--	60	1,383
International Organizations	-3	-118	-31	-152	-280	1	-279	431
Latin America	101	-6	258	353	-200	-32	-232	-121
Other Countries	171	-25	-145	1	-250	4	-246	245

<sup>a</sup> From Table A-4.

<sup>b</sup> Calculated from net capital shown in Table A-4 and liquid capital shown in col. 5.

<sup>c</sup> Col. 4 also equals, with signs reversed, the sum of cols. 5, 6, and 8.

<sup>d</sup> Increase in foreign liquid assets in the U.S. (or U.K.) or decrease in U.S. (or U.K.) foreign liquid liabilities. For the U.S., from lines so designated in the official payments statement, *Survey of Current Business, Balance of Payments Supplement* (1963); in this source "Western Europe" (including Finland, Spain, and Yugoslavia, 1952-54) approximates our Continental OEEC countries and "all other countries excluding sterling area" approximates our Continental Overseas Territories and Other Countries. To distinguish U.S. liquid capital transactions with Continental Overseas Territories, we have used the IMF *Yearbook* account of U.S. short-term liabilities and assets to and with foreign official

agencies and banks (for 1951-52, Vol. 5, U.S., pp. 2-3; for 1953-54, Vol. 6, U.S., pp. 5-6). For 1950, we have taken the short-term liabilities to foreigners reported by banks in the 1963 *Supplement* cited above (Tables 78 and 79).

For the U.K., figures for liquid capital are monetary movements (*U.K. Balance of Payments, 1946-57*, Table 9, lines 13-16) after deducting \$1,200 million of gold purchased; monetary movements with the dollar area have been attributed to the U.S. after deducting the amount shown for Canadian liquid capital accumulations with the Sterling Area as a whole. The latter are the short-term liability and asset changes shown in the IMF *Yearbook* accounts for Canada (Vol. 5, p. 15; Vol. 6, p. 1; and Vol. 7, p. 4). Since the dollar area also includes some Latin American and Other Countries, some of the monetary movements attributed to the U.S. may have been with them.

gold purchases which the U.K. made as trustee for the Sterling Area gold pool. Over-all net error in the U.K. account also provided a comparatively sizable offset to the U.K.'s payments deficit.

The incidence of over-all error in the two accounts is, of course, uncertain, but it is less likely to affect the U.S. and the U.K. records of liquid capital and gold transactions than their over-all payments balances. It is likely, therefore, that the latter are overstated by the amount of error. The way in which we have allocated U.K. gold sales may have introduced error into their regional distribution, and the residual regional distribution of multilateral settlements reflects both that error and error in the regional distribution of payments balances. In the following discussion we disregard the incidence of error and write as though the regional figures were precise, knowing full well that they are not and that it is only possible to make a general qualification for the incidence of error in the table.

At the same time as they accumulated liquid liabilities to other countries, both the U.S. and the U.K. invested heavily abroad: the U.S. to 85 per cent of its total payments balance; the U.K. to twice its total payments balance. The outflow of nonliquid capital (column 3 of Table 8) from the U.S. was considerably greater than its increased liquid capital liabilities and the outflow from the U.K. was about equal to the inflow of liquid capital. Thus, both the U.S. and the U.K. were in the position of borrowing short while lending or investing long.

The over-all payments deficits of both the U.S. and the U.K. were associated with net unilateral transfer debits which were large in comparison. The U.S. deficit was considerably exceeded by the total of its unilateral transfer debits (mainly foreign aid); the U.K. deficit was exceeded by the net unilateral transfers (\$869 million) it made to countries outside the dollar area from which it received aid. Both the U.S. and the U.K. thus "gave away" their payments deficits and the corresponding accumulation of liquid assets by other countries. The U.K. giving, however, was associated with even larger aid received from the U.S. and could be said to have been made possible by U.S. giving.

Altogether, the U.S. and the U.K. accounts show net sales of liquid assets (column 7) to other countries totaling \$9.2 billion, and in addition other countries and international institutions accumulated the gold that was newly mined during the five years and that did not go into the arts or hoarding. Total

(non-Soviet) world gold reserves increased \$1.9 billion over the period.<sup>12</sup>

### 3. Continental European Surpluses

Of the liquid assets sold by the U.S. and the U.K., Continental OEEC countries (and the European Payments Union) acquired \$5.6 billion, an amount about equal to the published increase in the gold and foreign exchange reserves by the area (\$5.9 billion).<sup>13</sup> They bought gold from both the U.S. and the U.K., but their main accumulation of liquid capital was in dollar assets (\$3.2 billion); their net increase in sterling assets was less than \$100 million. Continental purchases of liquid assets from the U.S. and the U.K. were part of the offset in each case to the large payments surplus the Continent and associated territories ran with the two financial centers. Indeed, the deficits of the U.S. and the U.K. with the Continent and associated Overseas Territories represented half the total U.S. payments deficit and considerably exceeded the U.K. over-all deficit. The Continent not only invested all of its bilateral payments surplus with the U.S. in liquid assets, but its purchases of such assets (column 7) exceeded the surplus (column 4) by more than \$200 million, an excess met by Continental earnings from other areas and easily covered, in particular, by the U.S. deficit and multilateral settlements payments to Continental Overseas Territories.

The relationship between the U.S. and Continental OEEC countries was the only one among those shown in Table 8 in which a partner area both ran a surplus with the U.S. (or the U.K.) and used earnings from other areas, as well as the surplus, to increase its purchases of liquid assets from the U.S. (or the U.K.). Since the U.S. and U.K. were the only financial centers of the non-Soviet world where other countries held significant reserves, a complete record of payments balances and liquid asset flows between world areas would be unlikely to show another such situation.

### 4. Main Multilateral Links

Except for the U.S.-Continental relationship, the payments balances of the U.S. and the U.K. with in-

<sup>12</sup> *International Financial Statistics, Supplement to 1963/64 Issues*, p. iv. The total includes Russian gold sold to non-Soviet Bloc countries.

<sup>13</sup> *Ibid.*, pp. iii and iv, including gold held by the European Payments Union and the Bank for International Settlements.

dividual areas were mostly offset by multilateral settlements. A large part of what each area earned from or paid to the U.S. or the U.K. (including U.K. earnings from the U.S.) was linked to its payments position with third areas. Peripheral areas trading principally with the U.S. (Canada and Latin America) and with the U.K. (the Rest of the Sterling Area) transferred multilateral settlements earnings from third partners in excess of their need to meet their payments deficits with the associated center, and with the excess they accumulated liquid assets in the associated center (column 7). The accumulations of assets by the Rest of the Sterling Area in the U.K. and by Canada and Latin America in the U.S., each in the range of \$800 to \$900 million, accounted for a good part of the total accumulation of liquid assets outside the two centers.

Canada was almost equally in payments surplus with the U.K. and in deficit with the U.S., and its multilateral settlements receipts from the U.K. unquestionably went to meet its payments deficit with the U.S. At the same time the U.K. surplus with the U.S. was only a little more than its deficit with Canada, and it is plain that, through multilateral settlements, the U.K. used its payments surplus with the U.S. mainly to meet its payments deficit with Canada. (Indeed, a good part of U.S. official aid to the U.K. during these years was directly used to finance U.K. purchases of Canadian wheat.) Part of the U.K. surplus with the U.S. was also used to buy gold from the U.S.<sup>14</sup> The payments surpluses and deficits among the U.S., the U.K., and Canada were thus interrelated via multilateral settlements.

Whereas the U.K.'s payments surplus with the U.S. enabled it to meet a deficit with Canada, its payments surplus and liquid asset transactions with the Rest of the Sterling Area enabled it to cover a deficit with the Continent. At the same time the Continental surplus with the U.K. was used to meet its deficit with the Rest of the Sterling Area. Transactions between the Continental currency areas and the Sterling Area during these years were, in fact,

<sup>14</sup> The U.K. record appears to imply a sale of liquid capital to the U.S. although this does not appear to have occurred from the U.S. account. The U.K. is separately specified as a partner in the U.S. account, but the U.S. is not distinguished from the other dollar countries in the official U.K. account. It is possible that the \$250 million of liquid capital shown in Table 8 as sold to the U.S. was sold rather to dollar countries in Latin America or the Eastern Hemisphere (see note d to Table 8).

settled through the European Payments Union. The U.K. payments balance with the Rest of the Sterling Area was not a great deal larger than its gold purchases there (mainly newly mined and mostly from South Africa), and its multilateral settlements receipts from the Rest of the Sterling Area were not much more than the latter's accumulations of liquid claims in the U.K. Considering that the accumulation of the sterling balances over the period was in good part by British Colonies, the surpluses of the latter with third areas (notably the U.S. and primarily in the trade account) were a great help to the U.K. in financing its deficit with the Continent.<sup>15</sup> The Continent, looked at from its side, ran a deficit on the order of \$3 billion with the Rest of the Sterling Area (Chart 5) and a surplus of some \$2.5 billion with the U.K. (Table 8, column 4). Its purchases of gold from the U.K. amounted to about 30 per cent of its basic surplus with the U.K., but most of its surplus was available to meet its deficit with the Rest of the Sterling Area. Thus, the payments surpluses and deficits among the U.K., the Rest of the Sterling Area, and the Continent were related to each other through multilateral settlements, a vital fact underlying the European Payments Union.

Next to the Continental OEEC countries, Other Countries (including the war-damaged Asian countries) received the most U.S. aid in the period, enough to give the group a large payments surplus with the U.S. It used about a third of the surplus to accumulate liquid dollar claims and gold (column 7) and the remaining \$2.3 billion to make multilateral settlements. In addition, although it was about in balance bilaterally with the U.K., it drew down sterling balances by \$250 million to make multilateral settlements. These multilateral payments by Other Countries contributed some \$1.3 billion to the multilateral receipts of the Continent over the period (Table A-4).

<sup>15</sup> The account for British Colonies (which excludes British Arabian Gulf oil-source countries), shows the Colonies' deficit to be settled with the U.K. amounting to \$0.8 billion and its surplus to be settled with the U.S. amounting to \$1.8 billion. The group also had a surplus with the Continent but large deficits with Other Countries.

The accumulation of sterling balances by the British Colonies has been studied by Ida Greaves (*The Colonial Sterling Balances*, Essays in International Finance, No. 20, Princeton, 1954) and by A. Hazelwood ("Colonial External Finance Since the War," *Review of Economic Studies*, 1953-54, Vol. XXI (1), No. 54 p. 31).

Latin America, like Other Countries, accumulated reserves in the U.S. while drawing down sterling balances, but, unlike Other Countries, its gain in dollar reserves came from multilateral receipts from countries other than the U.S. and the U.K. Table A-4 shows that these sources were largely Continental Overseas Territories—i.e., the Netherlands Antilles.<sup>16</sup>

Table 8 gives us only a partial view of the way in which payments balances between areas, movements in reserves, and multilateral settlements were interrelated. But since the U.S. and U.K. were the principal reserve centers, we can judge that payments balances in the other interarea relationships in Table A-4 (i.e., between Continental OEEC countries and peripheral areas and among the latter) are approximately measured by the balances for goods, services, transfers, and capital (panel v of Chart 5) and that liquid asset flows were not much more important than the gold flows alone. In these other relationships it is most likely, therefore, that the bilateral surpluses and deficits were predominantly offset by multilateral settlements rather than by the creation or extinction of liquid claims.

Another important feature of the record is that peripheral areas made up of countries oriented toward one or the other of the two reserve centers, the U.S. and U.K., accumulated exchange reserves in, or bought gold from, the center with which they traded principally, apparently "banking" earnings realized from other areas. One can readily see that at other times these peripheral areas would have to reverse the

process and liquidate reserves in the associated center to settle payments deficits with third areas.

From this review of the additional information given in Table 8 it can be concluded that the multilateral settlements flows in Table A-4 were a reflection primarily of interarea payments balances but also of transfers of funds into and out of liquid assets in the two main reserve centers, and that, moreover, the U.K. served in this capacity mainly for the Rest of the Sterling Area and the U.S. for the world at large.

If one wishes to explore causal connections among payments balances, liquid asset flows, and multilateral settlements, one must look beyond the record of payments transactions to the private and public practices and policies affecting them. While multilateral settlements are necessarily calculated as a residual, they cannot be explained merely as the net effect of all other transactions. For example, one could scarcely assign a main causal role to the additions to the dollar and gold holdings of Canada and Latin America or to the sterling balances of the Rest of the Sterling Area during the period. These additions as well as the multilateral transfers accompanying them reflect rather these countries' payments surpluses with third countries. Multilateral settlements were an intermediate step in the accumulation of asset holdings, and more fundamental causes lay behind the emergent payments surpluses and the regime of financial practices which permitted such multilateral settlements to occur or even provided for financing them (e.g., by U.S. official aid).

### C. MULTILATERALISM AND THE MEASUREMENT OF MULTILATERAL SETTLEMENTS

#### 1. *The Concept of Multilateralism*

The concept of multilateralism in world trade is widely and loosely used to describe a trading system among countries by which they achieve a greater measure of specialization and greater gains from trade through selling and buying in the most favor-

<sup>16</sup> The Venezuelan account shows multilateral settlements earnings by Venezuela from Continental Overseas Territories of \$3,244 million over the five years; the Netherlands Antilles account shows multilateral settlements payments to Latin America of \$2,184 million for the same period. Venezuelan exports (mostly of petroleum) to the Netherlands Antilles were \$3,049 million in the period. Petroleum product trade was evidently of major significance, and sales were heavily to the Continent.

able markets, irrespective of whether trade with any particular partner country or area is balanced. A multilateral system of trading contrasts with a bilateral system in which partners balance their trade with each other. Under a bilateral system, the necessity for limiting trade to exchanges which will just balance poses the same kind of difficulty to countries that barter does to individuals: it is difficult to find the trading partners with a set of demands exactly complementing one's own. Economic efficiency is served by a money economy in which specialization can develop, where output is sold for money, and money spent where supplies are cheapest. Multi-

lateralism in international trade is an extension of the fundamental freedom of choice provided by a market economy. The abandonment of bilateralism and the restoration of a multilateral system of trade and payments relations among nations have been two faces of a cornerstone of Western international economic policy in the postwar era.

Under a multilateral trading system, deficits which a country runs with some partners are offset by surpluses with other partners. Country *A* balances its deficits with partner *C* through a surplus on country *B*; *B* covers its deficit with *A* by its surplus on *C*; *C* meets its obligation to *B* by drawing on its surplus with *A*, closing the circuit.

This simplified view of multilateralism is generally expounded in terms of merchandise trade only. The textbook usually assumes that there are no capital flows, unilateral transfers, or gold payments; net merchandise trade patterns are equated with final multilateral settlements. Payments flows are thought of as running opposite to trade flows. In fact, of course, capital flows may offset some or all of the bilateral trade balances. Indeed, given the variability and dynamic character of world trade, such a system requires that its members be able and willing to take a long view and to finance temporary disparities by the use of reserves or borrowing rights—by liquid asset flows such as we studied in Table 8 above.

Textbooks do not usually treat this complexity, but in theory it is easily handled. International assets represent claims on future production. Capital flows represent intertemporal exchanges, trades of current for future production. So we then think of the balances after allowing for such exchanges. Unilateral transfers are of a different nature; they represent current production provided without giving rise to future claims. They, too, must be taken into account. The interarea balances then remaining must balance off in each country's account. While the over-all balance of each country account should be zero (apart from error), surpluses or deficits may exist with individual partners, and these offsetting balances constitute the element of multilateralism in world trade and payments.<sup>17</sup>

<sup>17</sup> Michael Michaely finds that this approach offers conceptual difficulties. Focusing on the bilateral or multilateral character of trade (including services), he is troubled by situations in which bilateral surpluses or deficits are offset by the accumulation or use of short-term assets: "One cannot, therefore, term these transactions as either 'bilateral' or 'multilateral' " ("Multilateral Balancing in International Trade," *American Economic Review*, Septem-

The multilateral character of international transactions was largely ignored in the textbooks until the pre-1913 gold standard system of international payments with multilateral clearing of transactions through London and New York was interrupted by World War I and by the mismanagement of domestic and international economic relations in the interwar period. The system of trading between countries became in the 1930's increasingly subject to government intervention. Quantitative restrictions, exchange controls, bilateral trade agreements, and clearing accounts proliferated. In these circumstances, efforts of each country to improve or to safeguard its position worked to shift burdens to other countries. World trade dwindled as each country in self-defense bought less from the others.

In an effort to show what had happened, the League of Nations published *The Network of World Trade* in 1942, describing how the whole world made up a trading system in which each country offset balances with partners in a multilateral network.<sup>18</sup>

ber 1962, p. 686). Situations in which bilateral trading balances are offset by long-term capital transfers he finds equally troublesome. Here he recognizes the possibility of taking the exchange of goods for financial assets into account and calls it bilateral between *A* and *B* if *B*'s loan to *A* finances *B*'s exports to *A* and calls it multilateral if the proceeds of *B*'s loan finances *A*'s imports of goods from *C* (*ibid.*, p. 687). He also finds conceptual difficulties where goods and services are offset by unilateral transfers.

One suspects that, if Michaely had had a more complete record, he would not have been so troubled by these "conceptual difficulties," nor would he have limited his analysis to country situations where the over-all (merchandise) trade account was close to balance (he is unable, in practice, to include services and so relies on merchandise figures). I see no conceptual difficulty in extending the notion of a trade to include exchanges of current production for claims on future production and consider that Michaely's arguments do not justify relying upon an inadequate record for his analysis. It will be plain from the matrixes in this book and in the underlying country accounts that services must not be ignored and that enough can be known about financial transactions between world areas to take them also into account. However, for an analysis of multilateralism between countries such as Michaely has attempted, the only available record distinguishing country partners is the merchandise (customs) record.

<sup>18</sup> "When the [League's] work started, . . . it was thought possible that the chief balances of trade might be accounted for by triangular or multilateral settlement within smaller groups of countries and that only minor balances might have served settlement among the groups. The fact that all but a few countries partook directly in a world-wide system of settlement naturally stresses the importance of international interdependence so frequently overlooked in the past." (Folke Hilgerdt, "The Case for Multilateral Trade," *American Economic Review*, March 1943, p. 394). The League's regional grouping of countries differs from that employed in our two-valued matrixes.

While the *Network* examined only the pattern of merchandise trade, the existence of other types of transactions was recognized. The merchandise figures were used because of their overwhelming importance and because "they give a clue to the manner in which payments on account of other transactions are settled."<sup>19</sup> However, not until now, when we have a record of transactions not only for merchandise trade but also for services and for the accompanying financial flows, has it been possible to develop quantitative data on the extent to which areas engaged in the multilateral compensation of surpluses and deficits.

## 2. Components of the Final Matrix of Multilateral Settlements

The multilateral settlements matrix emerges after we take account of all other types of transactions including offsetting flows of liquid assets. The close interplay between these flows of liquid assets and multilateral settlements has been observed a few pages above in connection with Table 8. It may seem, as it has to some, that one should try to produce a record of multilateral settlements before entering asset flows, especially flows of monetary reserves and other liquid capital, or that one should try in other ways to measure the particular contribution of, say, merchandise trade or merchandise trade and services to multilateral settlements. I believe that such an approach is based on a misconception and that the attempt to measure multilateral settlements, or the contribution to multilateral settlements, on a less aggregative basis than that employed here does not accord with reality and does not yield concepts susceptible of statistical measurement, at least in the present state of knowledge.

To examine the issue, let us first suppose that international transactions are limited to merchandise trade and that each country balances its over-all trade account, offsetting deficits with some partners

by surpluses with others. Next, assume that this situation is changed by flows of capital accompanied by increased trade between each pair of countries. In each bilateral relation the flow of capital may be either greater or smaller than the change in merchandise trade. Bilateral balances (and multilateral settlements) are, therefore, changed from the initial situation but continue to offset each other, so that each country is in over-all balance.

The outcome, then, is a matrix of multilateral settlements combining (a) the initial multilateralism in merchandise trade when there were no capital flows and (b) the additional element of multilateralism introduced by capital flows and the associated changes in merchandise trade. To extend this hypothetical example, we could also distinguish a multilateral element in unilateral transfers as the sum (having regard for sign) of such transfers and the associated changes in trade between paired countries. And we could similarly distinguish services from merchandise, and liquid claims and gold from other assets. Then we could say that the final matrix of multilateral settlements was the sum of the initial multilateralism in trade alone and the additional elements of multilateralism introduced by each new component.

Note, however, that in the example given the inter-area pattern of merchandise trade balances with capital flows differs from that prevailing before capital flows were introduced. And so it is as each new component alters the previous pattern of settlements not only by the new component itself but also by its effect on other components. In the real world, therefore, we cannot determine the contribution of any one component to multilateral settlements without knowing how it has been affected by other components of the final matrix.

A similar statement can be made about attempts to measure the element of multilateralism in a matrix combining all types of transactions down to a line which excludes certain balancing items. Some writers have been interested in the pattern of multilateral payments on such a basis. Frisch, for example, was concerned with a multilateral balance of payments on all transactions except the transfer of liquid means of payment; Ekker was prepared to consider the equilibrium component within a system defined with reference to the European Payments Agreement of 1948 in which certain payments were left outside the clearing arrangement.<sup>20</sup> Both of these writers

<sup>19</sup> *Ibid.*, p. 393. Several writers on multilateral trade have used the term trade analytically in a sense broader than merchandise but, in the absence of a quantitative record for other transactions, they drew for illustration on Hilgerdt's work or other merchandise trade figures. Cf. Ragner Frisch, "On the Need for Forecasting a Multilateral Balance of Payments," *American Economic Review*, September 1947, pp. 535 ff.; M. H. Ekker, "Equilibrium of International Trade and International Monetary Compensations," *Weltwirtschaftliches Archiv*, Vol. 64, No. 2, 1950; Karl-Erik Hansson, "A General Theory of the System of Multilateral Trade," *American Economic Review*, March 1952 pp. 58 ff.

<sup>20</sup> See footnote 19 above.

worked with a record of merchandise trade only. If they had had a full accounting and had sought to set forth the multilateralism of the matrix of transactions down to the line they drew, they would have been confronted with the necessity of trying to infer it from a record which at most gave the final multilateral settlements after taking account of liquid assets and the other types of transactions they wanted to exclude. They would have had to ask how the system of payments flows would have looked if there had been no liquid asset flows, and this would have involved introducing a functional relationship between such financing and the other types of transactions.

This is equivalent to asking how different the matrix of multilateral settlements in panel vii of Chart 5 would have been *if* there had been no gold transactions or no liquid capital asset flows. The answer must depend on how the whole set of accounts would have been affected by a different historical set of conditions and decisions. Would Continental countries have spent the proceeds, which they used to buy assets from the U.S., for more goods and services in the U.S.? Or in other countries? Would such an effort have bid up world prices and effected trading balances between other areas? Would the U.S. have extended less aid? Would more European capital have been invested in the U.S. over the long term? Would exchange rates have been altered? And so on. To ask such questions emphasizes the theoretical character of "elements of multilateralism" for any part of the whole.

The only way we could hope to measure these elements in the system contributing to the multilateralism of the final matrix after all types of transactions—i.e., the only way we could resolve the final multilateral matrix into components attributable to multilateralism in merchandise, services, transfers, etc.—would be to know the functional relationships between changes in one type of transaction and changes in the others. We would need to be able to say what the trade matrix would look like in the absence of asset flows and how asset flows would alter it. This we cannot say in our present state of knowledge about international economic life.

Moreover, in my opinion the effort to resolve the final matrix of multilateralism into such components in order to isolate a basic element of multilateralism, say, in goods and services trade or in merchandise trade alone, is not a fruitful exercise. The theoretical

justification for seeking such an element of multilateralism lies in the desire to observe how economic specialization in international economic life and the division of labor among countries is working out. Now the division of labor among countries and economic specialization relevant to the real world goes beyond specialization in the current production of goods and services. It includes specialization in the supply of savings for investment; it may include, in the case of the United States, the function of providing a currency capable of serving as a reserve medium for other countries; for the U.K., it would also include buying gold newly produced in South Africa and selling it to hoarders on the Continent; it even includes the function assumed in the postwar period by the better-off countries of subsidizing the purchasing power of poorer countries in the interest of creating a better world. In short, the character of specialization and the division of labor which is interesting is the one which encompasses all the transactions in the full set of payments accounts.

### 3. Amount of Multilateral Settlements

The matrix on line 8 of Table A-4 is a statistical expression of the element of multilateralism in payments relations among the eight world areas and supplementary accounts distinguished in the table. Except for error, credit and debit entries on that line for each area would be exactly offsetting. The amount of multilateral settlements in the eight-area system would then be given by the sum of all credit entries or, equally, by the sum of all debit entries.

The result of summing credits and debits for each area in the matrix is given in Table 9. Since the record is imperfect, the sums of credits and debits are not equal. Interarea credits in the consolidated five-year record totaled \$37.2 billion and interarea debits \$33.4 billion. The difference, \$3.8 billion, is accounted for by \$1.5 billion of intra-area balances (which should be zero) and \$2.3 billion of over-all error. The last figure is larger than the \$29 million given in the tables in Chapter 3 because of the adjustments made to allocate unallocated transactions and reconcile the gold account.

The biggest errors in the record affecting the settlements matrix are those noted in footnote 1 of this chapter. It seems likely that a more complete accounting of transactions between France and her Overseas Territories would result in a multilateral

TABLE 9  
*Offsetting of Credit and Debit Balances in  
 Interarea Settlements over the Five Years 1950-54  
 (million U.S. dollars)*

Balance Reported by	Over-All Balance <sup>a</sup> (1)	Intra-Area Balance (2)	Balances with Partner Areas	
			Sum of Net Debits (3)	Sum of Net Credits (4)
United Kingdom	232		-3,967	4,199
Rest of Sterling Area	-15	-697	-4,251	4,933
Cont. OEEC countries	-2,644	-1,252	-6,798 <sup>b</sup>	5,406 <sup>b</sup>
Overseas Territories	4,161	5	-2,397	6,553 <sup>b</sup>
EPU	98		-290	388
United States	1,422		-3,645	5,067
Canada	-5		-3,357	3,352
Internat. Organiz.	0		-1,156	1,156
Latin America	-680	387	-4,139	3,072
Other Countries	-290	28	-3,390	3,072
<b>Total</b>	<b>2,279</b>	<b>-1,529</b>	<b>-33,390</b>	<b>37,198</b>

SOURCE: Table A-4, line 8.

<sup>a</sup> Sum of columns 2, 3, and 4.

<sup>b</sup> Balance with Own Currency Area counted separately.

settlements record closer to the smaller of the two sums in each account. It is not clear how correcting the error in the Continental OEEC account represented by the intra-area settlement debit (offsetting an over-all excess of credits in the account) would affect interarea balances, nor what the incidence of the other errors in the accounting would be.

The calculation in Table 9 has been made from the consolidated account for the whole five years. The same kind of calculation made for each of the five years (but using Table B-28 in which unallocated transactions remain unallocated) showed a total of interarea net debits of \$37.7 billion and credits of \$43.6 billion, indicating that intertemporal offsetting within area accounts was on the order of \$5 billion over the period. Another calculation for peripheral area countries, grouped homogeneously according to their pattern of incurring surpluses or deficits to be settled with the U.S., the U.K., and Continental OEEC countries, over the whole five years gave totals for interarea credits and debits \$10 billion larger than can be observed from Table A-4.<sup>21</sup>

<sup>21</sup> Total credits and debits with the three centers came to \$25.5 billion and -\$20.3 billion, respectively, compared with \$14.6 billion and -\$10.7 billion summed up from Table A-4. In both sums (and as well the sums in Table

Evidently, even larger totals for international balances to be settled multilaterally could be obtained if country accounts could be elaborated by partner country rather than by partner area.<sup>22</sup>

The total of multilateral settlements within the eight-area matrix over the five years, a figure on the order of \$35 billion, can be compared to the total of interarea trade in goods and services (excluding intra-area trades) which amounted over the five years to \$393 billion, taking the mean of lines A and B in Table A-1. Thus, multilateral settlements were about 9 per cent of gross trade in goods and services. This comparison has a limited meaning since the

9) the balances to be settled within their Own Currency Area by Continental OEEC countries and by Continental Overseas Territories have been distinguished and International Organizations have been included as a peripheral area (but the European Payments Union account has been excluded since it is essentially a mechanism for providing capital accommodation and for making settlements between economic centers).

<sup>22</sup> Another measure of multilateral settlements could be derived from Table A-4, line 8, by taking the mean of each set of paired entries in the two-valued matrix. Since one record is a credit entry in the matrix and the other a debit entry, and since each entry is entered in either column 3 or column 4 of Table 9, the result of such a calculation would necessarily be the mean of the totals of columns 3 and 4, or \$35 billion.



flow of multilateral settlements is related to all types of interarea transactions, not just to trade.

Even so, a comparison over a period of years of the way the sum of credits or debits in the multilateral settlements matrix developed in relation to gross trade might help to show whether multilateralism was increasing or decreasing. As further discussed below, however, the more important use of data such as those developed here showing the pattern of multilateral settlements is in providing a better basis for judgments about economic and financial interrelationships and how they are affected by policy changes.

#### 4. Significance of the Multilateral Settlements Network

Apart from limitations of measurement, to be discussed below, the record we have of multilateral settlements is of significance primarily for the light it sheds on the circular flow of purchasing power underlying international economic relations and for the

expression it gives to the existing economic interdependence of world areas. One such expression was observed above in Table 8 where the basic balances of the U.S. and U.K. with partner areas were shown to be offset by various combinations of liquid asset flows and multilateral settlements. This kind of examination indicates the extent to which particular bilateral relationships were dependent upon multilateralism in the system in the broadest sense. The existence of such a dependence and the pattern of interdependence to which it is related have often been overlooked. Few have appreciated the significance of offshore purchases by Europe in other parts of the world financed by Marshall Plan Aid in strengthening the ability of third areas to buy in the U.S. during the 1950-54 period. The multilateral settlements matrix, while not measuring this particular element of multilateralism in U.S. aid, does reflect it.

Not many observers and analysts of the negotiations between the U.K., the countries of the European Common Market, and other Continental countries are aware of the underlying circular flow of

TABLE 10  
Distribution of Nonsterling EPU Countries by Pattern of  
Balances to Be Settled with Nonsterling EPU Area, U.S.,  
and Sterling Area, over the Five Years 1950-54 <sup>a</sup>

	With Nonsterling EPU Area <sup>b</sup>	With U.S.	With Sterling Area	
			Plus	Minus
Plus	[	Minus	[ Netherlands <sup>c</sup>	Belgium <sup>c</sup> W. Germany <sup>c</sup>
		Plus	[ Belgium Congo <sup>d</sup>	France <sup>c</sup> Surinam <sup>d</sup> Portug.OT's <sup>d</sup>
Minus	[	Minus	[ Denmark Switzerland Sweden French OT's <sup>d</sup>	Austria Portugal
		Plus	[ Norway <sup>c</sup> Italy <sup>c</sup>	Greece Turkey

SOURCE: Country accounts, NBER files.

<sup>a</sup> Nonsterling EPU countries listed do not include the Netherlands Antilles.

<sup>b</sup> Balances with nonsterling EPU partner area exclude transactions within Continental currency areas (see Chapter 2, Section 2, A-1, for discussion of grouping countries).

<sup>c</sup> European Common Market countries.

<sup>d</sup> Overseas Territories of Common Market countries.

TABLE 11  
Balances to Be Settled Multilaterally by Nonsterling  
EPU Subgroups with the Sterling Area and Nonsterling  
EPU Area, over the Five Years 1950-54  
(million U.S. dollars)

	Sterling Area	Nonsterling EPU Area (Other's Currency Areas)
Six Common Market countries	-800	2,265 <sup>a</sup>
Overseas Territories of Common Market countries (excl. Netherlands Antilles)	226	252 <sup>a</sup>
Total Common Market countries	-574	2,517
Scandinavian countries and Switzerland	1,337	-2,189
Austria, Greece, Turkey, Portugal and its Overseas Territories	-475	-542

SOURCE: Country accounts, NBER files.

<sup>a</sup> Excludes balances within Continental currency areas (e.g., excludes balance of France with rest of franc area and of French Overseas Territories with France).

multilateral settlements linking them.<sup>23</sup> Examination of country accounts underlying the multilateral settlements matrix for 1950-54 shows that Continental OEEC countries and their Overseas Territories were distributed according to the direction of their balances to be settled with the U.S., the Sterling Area, and the non sterling EPU area, as in Table 10. Balances to be settled multilaterally by the several parts of the nonsterling EPU area over the five years with the Sterling Area and the nonsterling EPU area can be seen in Table 11.

A striking feature of the Common Market is the way in which it drew a line between Continental countries in surplus with the Continent and those in deficit. Except for Italy and French Overseas Territories, the Common Market group lies in the upper bank of countries in Table 10 and includes all countries in the nonsterling EPU area which ran surpluses with that area except Portuguese Overseas Territories. The Common Market group as a whole was heavily in surplus with the rest of the Continent and substantially in deficit with the Sterling Area. The sterling deficit reflected the preponderance of Belgian, French, and German positions—Italy, Netherlands, the Belgian Congo, and French Overseas Territories had sterling surpluses.

<sup>23</sup> The six Continental countries of the European Common Market are Belgium-Luxembourg, France, Italy, Netherlands, and West Germany.

In the years prior to the crystallization of the Common Market trading arrangement, the circular flow of multilateral settlements within the EPU was from the Sterling Area to Scandinavia and Switzerland, from there to the Common Market countries, and then back to the Sterling Area. Negotiations over the best way to organize economic relations were conducted against the backdrop of these relations. The countries that ultimately joined up with the U.K. in a free trade area were heavily in surplus with the Sterling Area. The Common Market country that most strongly supported British participation in the Common Market (the Netherlands) was also heavily in surplus with the Sterling Area (to the extent of \$1,013 million over the five years; Italy's surplus was much less, \$210 million). France, Belgium, and West Germany all ran sterling deficits.

The "paradoxical" apprehensions of the Swiss and Scandinavians over the "direct consequences" of the Common Market movement untempered by the broader arrangement for a free trade area become understandable.<sup>24</sup> Already in deficit to the Common

<sup>24</sup> "What Future for EPU," *London Economist*, May 24, 1958, p. 715. About these apprehensions, the *Economist* observed further:

"They have been quick to point out that they buy more from the six common market countries than they sell to them; therefore, they say, they provide the common market as a whole with currencies which its members can spend freely elsewhere. They are not keen on supporting a system

**TABLE 12**  
*Balances of Sterling Area Subgroups to Be Settled Multilaterally with  
 Nonsterling EPU Area Subgroups, over the Five Years 1950-54*  
 (million U.S. dollars)

	Sterling Area Report	Partner's Report
U.K. balance with:		
Continent	-1,482	-1,579
Continental Overseas Territories	-658	-765
European Payments Union	258	262
Rest of Sterling Area balance with:		
Continent	3,022	2,803
Continental Overseas Territories	-159	-213
European Payments Union	10	6
Sum of pluses	3,290	3,071
Sum of minuses	-2,298	-2,557
<b>Balance of Sterling Area</b>	<b>991</b>	<b>514</b>

SOURCE: Table A-4.

Market countries, the Continental countries of the European Free Trade Area saw in the Common Market development the prospect that the deficit would increase under the impact of discrimination.

Another eddy in the world-wide circular flow of multilateral settlements is helpful in understanding the British attitude toward trade with the Soviet Bloc. The pattern of multilateral settlements in the payments account of the Soviet Bloc with the free world shows a large Soviet deficit with the Rest of the Sterling Area met by net receipts from the U.K. The account about balanced with the whole Sterling Area. A mutuality of interest among parties to the triangular relationship is apparent (in spite of deficiencies in the account).<sup>25</sup>

of multilateral payments through EPU which would be conspicuously to the advantage of the common market countries, and even less keen on the tariff discrimination that the common market, they fear, will exert against them."

<sup>25</sup> The account also shows sizable net credits realized, apparently, from the U.S. and Canada covering deficits of the Soviet Bloc with the Continent, Latin America, and Other Countries. It is necessary to say "apparently" for some of the dollar earnings were actually realized in the first instance by middlemen. The U.S. account of trade with the Soviet Bloc shows imports of goods *originating* in the Bloc, and some of the goods in question came to the U.S. indirectly via middlemen mainly in Europe and the Far East. See *World-Wide Enforcement of Strategic Trade Controls*, Third Report to Congress on the Mutual Defense Assistance Control Act of 1951, Washington, 1953, p. 87.

A further interesting feature of the multilateral settlements flow and one of some practical importance is the way in which an economic center and its affiliated areas ran opposing balances with other centers and their affiliates so that the net amounts settled between currency areas were greatly reduced. The multilateral settlements matrix in Table A-4, line 8, shows settlements between components of the sterling and nonsterling EPU areas. Net earnings of the Sterling Area from the nonsterling EPU area of between \$500 and \$1,000 million over the 1950-54 period were the net of much larger gross balances to be settled, as can be seen from the details in Table 12.

It is more difficult to observe the similar offsetting of balances between European currency areas and the dollar area since we do not have countries grouped in a dollar area. But if we take the U.S., Canada, and International Organizations as a first approximation, then balances with partner areas to be settled can be seen in Table 13. The offsetting of balances with parts of the Sterling Area is particularly striking.

If the calculations had been made from the underlying country accounts, the offsetting of balances within currency areas would, of course, be seen to be considerably greater than appears from Tables 12 and 13.

**TABLE 13**  
*Balances of U.S., Canada, and International Organizations to  
 Be Settled Multilaterally with the Sterling Area and  
 Nonsterling EPU Area, over the Five Years 1950-54*  
 (million U.S. dollars)

	Sterling Area		Nonsterling EPU Area (+EPU)	
	Own Report	Partner's Report	Own Report	Partner's Report
U.S. balance with center	-854	-1,084	114	-77
Canada's balance with center	1,260	1,383	1,461	933
Balance of International Organiza- tions with center	582	431	253	243
U.S. balance with affiliates	-989	-781	-493	-286
Canada's balance with affiliates	146	159	-8	-27
Balance of International Organiza- tions with affiliates	-377	-327	-40	-40
U.S. balance with EPU			120	120
Sum of pluses	1,988	1,973	1,948	1,296
Sum of minuses	-2,220	-2,192	-541	-430
Balance of U.S., Canada, and International Organizations	-232	-219	1,407	866

SOURCE: Table A-4.

#### *5. Statistical Limitations to the Multilateral Settlements Matrix*

So far in the discussion of the meaning and significance of the matrix of multilateral settlements we have ignored a real and serious problem of measuring the flow of settlements while concentrating on conceptual matters which are, of course, to be distinguished from problems of measurement. The problem relates to the difficulty we have had of measuring the true direction of transactions. For example, if adjustments were made to channel petroleum through the U.S. and the U.K., the extent of offsetting of surpluses and deficits with parts of the Sterling Area would be considerably reduced.

It was stated in Chapter 2 that, conceptually, the record of transactions between world areas should show direction according to the assigned residence of transactors to each transaction. This implies that the fact of a transaction and the residence of parties to it are known. We discussed in Chapter 4 a major departure from this principle in the case of middlemen transactions, notably, those relating to world trade in petroleum. Accounting conventions were adopted to secure a consistent treatment of these and some other transactions (e.g., the direction of esti-

mated freight payments). The final matrix of multilateral settlements reflects such conventions. Although, conceptually, panel vii of Chart 5 should state the flow of multilateral settlements between areas, in fact it states what the flow would have been if the movement of petroleum from country of source to destination had been matched by a transaction between a resident in the source country and one in the destination country. Actually, petroleum drawn from wells, for example, in Saudi Arabia, was sold by the company resident there (which includes local government representatives on its board of directors) to American parent companies resident in the U.S. These in turn marketed the oil throughout the world. Our accounts in Appendixes A and B show the oil "sold" by Saudi Arabia to the country to which it was consigned. The pattern of transactions in this and most other instances of petroleum trade differs greatly from the physical flow of oil. Both sets of facts are of significance but of different meaning. It is relevant to international economic life that the oil going to Western Germany comes, say, from Saudi Arabia; it is also relevant that it is marketed by a company resident in the U.S. If the realities of the division of labor among countries are to be respected, both facts must be recognized. The

same observation applies to the other kinds of middleman transactions discussed in Chapter 4, Section A-3.

Now countries do not particularly like to publicize the extent to which they conduct the trade of other countries. Some payments accounts obscure the extent and character of "offshore" merchandise trade. Such trade is simply netted out in the published accounts, for example, of the U.K. and the Netherlands, and the published account for British Colonies simply omits Hong Kong. Further study of the actual conduct of trade in the major bulk commodities subject to the intervention of middlemen would be needed to correct the multilateral settlements matrix to a purchase-sales basis. Unadjusted, it is conventional, giving an account to be understood in terms of: "It is as if payments flows followed the reverse direction of the recorded movements of trade."

I see no technical obstacle to doing the handful of studies of the conduct of bulk commodity trades required to account for most of the 15 per cent or so of world trade subject to middleman transactions. The special study made of petroleum transactions (Appendix C) illustrates the kind of study required. When sufficient recognition is given to the importance of measuring the international flow of multilateral settlements more accurately, I have no doubt that such studies will be undertaken and that it will then be possible to observe both the interarea flow of goods and the related (somewhat different) interarea flow of payments. Our knowledge of the role of the financial centers in the conduct of international economic relations will be more precise. For now we must recognize that the matrix of multilateral settlements arrived at from our account of all other transactions is limited and subject to uncertainty because the merchandise record and some other types of transactions have not been adjusted systematically for middleman activity.

From the work we have done on petroleum transactions we are able to show in panel viii of Chart 5 the extent to which the conventional treatment of petroleum affects the final matrix. Channeling petroleum transactions through the U.K. and the U.S. results in altering the size, but not the sign, of balances between centers and peripheral areas. It increases the surplus of Other Western Hemisphere countries with the U.K., the surplus of the Rest of the Sterling Area and Overseas Territories and Other Countries

with the U.S., and the deficit of Overseas Territories and Other Countries with the Continent. Deficits of the Continent with areas composed of countries trading principally with the U.S. and the Sterling Area and of the U.K. with Overseas Territories and Other Countries are reduced by the adjustment. The balance between the U.K. and the Continent swings around to favor the U.K., and the balance between the U.S. and the U.K. becomes ambiguous—either approximately zero in the adjusted U.S. record or favoring the U.K. in the U.K. account.

Our previous speculation (Chapter 4, Section A-2) on the likely effect of adjusting other merchandise items to reflect the extent to which they come under the control of middlemen, especially in the economic centers, can also be considered in relation to the pattern of balances to be settled multilaterally in panels vii and viii of Chart 5. From our previous analysis we may guess that the export trade of peripheral areas to partners other than the economic center with which they trade principally tended to be channeled through that center rather more heavily than their imports were so channeled. The deficits shown by peripheral areas with the center placed directly above them were likely, on a purchase-sales basis, to have been smaller than shown in the diagrams, and their surpluses with the other two economic centers were also likely to have been smaller. It is difficult to guess how the middleman activities of the U.S., the U.K., and the Continent affected the balances among these centers, but my guess is that on middleman account, apart from petroleum, the U.S. and the U.K. would earn from the Continent and the U.K. from the U.S.

If the record were adjusted for the extent to which intermediaries control the sale of products between country of origin and country of destination, there would probably be smaller balances between centers and between centers and peripheral areas than panel viii of Chart 5 shows and a smaller total of multilateral settlements.

In addition to the limitations placed on the multilateral settlements matrix by the accounting conventions used, as the final balancing matrix it reflects all other deficiencies in recording transactions of all types. Those mentioned in footnote 1 of this chapter are the most significant.

In view of all we know about the accounts, we must emphasize that the pattern of multilateral settlements given in panel vii of Chart 5 is subject to

TABLE 14  
Three-Area, Four-Area, and Five-Area Consolidations  
of Two-Valued Matrixes over the Five Years 1950-54  
(million U.S. dollars)

Balance of	THIRD AREAS								
	Balance with	All Areas (1)	United States (2)	Western Europe (3)	Total (4)	Other Western Hemisphere <sup>a</sup> (5)	Total (6)	Other Eastern Hemisphere <sup>b</sup> (7)	Other Countries (8)
		A. NET GOODS AND SERVICES							
All areas	-3,097	-15,913	-1,152	13,968	1,927	12,041	9,808	2,233	
United States	12,557	--	3,484	9,073	7,608	1,465	-69	1,534	
Western Europe	2,238	-2,990	1,322	3,906	-1,328	5,234	3,975	1,259	
Third areas	-17,892	-12,923	-5,958	989	-4,353	5,342	5,902	-560	
Other Western Hemisphere	-5,438	-10,293	1,083	3,772	-367	4,139	2,792	1,347	
Other Eastern Hemisphere	-12,454	-2,630	-7,041	-2,783	-3,986	1,203	3,110	-1,907	
Rest of Sterling Area and Overseas Territories	-9,074	-231	-5,185	-3,658	-2,502	-1,156	749	-1,905	
Other Countries	-3,380	-2,399	-1,856	875	-1,484	2,359	2,361	-2	
		B. NET UNILATERAL TRANSFERS, CAPITAL, AND GOLD							
All areas	818	13,647	1,322	-14,151	-5,212	-8,939	-4,598	-4,341	
United States	-13,979	--	-4,104	-9,875	-4,618	-5,257	-1,413	-3,844	
Western Europe	76	4,031	23	-3,978	-1,214	-2,764	-2,533	-231	
Third areas	14,721	9,616	5,403	-298	620	-918	-652	-266	
Other Western Hemisphere	6,123	4,971	2,040	-888	-39	-849	-548	-301	
Other Eastern Hemisphere	8,598	4,645	3,363	590	659	-69	-104	35	
Rest of Sterling Area and Overseas Territories	4,928	1,298	3,055	575	517	58	-3	61	
Other Countries	3,670	3,347	308	15	142	-127	-101	-26	
		C. NET MULTILATERAL SETTLEMENTS AND ERROR							
All areas	2,279	2,266	-170	183	3,285	-3,102	-5,210	2,108	
United States	1,422	--	620	802	-2,990	3,792	1,482	2,310	
Western Europe	-2,314	-1,041	-1,345	72	2,542	-2,470	-1,442	-1,028	
Third areas	3,171	3,307	555	-691	3,733	-4,424	-5,250	826	
Other Western Hemisphere	-685	5,322	-3,123	-2,884	406	-3,290	-2,244	-1,046	
Other Eastern Hemisphere	3,856	-2,015	3,678	2,193	3,327	-1,134	-3,006	1,872	
Rest of Sterling Area and Overseas Territories	4,146	-1,067	2,130	3,083	1,985	1,098	-746	1,844	
Other Countries	-290	-948	1,548	-890	1,342	-2,232	-2,260	28	

SOURCE: Table A-4 (all transactions allocated and the gold account reconciled).

<sup>a</sup> Canada, Latin America, and International Organizations.

<sup>b</sup> Rest of the Sterling Area, Overseas Territories, and Other Countries.

considerable error; at most only direction and order of magnitude can be relied upon and these may be suspect when the balances are close to zero.

*6. Three-Area, Four-Area, and Five-Area Consolidations of the Two-Valued Matrix*

Confronted with a set of consolidated accounts for countries grouped in one way, one wonders how the pattern observed depends on the way in which countries have been grouped. We can answer this question by considering three-area, four-area, and five-area consolidations of the two-valued matrixes in Appendix A.

A three-area consolidation of Appendix A accounts to show the triangular relations between the U.S., Western Europe, and the rest of the world (third areas) is ambiguous in the circular flow of final multilateral settlements (Table 14). The entries drawn from both sides for goods, transfers, and capital flows between the three areas agree on direction and broad order of magnitude (to within 50 per cent of the mean of paired entries), but the entries for the balance after gold agree only between the U.S. and Western Europe. All three areas show deficits between the two centers and third areas.

This ambiguity, however, does not appear in the four-area grouping in which third areas are elaborated to distinguish areas made up largely of countries oriented in trade with the U.S., on the one hand, and with Western Europe, on the other. When the rest of the world is divided along hemispheric lines, a clear and unambiguous circular flow of net multilateral settlements can be observed with paired entries agreeing on both direction and magnitude of the interarea balances. Both centers realized net credits from the rest of their hemisphere and incurred net debits with peripheral countries in the other hemisphere; the U.S. ran net debits with Western Europe; and Eastern Hemisphere peripheral areas ran net

debits with those of the Western Hemisphere. A contrast also now appears in Western Europe's trade balance between peripheral countries of the East and West.

The contrast in the patterns of balances for the three-area and four-area groupings argues strongly against using the three-area scheme in analyses of international trade and payments relations.<sup>26</sup> Four areas are needed to disclose the opposing relations between the two centers and the two sets of peripheral countries trading principally with them.

By distinguishing peripheral countries affiliated with Western Europe from Other Eastern Hemisphere countries we arrive at a five-area grouping intermediate between the four-area grouping previously considered and the six-area grouping of Chart 5. This five-area consolidation may usefully be compared with another five-area grouping in Table A-4, namely, that combining the U.K. with the Rest of the Sterling Area into the Sterling Area, combining Continental OEEC countries with their Overseas Territories into the nonsterling EPU area, combining U.S. with Canada and International Organizations, and distinguishing Latin America and Other Countries. Comparison of the two five-area groupings shows how the divergence between paired entries in the record is widened when peripheral countries are disassociated from the metropolitan area with which they trade principally. Total divergence in the matrix of multilateral settlements was larger by three-quarters in the five-area grouping with affiliated areas distinguished than in the five-area matrix employing the two European currency areas. Moreover, the magnitudes of multilateral settlements in the five-area system combining metropolitan centers with affiliates were considerably smaller than in the five-area grouping distinguishing affiliates, which reflects the tendency for centers and affiliates to run opposing balances with partner areas as discussed above.

*D. STRUCTURE AND MOVEMENT OF FINANCIAL FLOWS:  
THE ANNUAL RECORD*

The annual matrixes in Tables B-3 and B-25 through B-28 permit examination of (a) the extent to which yearly financial flows deviate from the patterns we have observed in charting the five years as a whole;

(b) the extent of agreement between paired entries on direction and order of magnitude of the interarea

<sup>26</sup> As, for example, was attempted in the Brookings study by Salant *et al.*, *United States Balance of Payments in 1968*.

financial flows each year and of their change from year to year; and (c) systematic variations from year to year in the pattern of multilateral settlements around the world.<sup>27</sup>

### 1. Stability of Direction in Trade Balances and in Financial Flows Between Areas

The annual pattern of goods and services balances between areas on the whole was stable over the five years, but exhibited reversals from year to year where balances were small or subject to strong growth tendencies. We thus can say that the pattern given by the five-year totals was the pattern occurring most frequently. This can also be seen in the more detailed eight-area tables of Appendix B.

Similar observations can be made about stability in the pattern presented by annual net financial transactions. Table 15 shows a count of balances agreeing and disagreeing with the direction of the balance for the whole five-year period.<sup>28</sup> We see that, for net goods and services, nearly 90 per cent of all annual balances and of annual balances of \$10 million or more were in the same direction as the balance for the five years as a whole, and that all transfers of \$10 million or more went in the direction of the five-year total.

Capital flows were less regular; about 30 per cent of the time the annual balance was opposite to the five-year direction, and among capital movements of \$10 million or more such opposite flows occurred about one time in four.<sup>29</sup> Among the fifty-three in-

TABLE 15  
Stability of Direction of Trade and Financial Balances in Annual Matrixes, over the Five Years 1950-54  
(number of interarea balances not zero)

	Goods and Services	Transfers	Capital	Gold	Settle- ments
All balances not zero	356	267	263	166	405
Direction same as 5-year total	315	255	188	147	353
Direction opposite to 5-year total	41	12	75	19	52
Balances of \$10 million and over	311	153	206	106	363
Direction same as 5-year total	277	153	153	93	322
Direction opposite to 5-year total	34	0	53	13	41
Balances of under \$10 million	45	114	57	60	42
Direction same as 5-year total	38	102	35	54	31
Direction opposite to 5-year total	7	12	22	6	11

SOURCE: Appendix B tables.

NOTE: This tabulation includes balances for bilateral relations as reported by both partners. Intra-area balances have been excluded since they should have been zero.

The number of entries for net settlements is greater than that for net goods and services because the EPU account does not figure in the net goods and services matrix. Settlements in the EPU account were, understandably, the most variable of any account (only eight cases of \$10 million or more were in the direction of the five-year total while six were in the opposite direction).

<sup>27</sup> It will be recalled that, in contrast to the matrix tables of Appendix A for the five years, the annual tables in Appendix B have not been adjusted to allocate unallocated transactions or to reconcile the gold matrix. In comparing annual patterns with those previously considered based on Appendix A, allowance must be made for those adjustments.

<sup>28</sup> We have distinguished in the count balances of less

than \$10 million, which is certainly smaller than the element of error. The few zero balances were excluded altogether.

<sup>29</sup> Three flows of \$10 million or more were opposite to the five-year direction three out of the five years—the U.K. with the EPU, the Continent with Latin America (according to the Continent), and Latin America with Other Countries (according to Latin America).



**CHART 7**  
*Annual Financial Balances Between World Areas, 1950-54: Six-Area*  
*Consolidation of the Two-Valued Matrix*  
*(arrow points from area debited to area credited; figures are placed adjacent to*  
*area of report; entries in boxes are the area's over-all balances)*  
*(million U.S. dollars)*

**A. Net Transfers**

**B. Net Capital**

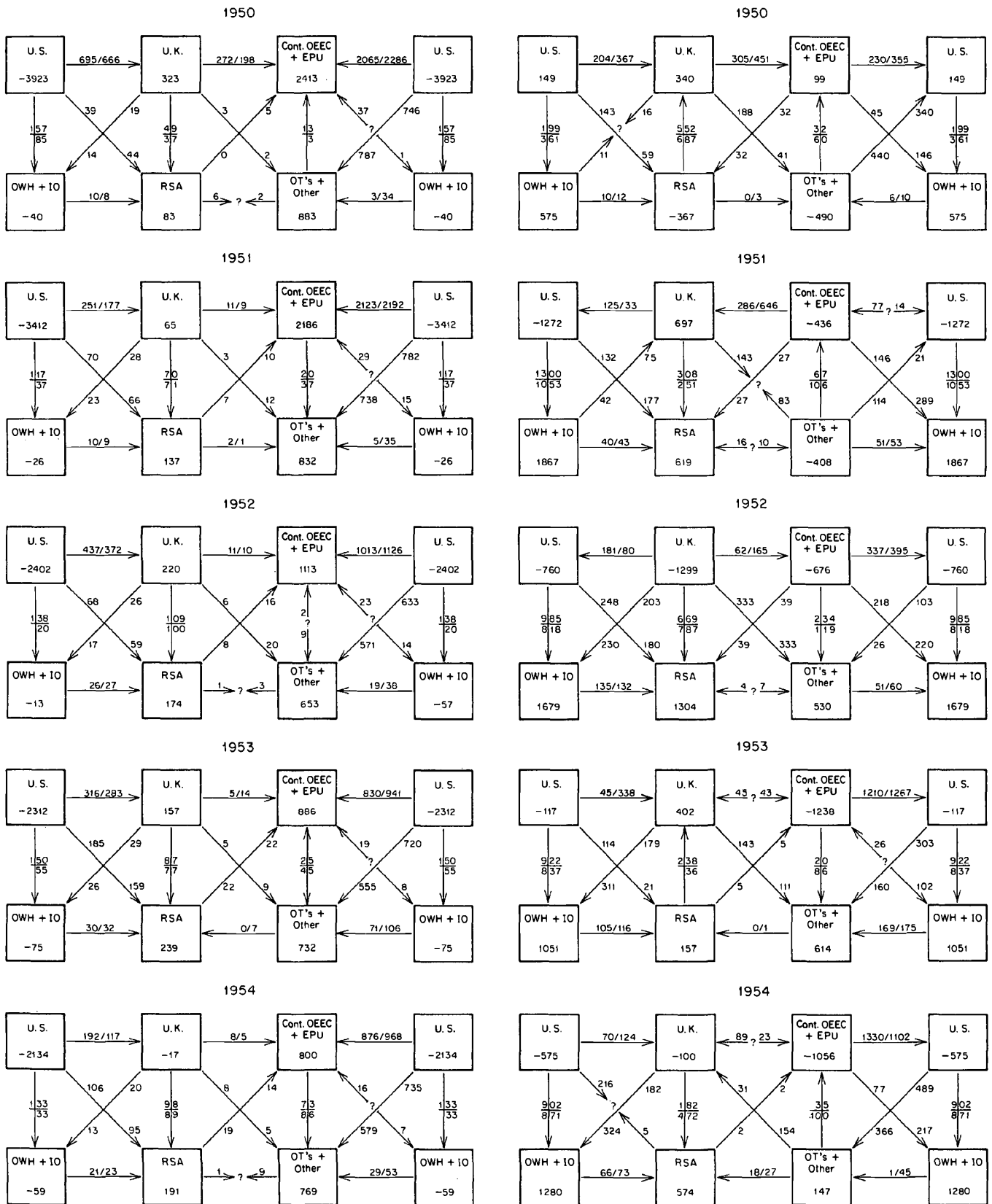
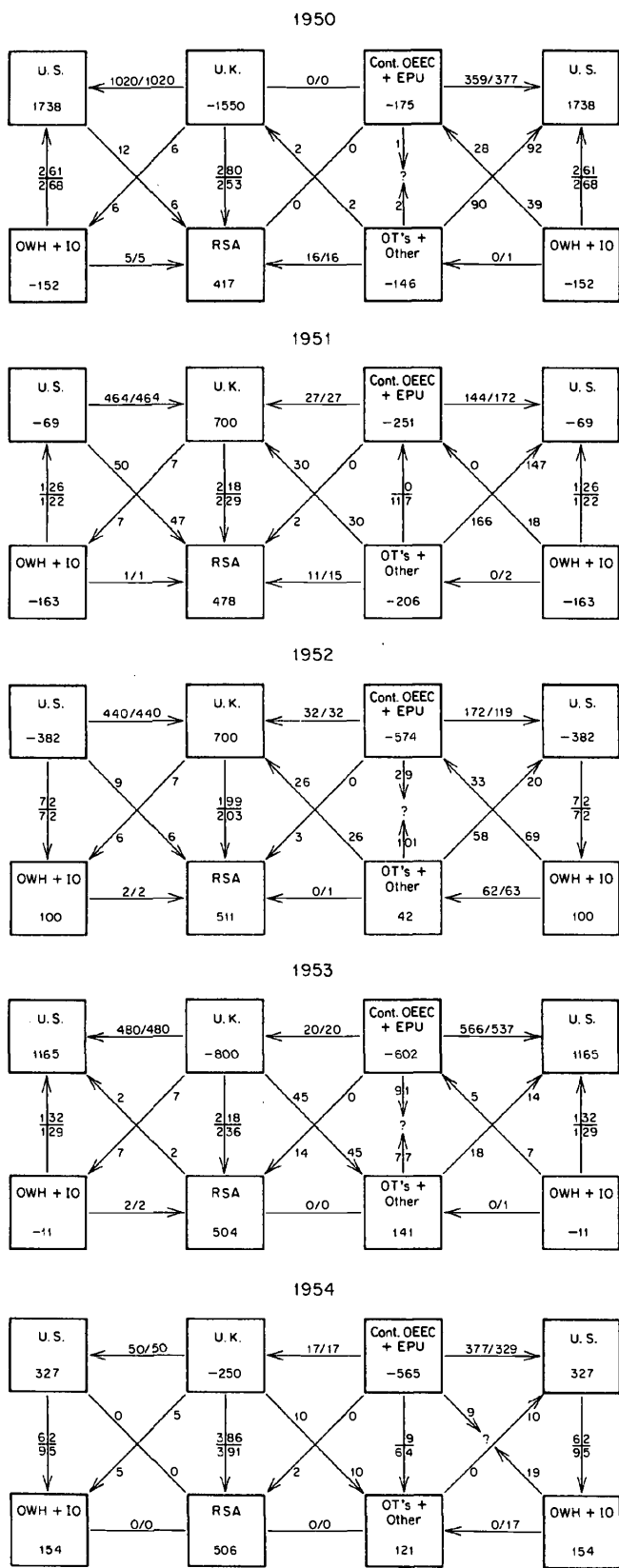
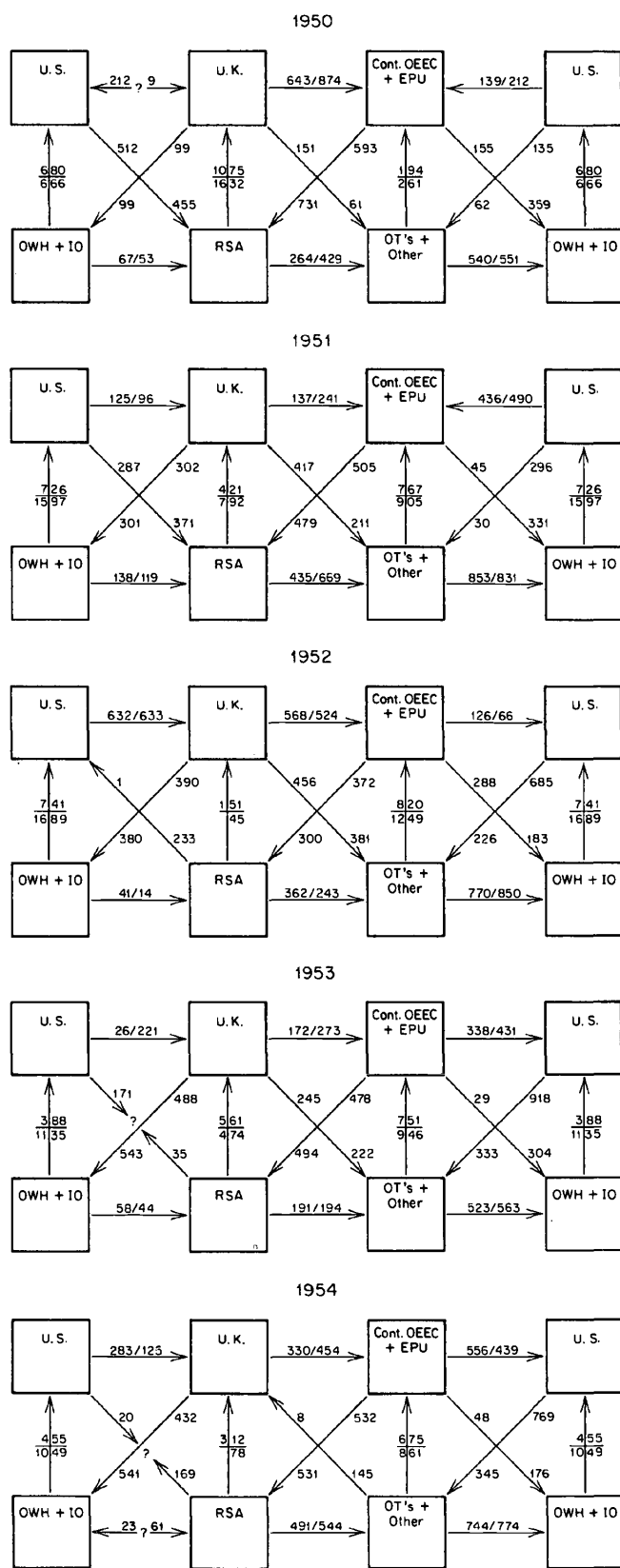


CHART 7 (concluded)

C. Net Gold



D. Balances to Be Settled Multilaterally



SOURCE: Tables B-25, B-26, B-27, and B-28.

stances of capital flows of \$10 million or more opposite to the five-year direction, twenty-two appear in accounts of centers with centers, and fourteen of these were balances with the EPU, which, of course, was intended to serve as a short-term capital lending agency. There were also frequent reversals of capital flows between peripheral areas and centers as the peripheral areas built up or drew down balances, or as balances under bilateral arrangements went one way and then the other. Even though capital flows between areas were less regular than net trade and net transfers, for most of the 263 reports of an interarea relationship they tended to persist year after year in the same direction.

Annual net multilateral settlements show a degree of year-to-year stability in direction about as high as that for net goods and services, in spite of the greater variability of capital flows. This also holds true for the country accounts underlying the net settlements matrix. A count of balances in fifty-eight individual country accounts with partner areas of significance indicated that, for balances of \$10 million or more, only 110 out of 1,114 goods and services balances and only 111 out of 1,135 multilateral settlements balances were opposite to the five-year direction.

The stability of direction of annual financial flows and multilateral settlements is reflected in Chart 7 diagramming the annual flows of (A) net transfers, (B) net capital, (C) net gold, and (D) balances to be settled multilaterally.

## 2. Consistency of the Two-Valued Matrixes of Financial Flows

For the larger entries in the transfer matrix (Part A of Chart 7), agreement between paired entries is comparatively good in relation to agreement on goods and services balances, but for small transfers the paired records exhibit frequent ambiguities of direction and relatively wide divergence in magnitude. Every interarea transfer which was reported with a mean of paired entries of \$250 million or more (thirteen out of seventy-five cases) was agreed as to direction and was also agreed as to magnitude to within approximately 25 per cent of the mean. This was also true of all but two interarea transfers with a mean of \$100 million or more.<sup>30</sup> For smaller

<sup>30</sup> In the two exceptional cases (both transfers between the U.S. and Other Western Hemisphere countries), the U.S. record includes economic and technical assistance

transfers, entries agreed to within 25 per cent of the mean only about one-third of the time, to within 50 per cent only about half the time, and to within 100 per cent only about two-thirds of the time.<sup>31</sup> In nine of such small cases the direction of transfers was not agreed. The poor quality of the record for small transactions arises mostly because some private unilateral transfers are difficult to distinguish statistically from workers' remittances of earnings (a service transaction). When transfers are small, countries frequently include them with miscellaneous services.

A frequency distribution of the relative divergence between paired capital entries in the six-area matrix plotted in Part B of Chart 7 shows that in 37 per cent of the seventy-five cases the paired records agree to within 25 per cent of the mean, in half the cases to within 50 per cent, and in 71 per cent to within 100 per cent. In twenty-two of the seventy-five cases divergence was greater than 100 per cent and, of these, nine were instances of ambiguity of direction. As with transfers, smaller flows tended to be less well agreed. All of the ambiguities involved net flows of less than \$100 million (largest mean value).<sup>32</sup> It is thus fair to say that, in spite of fairly large unallocated amounts, the direction and order of magnitude of interarea capital flows, especially the large flows, were agreed in paired records; however, the extent of agreement was not as good as that for

expenditures not entered in accounts of partners. Partly, this is explained by the extension of aid to the Organization of American States rather than directly to individual countries, but partly it reflects a difference of opinion on whether the services rendered (cost of administering aid programs) should be included in a balance-of-payments account (see Chapter 3, pp. 28-29).

<sup>31</sup> It will be recalled that where paired entries diverge by 100 per cent of their mean the two figures and their mean stand in proportions 3:2:1; where divergence is 50 per cent of the mean they are in proportions 5:4:3, and where divergence is 25 per cent of the mean they are in proportions 9:8:7.

<sup>32</sup> The frequency distribution is as follows:

<i>Divergence from Mean of Paired Net Capital Flows (per cent)</i>	<i>Number of Interarea Relationships</i>
0 - 2.5	8
2.6- 5.0	5
5.1- 10.0	3
10.1- 25.0	12
25.1- 50.0	9
50.1-100.0	16
Over 100.0	22
Total	75

The last group and the total include nine cases not agreed as to direction.

net goods and services, which can be observed in Table D-4.

It is not useful to tabulate divergences in the gold matrix (Part C of Chart 7) since many of the entries are drawn from one side of the record (notably the U.S. side) and entered in partner area accounts. The account itself provides sufficient indication of the extent of uncertainty attaching to the several inter-area figures: one need only look at the over-all excess of credits (for net gold sales) in the whole set of accounts and the sizable amounts of unallocated transactions (usually sales) in most accounts other than the U.S.

The direction of annual balances to be settled multilaterally between areas was generally indicated the same by both sides in the unadjusted two-value net settlements matrix charted in Part D of Chart 7, and the order of magnitude of the amount settled was agreed most of the time. A frequency distribution of the seventy-five interarea annual relationships in the six-area matrix according to the divergence between paired records (expressed as a percentage of the mean of the two observations) reveals that almost 60 per cent of the interarea balances show agreement within 50 per cent of the mean and 80 per cent show agreement within 100 per cent, but these are not as high proportions as for net goods and services.<sup>33</sup> If one were to allocate unallocated transactions and reconcile the gold account by the method followed in Table A-4, it would seem likely that the divergence between paired net settlements records could be reduced. Making such an adjustment for the five years as a whole did not alter the direction of net settlements.

The systematic character of divergence is expressed not only in the annual matrixes of net settlements but also in changes in the pattern from period

<sup>33</sup> The frequency distribution, which can be compared with Table D-4, is as follows:

<i>Divergence from Mean of Paired Net Settlements (per cent)</i>	<i>Number of Interarea Relationships</i>
0 - 2.5	6
2.6- 5.0	5
5.1- 10.0	5
10.1- 25.0	16
25.1- 50.0	12
50.1-100.0	17
Over 100.1	14
Total	75

The last group and the total include four cases not agreed as to direction.

to period. Changes from the beginning to the end of the five-year period were measured about as well as annual flows. Changes from year to year within the period, however, were more poorly measured than the annual flows.<sup>34</sup> Even so, half of paired entries were agreed to within 50 per cent of the mean.

### 3. Systematic Variation in Multilateral Settlements

It is to be expected that, if one area's multilateral settlements with partner areas undergo a large shift during a period of time, the whole world-wide pattern will undergo related shifts. The record is good enough to show such a set of shifts over the five-year period. Between 1950 and 1954 the U.S., the U.K., and Continental OEEC countries (plus the European Payments Union) each experienced interrelated shifts of about \$1 billion in balances settled multilaterally with partners distinguished in Chart 7. The Continental center increased its net receipts from peripheral areas by about \$1 billion (according to partners) and its net payments to the U.S. and the U.K. In contrast, the U.K. experienced reduced settlements receipts from the Rest of the Sterling Area and increased payments due Other Western Hemisphere countries and International Organizations of more than \$1 billion (partners put it at nearer \$2 billion) matched by increased receipts from the U.S., the Continent, and to a lesser extent from Continental Overseas Territories and Other Countries, which partners placed at \$1 billion. The U.S. record shows a complex shift: an increased outflow of \$0.6 billion to areas associated with the Continent and Other Countries about matched the increased inflow from the Continent, and an increased inflow of \$0.5 billion from the Rest of the Sterling Area about matched the increased outflow to the U.K. Partner records do not agree on the magnitudes of particular swings, but it is clear that a large change took place over the five

<sup>34</sup> Relative frequency distributions for annual flows from footnote 33, for changes over the five years, and for year-to-year changes were as follows:

<i>Divergence from Mean of Paired Measures (per cent)</i>	<i>Annual Flows (75 cases)</i>	<i>Change from 1950 to 1954 (15 cases)</i>	<i>Year-to-Year Change (60 cases)</i>
50.0 and under	59	60	50
50.1-100.00	23	13½	15
Over 100.0	13	13½	20
Direction not agreed	5	13½	15
Total	100	100	100

years in the world-wide pattern of interarea multilateral settlements. The largest of the shifts was the reversal of settlements between the U.S. and the Continent, and it went along with a reduction in the Continent's reliance on U.S. aid, a building up of

short-term capital holdings in the U.S., and purchases of gold. In relation to the great expansion in gross Continental trade, this was a very small shift, but in relation to the "dollar shortage" of the time it was large.