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## THE DATA

*Preparation of the Data for the Construction of Matrixes*

## METHODOLOGICAL APPROACH

First, "trial-run" matrixes were constructed, according to the IMF area system, in order to ascertain the extent of the disagreements between the reported data. For this purpose, the country data were combined into area totals with area distributions.<sup>1</sup> Changes in assets of each area were entered in the columns, and changes in liabilities in the rows, of the trial-run matrixes. Each cell thus represents the transactions between a pair of areas and shows the change in assets reported by one and the change in liabilities reported by the other. If all reports were accurate, these two figures should show reasonably close agreement.

Discrepancies were found, however, in virtually all cells, some of considerable size. Indeed, in several cases there was disagreement about the direction of capital flows (i.e., whether there was an increase or a decrease in assets and liabilities). Although there were unallocated amounts, these could not account for most of the discrepancies. As a matter of fact, if distributed among the areas, they operated in some cases to make the discrepancies larger. No systematic bias could be discerned in the discrepancies, which might have made uniform adjustments possible. Further checks revealed that numerous specific transactions, or whole types of transactions, were left out from one side or the other, and that some regional distributions were suspect. It also became apparent that close agreements in some cases were spurious, because they were partly the result of accidental agreements

<sup>1</sup> Some preliminary adjustments to the data were made for this purpose on the basis of partner data, viz., transactions known to be omitted on one side were added and figures reported on a net basis were converted into gross changes in assets and liabilities.

between amounts representing different types of transactions. In brief, it became evident that a reconstruction of capital flows could not be based on one set of data alone (say the lenders' with perhaps some supplementary estimates), but that the matrixes had to be built up from both sides. The procedure involved, therefore, a detailed examination of all country records and comparisons by types of transactions, and even comparisons of individual transactions, for all years.

After this initial appraisal of the data, the next step was to construct country accounts by types of capital distributed by partner countries and areas. Breakdowns by types of capital and by partner country, where not reported, were made from partner records or other sources, and adjustments were made for nonreported transactions. Complete reconciliation could not be achieved, however, because unallocated amounts remained; and because partner records frequently disagreed on the amount of a given type of transaction (e.g., direct investment), or even that of a specific transaction (e.g., a loan). Since, in such a case, the reason for the disagreement was not known, a reconciliation was not possible and a discrepancy remained.<sup>2</sup> Thus, a choice had to be made between partner figures. If the capital flow originally had been completely identified in only one of the records, that figure was chosen for the matrix. Where the flow was identified on both sides and one of the figures inspired more confidence than the other, it was chosen. But in some cases more or less arbitrary judgments had to be made. Moreover, to the extent that the comparison between partner data provides a test of their accuracy, the discrepancy between them is an indication of the possible margin of error. All remaining discrepancies were, therefore, recorded and, except those that are small in relative or absolute terms, are commented upon in the notes to the matrix tables.

Some country accounts had to be constructed exclusively from partner data or from other sources because no balance-of-payments reports existed. For others the reported data required major reorganization or supplementary estimates. The majority of the accounts, however, could be compiled more or less directly from the reported data.

<sup>2</sup> In the case where an account was adjusted for an omitted transaction from partner data no discrepancy remains, of course; if the adjustment was based on another source, however, the estimate may not agree with the partner figure, and in that case there is a discrepancy.

## CONSTRUCTION OF UNREPORTED ACCOUNTS

New accounts or partial accounts had to be constructed for (a) the Sino-Soviet Bloc and four independent countries, (b) some of the dependencies, and (c) the International Institutions.

(a) The accounts for the Sino-Soviet Bloc and for Spain, Saudi Arabia, Afghanistan, and Nepal were constructed solely from partner data. For the latter four countries the transactions consisted mainly of U.S. aid, investment (in Saudi Arabia), and bank loans (to Spain), and some minor transactions with other countries. It is unlikely that there were other substantial transactions with these countries that are not covered. Soviet Bloc movements reported by partners consisted of Finnish reparations, a large Swedish loan, and smaller loan transactions with a number of other countries. No capital transactions were reported with Mainland China. Changes in the sterling balances of Sino-Soviet Bloc countries could not be identified.

(b) For some of the dependencies, balance-of-payments statements did not exist. The French and Portuguese balance-of-payments data cover only the transactions of their entire currency areas with the rest of the world. The dependencies' transactions with other countries are thus included. But their transactions with France and Portugal (i.e., the data on colonial aid and investment receipts) had to be obtained from other sources. For the French territories, estimates were based on data in OEEC publications and some IMF data.<sup>8</sup> The estimates are necessarily rough. The OEEC data are in themselves estimates and do not cover 1950 and 1951. Data for these earlier years were obtained from other sources or estimated by extrapolation. The figure for the total gross inflow from France over the five-year period (\$2.4 billion, of which \$1,978 million was in aid and \$412 million in private investment) has to be regarded as a rough approximation. The amount is not likely to be overstated, however, since the private component does not include an estimate for reinvested profits. Movements from the territories to France could not be estimated.

For the movements between Portugal and its territories, only data

<sup>8</sup> OEEC, *Economic Development of Overseas Countries and Territories Associated with OEEC Member Countries*, Paris, August 1958, mainly Table 44, p. 108; OEEC, *Sixth Report of the OEEC*, Paris, March 1955, Vol. II, Chapter XXVIII, Table 53, pp. 231 and 251-253; and IMF, *Balance of Payments Yearbook*, Vol. 9, Morocco section.

for aid during 1953-54 of \$17 million are available,<sup>4</sup> but it seems that the capital supplied by Portugal during the whole period was not much larger.<sup>5</sup> Private investment seems to have been small or negligible.

For two other territories, Dutch and Australian New Guinea, partner data (Netherlands, Australia, and U.S.) were used.

(c) Balance-of-payments accounts for the International Institutions were constructed from data in their publications, particularly *International Financial Statistics* of the IMF and annual reports of the various institutions. In the case of the European institutions, partner data were also used.

#### REORGANIZATION OF COUNTRY ACCOUNTS

The private capital accounts of the United Kingdom and several Sterling Area countries had to be reorganized or supplemented with additional estimates. The United Kingdom reported its private capital during these years as one net item, distinguishing transactions with the Sterling Area and various other regions. For purposes of this study, these flows had to be broken down into changes in assets and liabilities, by types of capital, and by partner countries. Supplementary British sources served this purpose to some degree as mentioned in Chapter 2 but, very largely, the breakdown was based on partner data (after these accounts had been adjusted or reorganized as described below).

Our breakdown of the U.K. outflow to the Sterling Area of approximately \$2.4 billion resulted in very close agreement with the combined Sterling Area (net) receipts, the British outflow falling short of the Sterling Area inflow by \$69 million. The U.K. data are said to be based "extensively" on Sterling Area figures,<sup>6</sup> and the data are therefore not independent, but it is doubtful that the underlying calculations are identical to those made here. In any case, the procedure seems to establish the approximate magnitudes adequately.<sup>7</sup>

<sup>4</sup> OEEC, *Economic Development of Overseas Countries and Territories*, *op. cit.*, pp. 190-191, Tables 16 and 18.

<sup>5</sup> *Ibid.*, p. 188.

<sup>6</sup> H. M. Treasury, *United Kingdom Balance of Payments, 1946-1957*, London, 1959, p. 11.

<sup>7</sup> The allocations to the United States made in the various Sterling Area estimates are also generally close to the U.S. figures.

On the other hand, the comparison of the U.K. net flows with the data reported by nonsterling partners revealed large disagreement. The areas that the U.K. distinguishes are the Dollar Area, non-Dollar Latin America, Continental OEEC, and Other. Only in the case of non-Dollar Latin America is there some agreement in that both sides report a net repatriation of capital to the U.K. Although there is still a considerable discrepancy, this may well originate in large unallocated amounts of private short-term capital in the Latin American accounts, particularly in the case of Brazil. For this area we divided the U.K. figure only between long- and short-term, i.e., we identified the long-term transactions from the Latin American records, and assumed the residual to be short-term.

For the other three areas the disagreements are extremely large. The U.K. reports a net inflow from the Dollar Area of close to \$1 billion, while according to partner figures the mutual investment flows approximately offset each other. To Continental OEEC and to Other the U.K. reports large net outflows, which these areas do not acknowledge. On the other hand, for the three areas combined, the U.K. figure is approximately zero, and this does agree with the combined partner figures. The explanation for these offsetting discrepancies seems to be that the U.K. private capital figures contain multilateral settlements to such a degree that they distort the capital flows completely.<sup>8</sup> In other words, what appeared as receipts of capital from the Dollar Area were probably, in fact, dollar payments on current account from the other areas. The flows had to be revised, therefore, according to partner figures. The Continental OEEC data are the weakest because of some unallocated amounts. The rearrangement of the U.K. figures for these three areas was, accordingly, made in the following manner: the British entries were made equal to all partner entries except for short-term capital with the Continent, and the residual discrepancy was assigned to that item. This discrepancy is again extremely small. This is the more surprising because the Conti-

<sup>8</sup> The private capital item in the U.K. balance of payments for these years is a residual. Estimates of multilateral settlements ("Transfers") are shown, however, and thus eliminated from the regional capital figures. To the extent that these estimates are incomplete, multilateral settlements are still included in the regional capital totals. The possibility of inclusion of multilateral settlements in the capital figures is, in fact, acknowledged (see *ibid.*, p. 14), but the extent seems not to have been realized.

mental figures are probably incomplete and subject to error. But whatever is missing must approximately cancel out. In any case, this estimated area distribution seems to reflect the actual movements more accurately than the reported one.

Other major changes made in Sterling Area accounts were as follows:

(a) Ireland reported net figures (inflows) for the bulk of its private capital. We identified these movements from various sources and estimated the amounts of the various types of capital involved.<sup>9</sup> The flows consisted mainly of repatriation of Irish capital from the U.K. and British purchases of Irish bonds.

(b) Australia reports its balance of payments by fiscal year. The data were roughly adjusted to a calendar year basis by averaging successive pairs of fiscal years. In both terminal years the trend of the transactions was upward. The resulting possible underestimate for the first half of 1950 should, therefore, be at least partly offset by an overestimate for the second half of 1954, and the error should be small.

(c) The Indian balance of payments omits all direct investment, and the estimate used here was derived from Indian census data.<sup>10</sup>

(d) South Africa reports only net inflows, allocated to the Dollar Area, the Sterling Area, and the Continental OEEC countries. Here the breakdown was made from 1956 census data.<sup>11</sup> In the estimate the existence of prewar investment, particularly that of France, was taken into consideration. For the Union's transactions with other Sterling Area countries the estimates resulted in a net outflow from the Union of approximately \$50 million to Rhodesia, as well as some minor transactions with countries other than the United Kingdom. Since these amounts were broken out from the reported net figure, the inflow from the United Kingdom to South Africa became correspondingly larger than the reported net figure.

<sup>9</sup> *The Economist*, 1950, Vol. 160, p. 1172; 1951, Vol. 161, pp. 967 and 1389; Vol. 162, pp. 328, 386, and 786; Vol. 163, pp. 88-90; Vol. 164, pp. 742, 775-777, and 781; 1953, Vol. 169, pp. 126 and 479; 1954, Vol. 172, p. 437; Vol. 173, p. 159. Bank of England, *United Kingdom Overseas Investments*, annual data; and U.S. partner data.

<sup>10</sup> Reserve Bank of India, *Report on the Survey of India's Foreign Liabilities and Assets as on 31st December 1953*, Bombay, 1955; *Report . . . 31st December 1955*, Bombay, 1957.

<sup>11</sup> South Africa Reserve Bank, *The Foreign Liabilities and Assets of the Union of South Africa, Final Results of the 1956 Census*, Supplemental Quarterly Bulletin of Statistics, December 1958.

(e) The capital account of the U.K. Overseas Territories, which is only partially reported, was supplemented with estimates based on the error item and U.S. figures.

(f) The petroleum investment in Iraq, which is not reported, was estimated.<sup>12</sup>

These various Sterling Area estimates are, of course, subject to some margin of error, and those made for South Africa and the Overseas Territories are necessarily somewhat rough. But it must be remembered that the total of all the Sterling Area amounts allocated to the United Kingdom corresponds closely to the U.K.'s outflow. The amounts allocated to the United States in these estimates are generally also close to the U.S. figures. We believe, therefore, that these estimates are essentially correct.<sup>13</sup>

#### ADJUSTMENTS TO COUNTRY ACCOUNTS

Most of the other countries' accounts were reported in a form suitable for direct comparison with partner data, although regional distributions and details by types of capital varied widely.<sup>14</sup> In these comparisons various situations, which are explained below, were encountered.

(a) The transaction, or type of transaction, is completely identified on both sides by amount and country, with agreement or disagreement about the amount. This is the case of most official loans, grants, security issues, many cases of direct investment, and some other transactions. In such cases, no adjustments were made for any discrepancies, which are due mainly to time lags (in case of grants and loans) and different valuations and definitions of direct investment. The U.S. is a partner to the majority of these transactions as lender, and the U.S. figures were chosen for entry in the matrix. A discrepancy, if any, was recorded for the change in the corresponding liability. The U.S. figures were used to achieve consistency in timing and in definition of type of transaction. They also seemed generally more reliable in light of the way in which, for example, some partners described their calculations of direct investment.

<sup>12</sup> I am indebted to Cornelius Dwyer for this estimate.

<sup>13</sup> New Zealand reports by fiscal year ending March 31. In this case no adjustment was made. There is, therefore, the possibility of a discrepancy due to timing.

<sup>14</sup> Belgium, however, reported under private capital only net outflows with a regional distribution based on currencies, except for transactions with the Congo. No basis existed for the breakdowns of the net figures. Their treatment is explained below.



(b) The transaction may be completely identified by one partner, but clearly omitted from the other partner's record. This occurs when all the partner's transactions are identified as something else, or when the partner reports no transactions in categories that could possibly include this amount. In this case, the account was adjusted for the missing item on the basis of the first partner's figures. Cases of omitted direct investment and reinvested profits are the most frequent under this heading. Germany, for example, did not report any private capital until 1953, and Sweden, in all years, reported only small portfolio transactions through Swedish banks. However, both countries received direct investment from the U.S. in all years, both in cash flows and in reinvested profits. Sweden also made direct investments and extended private loans according to various partners' records. Moreover, reinvested profits are often omitted if the report is based on exchange control data. If reinvested profits were specifically excluded, or the acknowledged amount of direct investment approximated only the cash investment of the partner, reinvested profits were added. There were, however, a considerable number of cases where failure to collect certain kinds of data is not the explanation for the omission. A case in point is the repayment by the French Treasury to American banks of \$200 million from 1953 to 1955, \$103 million of which fell in our period. Although receipt of the loan in 1950 was reported by France, the repayment was not.<sup>15</sup> There were other cases of this sort. In twenty-one instances, accounts were adjusted for government loans or repayments that should have been included in the reported figures.

(c) The item may be identified completely on one side but incompletely on the other. One partner may not distinguish various kinds of private capital, or he may combine repayments of government and bank loans, or combine repayments to several countries. In such cases, identification by type of capital, or country, was made from partner data. Discrepancies, if any, were assigned to the type or country where the largest transaction was involved.

(d) A country identified as the partner to a transaction in the record of another country (say Latin American) may only specify the area (i.e., Latin America). If the amount the country has allocated to Latin

<sup>15</sup> There is the possibility that the repayment found its way into the French short-term capital account. This was found, however, to be unlikely upon a comparison of the French and U.S. official short-term data.

America was approximately equal to the respective amount in the record of the Latin American country, then the entry was assumed to represent this transaction.

(e) Since repayments of commodity loans (official long-term) were often made via payments agreements (official short-term), one partner may show the repayment under long-term, while the other has no corresponding long-term entries. If a comparison of the two short-term accounts revealed that the latter had simply treated the repayments as a reduction in payments agreements balances, then the amount was transferred from short-term to long-term in his account.

(f) In cases of small transactions specified by one country (say small amounts of direct investment, loans, repayments, or portfolio transactions) it may not be clear whether the partner has included them. In these cases the latter's account was neither checked off nor adjusted for this amount, but a discrepancy was recorded. This procedure presents some risk of double-counting, but the amounts involved are too small to affect the distribution materially.

#### TRANSACTIONS UNIDENTIFIABLE BY PARTNER COUNTRY OR TYPE

In the case of transactions with the Continental OEEC countries often only the area is identified. This is true of the records of the OEEC countries themselves as well as of those of countries outside the area. These amounts could only be entered under "Unidentified OEEC" (as far as they could not be identified from partner data or other sources). However, the reported increases in liabilities to "Unidentified OEEC" exceed by far the unallocated increases in assets reported by the OEEC countries. For direct investment alone (Type III), amounts received from Unidentified OEEC amounted to \$469 million, while the change in the corresponding asset figures totals less than \$100 million. There are also other unallocated receipts (e.g., direct investment in Israel, Turkey, and other countries) to which the Continental countries must have been largely the partners.

Similarly, for portfolio purchases (Type II) in the U.S., Canada, and the Netherlands by unidentified Continental OEEC countries, there are no unallocated asset entries in the records of the OEEC countries to match them.

For short-term credit (Type VI), the situation is similar. In this case a number of countries report large amounts not allocated even by an

area. After all possible adjustments had been made, the sum of the inflows of short-term credit of all countries exceeded the sum of the outflows by more than \$1 billion. While the flows could be established here only by approximate magnitudes, we inferred from the area pattern that the discrepancy was largely accounted for by credits extended by the Continental OEEC countries but not reported by them.<sup>16</sup> There are also a number of long-term export loans (Type IV) to Latin American countries extended by, but not reported by, the Continental countries.

While thus a considerable number of transactions had to be left unallocated in the matrixes, the majority of the unidentified lenders were the Continental OEEC countries. The number of possible lenders is, therefore, small, and one can be confident that they fall largely or entirely into Group 1.

The origin of the disagreement on transactions to which the Continent was a partner must be sought in the records of the Continental countries. The transactions not included by them, but reported by their partners, are generally sufficiently identified by type of capital and in other respects to dispel any doubt that they took place. Failure to report these transactions seems to be partly a result of reliance on exchange control data that do not cover such items as reinvested profits, for which no foreign exchange is required. Data for export credits, both intermediate- and short-term, were generally not collected. Some incomplete records—for example, that of Switzerland—are no doubt mainly responsible for missing portfolio transactions and some direct investment. The lack of detail in some of these reports also makes it difficult to ascertain just what is included and what is not.

The lack of detail or the incomplete coverage in the Continental OEEC reports created some other problems that could not entirely be solved. The Swiss account was compiled by the IMF, and it is most useful as far as it goes, but it excludes all movements that cannot be revealed under Swiss Law, direct investment, and small transactions that are not published. Sweden reports only some portfolio transactions for private capital. Belgium has only net figures (outflows)

<sup>16</sup> As mentioned in Chapter 2 (Type VI), the area matrix from which this inference was drawn is not reproduced in this study. For the explanation, see Walther P. Michael, "International Capital Movements, The Experience of the Early Fifties (1950-1954)," Ph.D. dissertation, Columbia University, 1965 (microfilmed), Appendix B, Matrix IX (1).

for all private capital without any breakdown by type and, except for transactions with the Congo, a regional distribution by hard and soft currencies that cannot be used. France has also a currency distribution but with a country breakdown (except for the Sterling Area) that seems to largely represent transactions with the countries specified, except for those allocated to the United States. The latter seem to cover all transactions in U.S. dollars and include receipts under private long-term assets amounting to \$210 million that, according to partner data, did not come from the United States. Also, France has no identification by type of capital. The Dutch private long-term transactions and the German private long-term liability item are broken down by type for total transactions only, while the German asset item is unidentified by type. The records of these six countries caused the main problems encountered in this study, and the identification of their private long-term transactions brought most of the difficulties.

Two kinds of movements seem to be involved. The first are official or semiofficial repayments of accumulated trade balances or other claims. Such repayments constitute an important part of the intra-European transactions of that period. They are usually identified as government transactions under official long-term and were included in Appendix Table B-I. For some repayments of this kind reported by the Netherlands and Switzerland, however, no corresponding receipts can be identified under official long-term. On the other hand, there are the large private long-term dollar receipts by France that almost certainly must include receipts of such repayments because there seems to be no repatriation of private investment of that magnitude. The Dutch and Swiss official repayments were therefore assumed to correspond to the French private receipts and were included under Type IV (private loans and repayments) since the division between private and official loan transactions is based on the asset side. A part of the Belgian private outflow was also assumed to correspond to the French receipts and included under Type IV, as mentioned below. For such intra-European repayments the dividing line between Types I and IV is, therefore, somewhat blurred. It is also possible that the French receipts and the Belgian outflow contain other types of capital as well (and possibly involve areas other

than the Continental OEEC, although that is unlikely for the French receipts).

Second, in the French and a few other records there are some transactions, allocated by country or area, that clearly represent private capital but are not identified by type. In such cases the most likely type of capital was chosen for each transaction (partly on the basis of information contained in the partner's record) to keep the unallocated amounts to a minimum, but these cases are annotated to the effect that they may contain other types of capital. The matrixes involved are II, III, and IV. The possible errors in the allocations to one type or another cannot cause offsetting discrepancies that would distort the magnitudes because the discrepancies involving the OEEC countries are all in the same direction.

Finally, after allocation from partner data of the Belgian net outflow under private long-term, \$129 million remained unallocated. Half of this amount was assumed to represent a reduction in liabilities in the form of private loan repayments and was included, as mentioned above, under Type IV; the other half was assumed to be an increase in Belgian assets abroad in the form of direct investment and included under Type III. It was the discrepancies in these two matrixes which indicated that the Belgian outflow mostly included these types of transactions.

Some arbitrariness in the construction of the matrix system was, therefore, unavoidable but it is confined mainly to intra-European (and intra-Group 1) transactions and has little effect on the estimates of flows between groups.

### *Construction of Matrix Tables*

The fact that unallocated amounts and discrepancies between the data remain presents a problem for the construction of matrix tables because there are two total values for each type of capital, one for the total (adjusted) changes in assets and one for the total (adjusted) changes in liabilities (see Table 2). There are two possibilities for presenting such data in matrix form.

(a) The first, the method of presentation chosen here, is to give only one total value for all transactions of a given type by assigning the

unallocated amounts, as far as possible, to the group to which they mainly apply and by excluding the discrepancies from the table.<sup>17</sup>

The unallocated amounts, although unidentified by partner country, are usually identified by area, which is often, and for the majority of the larger amounts, the Continental OEEC. In the other cases, which area was the partner can be inferred (usually also the Continental OEEC). We assumed the countries involved to be mainly the Group 1 Continental countries and consequently included these unallocated amounts in this group.<sup>18</sup> Some other unallocated amounts, generally small, were similarly included in the groups which were inferred to be mainly the partners. The greater part of the unallocated transactions could thus be included in one or the other of the four groups. There are, of course, unallocated amounts on one side that evidently cover the same transactions as the unallocated amounts reported by the other. To avoid double-counting, only the larger of two corresponding amounts was entered in the table in these cases.

The discrepancies were excluded from the table, but are discussed in the notes to the tables. Many discrepancies are quite small in absolute amounts. They may be in part the result of rounding compounded by currency conversion. In other cases they are small relative to the amounts involved. In such cases generally no detail was provided, while in cases of absolutely and relatively large discrepancies the amounts are specified. (There is generally little chance of large offsetting amounts being concealed in a small discrepancy.)

(b) An alternative solution would be to maintain the two-valued presentation by including not only the unallocated amounts, but also the discrepancies in the matrix table itself in the following manner: Again the lenders appear in the captions, the borrowers in the stub. Each column then shows the amounts supplied by the lender to all

<sup>17</sup> In Appendix Table B-VI (short-term credit), which presents only net outflows and inflows of individual countries, the over-all discrepancy is shown, however, since it was assumed to be the unreported net outflow from the Continental OEEC countries to the rest of the world, as mentioned above.

In Appendix Tables B-I to B-V, the lenders (and donors of grants) appear in the captions (and in the columns before the amounts where groups of lenders were combined into one caption), the borrowers (and recipients of grants) in the stub. In Appendix Table B-VII (reserves) the arrangement is reversed because, in contrast to the other types, there are many lenders and only a few borrowers.

<sup>18</sup> Except for some Norwegian transactions where mainly Sweden seems to have been the partner; these were included in Group 2. Otherwise there is no indication in the records of the Group 2 and 3 OEEC countries that they were involved in these transactions as partners.

borrowing countries according to his or the borrowers' data, whichever were chosen. At the bottom of each column two further entries are made if required, viz., amounts reported by the lender that cannot be allocated by borrower, and any discrepancy between the lenders' and the borrowers' data, as far as the latter were used. The arithmetic sum of these two cells thus represents the difference between the lenders' total supply and the sum of the amounts acknowledged by the borrowers. For the borrowers, the unallocated amounts and the discrepancies with the lenders' data, if these were used, appear in the last two cells on the right of each row. There are then two grand totals, one each for the total change in assets and the total change in liabilities, which differ by the total unallocated amounts and discrepancies of one side minus those of the other.<sup>19</sup>

This method of presentation has the advantage that the reader is immediately informed of the existing discrepancies between the (adjusted) data. But it has the disadvantage of requiring an additional summary table with only one set of totals for the world and groups and subgroups before the approximate magnitude of the flows can be unambiguously shown [the treatment of unallocated amounts and discrepancies in such a table would be the same as explained in (a) above]. Since the regional distribution in the balance-of-payments reports has become less systematic with the revision of the Fund's *Balance of Payments Manual* in 1960, it may be more difficult to identify unallocated amounts by area and, thus, to assign them to groups. In that case this alternative method of presentation may be more feasible for the data of the recent period.

### *The Deficiencies in the Reported Data*

In the preceding sections, it was explained that extensive additions were made to the reported data and that, furthermore, unallocated amounts remained, representing transactions which, to a large extent, were also not reported by the unidentified partners. We consider now the magnitudes of the reporting deficiencies and in which flows the understatements occurred. Table 2 shows the additions made to the

<sup>19</sup> Showing the discrepancies at the ends of the columns and rows is less cumbersome than entering the figures of both partners in each cell since in the many cases where the figures agree the amounts would be the same, and where they do not the discrepancy may not be attributable to a single partner but may occur with the sum of the amounts of several partners.

TABLE 2  
Estimates of Total Capital Flows by Types of Capital, Five-Year Totals, 1950-54  
(millions of dollars)

|  | Estimated Changes in Assets<br>(and extended grants) |  |  |                                       | Estimated Changes in Liabilities<br>(and received grants) |  |  |                                       | Net Dif-<br>ference,<br>Excess<br>of Lia-<br>bilities<br>over<br>Assets<br>(col. 8<br>minus<br>col. 4)<br>(9) | Final<br>Esti-<br>mate<br>(10) |
|--|--|--|--|---------------------------------------|---|--|--|---------------------------------------|---|--------------------------------|
|  | Adjustments  |  | Adjustments                                |                                       | Adjustments   |  | Adjustments                                |                                       |   |                                |
|  | Ori-<br>ginally<br>Re-<br>ported<br>to IMF<br>(1)    | Addi-<br>tions<br>to In-<br>creases<br>(2) | Addi-<br>tions<br>to De-<br>creases<br>(3) | Ad-<br>justed<br>Esti-<br>mate<br>(4) | Ori-<br>ginally<br>Re-<br>ported<br>to IMF<br>(5)         | Addi-<br>tions<br>to In-<br>creases<br>(6) | Addi-<br>tions<br>to De-<br>creases<br>(7) | Ad-<br>justed<br>Esti-<br>mate<br>(8) |   |                                |
| I. Grants  | 13,871   | 1,856                                      |  | 15,727                                | 12,676  | 2,353                                      | -22 <sup>a</sup>                           | 15,007                                | -720  | 15,729                         |
| Government loans                                   | 3,585  | 2,463                                      |  | 6,048                                 | 4,246   | 1,768                                      |  | 6,014                                 | -34   | 6,009                          |
| Government loan repayments                         | -3,528   |  | -160                                       | -3,688                                | 3,531   |  | -192                                       | -3,723                                | -35   | -3,743                         |
| Government loans, net                              | 57   | 2,463                                      | -160                                       | 2,360                                 | 715   | 1,768                                      | -192                                       | 2,291                                 | -69   | 2,266                          |
| II. Portfolio investment issues                    | 2,890  | 235  |  | 3,125                                 | 2,160   | 965  |  | 3,125                                 |   | 3,125                          |
| Portfolio redemptions and trading                  | -890   | 80   | -116                                       | -926                                  | -102  | 13   | -921                                       | -310                                  | 616   | -724                           |
| Direct investment, flows                           | 9,659  | {317                                       | {-7}                                       | 10,775                                | 7,752   | {2,285                                     | {-33}                                      | 11,230                                | 455   | 11,492                         |
| Direct investment, reinvested profits              |  | {806                                       |  |                                       |   |  |  |                                       |   |                                |
| IV. Private loans                                  | 1,495  | 54   |  | 1,549                                 | 1,509   | 81   |  | 1,590                                 | 41  | 1,649                          |
| Private loan repayments                            | -1,205   |  | -82  | -1,287                                | -1,094  |  | -199                                       | -1,293                                | -6  | -1,427                         |
| Private loans, net                                 | 290  | 54   | -82  | 262                                   | 415   | 81   | -199                                       | 297                                   | 35  | 222                            |
| V. Repatriations                                   | -657   |  | -16  | -673                                  | -506  |  | -87  | -593                                  | 80  | -627                           |
| VI. Short-term credit                              | 3,088  | 2,202                                      | -1,586                                     | 3,704                                 | 3,752   | 2,165                                      | -1,015                                     | 4,902                                 | 1,198   | 3,285 <sup>b</sup>             |
| VII. Reserves and correspondence accounts          | 6,147  | 952  | -514                                       | 6,585                                 | 7,049   | 452  | -285                                       | 7,216                                 | 631   | 6,942                          |
| Total capital and grants                           | 34,455   | 8,965                                      | -2,481                                     | 40,939                                | 33,911  | 11,308                                     | -2,054                                     | 43,165                                | 2,226   | 41,710 <sup>c</sup>            |
| Adjustments to reported accounts                   |  | 3,771                                      | -501                                       |                                       |   | 3,487                                      | -709                                       |                                       |   |                                |
| Constructed country accounts                       |  | 300  | -200                                       |                                       |   | 3,322                                      | -338                                       |                                       |   |                                |
| Constructed accounts, nonterritorial organizations |  | 4,894                                      | -1,780                                     |                                       |   | 4,499                                      | -1,007                                     |                                       |   |                                |
| Total  |  | 8,965                                      | -2,481                                     |                                       |   | 11,308                                     | -2,054                                     |                                       |   |                                |



## NOTES TO TABLE 2

<sup>a</sup> Return of lend-lease grants.

<sup>b</sup> Partly net; see note to column 10.

<sup>c</sup> See note to column 10.

NOTE: *Columns 1 and 5.* These columns show the totals of the amounts reported in the balance-of-payments accounts of all countries included in the IMF *Balance of Payments Yearbooks* covering the years 1950 to 1954. As explained in the text, the original data are not always identified by type of capital, and in a number of cases the figures are reported net. The breakdowns in these columns by type of capital were made after all transactions had been identified and the net figures had been broken up into changes in assets and changes in liabilities.

*Columns 2, 3, 6, and 7.* The rows below the adjustments by type of capital show to what extent these adjustments consist of (a) additions to the reported country accounts, (b) estimates of transactions of nonreporting countries, and (c) estimates of transactions of nonterritorial organizations. The latter consist of the following: UN, IMF, IBRD, IEPA, EPU, ECCS, and BIS. The row "Adjustments to Reported Accounts" includes all additions made to the reported data of the countries in the Yearbooks, including supplementary estimates in cases where one or two years were not reported, or where the account was only a partial account in other respects.

*Column 9.* The net differences between the adjusted estimates of changes in assets and in liabilities are equal to the sums of the unallocated amounts and the irreconcilable discrepancies on the liability side minus the sums of the unallocated amounts and discrepancies on the asset side. The discrepancies on the liability side are the differences, if any, between the borrower's figure and that of the lender (or lenders) if the latter was chosen; and conversely in the case of the discrepancies on the asset side.

*Column 10.* The final estimates include the unallocated amounts but exclude the discrepancies except in the case of short-term credit. In cases where unallocated amounts on the asset side were assumed to cover the same transactions as unallocated amounts on the liability side only the larger of the two amounts was included (usually those on the liability side).

In the case of short-term credit, the discrepancy is the net discrepancy between total net outflows and total net inflows (as given in column 1 of Appendix Table B-VI), and not the sum of discrepancies of transactions between identified partners as is the case in all other types of capital. This discrepancy was assumed to represent mainly the unreported cumulative credits extended by the Continental OEEC countries and it was, therefore, included in the final estimate.

For some types the final estimate exceeds the adjusted estimates of both sides. This occurs when unallocated amounts of both sides are included and/or eliminated discrepancies have a negative sign. In the case of short-term credit the final estimate is smaller than the adjusted (gross) estimate of either side because most of the flows between groups could only be estimated net (changes in assets net of changes in liabilities). The gross total of short-term credit lies between \$4.2 and \$4.6 billion (see Walther P. Michael, "International Capital Movements, The Experience of the Early Fifties (1950-54)," Ph.D. dissertation, Columbia University, 1965 (microfilmed), Appendix B, Matrix IX, 1), say at \$4.4 or \$1.1 billion above the figure entered here. A more comprehensive estimate for total capital flows would thus be higher by this amount, viz., approximately \$42.8 billion for total capital and grants.

The final estimates for each type of capital are the totals of the matrix tables (except in the case of Type VI, as explained below). They differ, however, from the totals in Table 1 for Types I, II, VI (see below), and VII because in order to simplify the exposition in that summary table, the European Institutions were

NOTES TO TABLE 2 (*continued*)

eliminated as intermediaries, and because of some other changes, as explained in the notes to Table 1.

In the case of Type VI the treatment is different because no matrix table with country detail could be constructed. Since Appendix Table B-VI shows only net outflows and inflows without origin and destination, flows between groups are only shown in the summary table, Table 1, for which partial gross flows were calculated. This calculation involved, apart from some other operations, the assignment of the missing outflows (evidenced by the discrepancy in Appendix Table B-VI) to the Continental OEEC countries of Group 1, and yielded the total of \$3,285 million for Type VI shown in column 10 of this table. By eliminating the EPU as intermediary, this amount is reduced by \$920 million (the sum of the debit balances in column 3 of Appendix Table B-VI) to \$2,365 million, the total shown in Table 1. For a more detailed explanation see the notes to Table 1.

original data of each side, the remaining net differences, and the final estimates of each type of capital flow. (For an explanation of the columns, see the notes to Table 2.)

The final estimate (column 10 of Table 2) exceeds the unadjusted totals of both sides (columns 1 and 5) by more than 20 per cent. Neither the supply nor the receipts side of the reported data reflect, therefore, the approximate magnitude of world capital movements adequately. It is also noteworthy that the original totals agree more closely than the adjusted totals, but this agreement is fortuitous because it is due to offsetting discrepancies in the different types. Even if the most obvious asymmetry is removed by adding the transactions of the nonterritorial organizations, the final estimate still exceeds the unadjusted totals by more than 13 per cent. It seems, therefore, hazardous to draw conclusions either about the statistics or the size of flows from aggregative capital flow figures, as is often done, without the disaggregation by types and countries which has been employed here. The larger of the two global totals may still considerably understate the real flows. In that case, estimates of the transactions for which no data are available based on the global discrepancy may be quite misleading.<sup>20</sup> Also, the over-all discrepancy includes not only non-reported transactions but also the discrepancies between reported amounts due to time lags or different methods of estimation by the

<sup>20</sup> See, e.g., Marcus Diamond, "Trends in the Flow of International Private Capital, 1957-65," *Staff Papers*, IMF, March 1967, p. 12, Table 3. Long-term private investment, with which Diamond's study deals, originally showed, for instance, for the 1950-54 period an excess of changes in assets over changes in liabilities of \$1.6 billion, while after adjustments liabilities exceeded assets by \$1.2 billion.

two partners, which can be considerable. They can be sorted out from the amounts of the omitted transactions only by disaggregation.

We turn now to the question: In which balance-of-payments reports do the deficiencies mainly occur? The breakdown of the total additions to the data in the lower part of Table 2 shows that the major part of the additions consists of estimates of the transactions of the institutions and countries for which no balance-of-payments reports exist. The adjustments to the accounts of the reporting countries were, however, also substantial. While many adjustments were made in all areas, it is the Continental OEEC countries (for all of which balance-of-payments reports existed) that most seriously understated their transactions, mainly on the supply side. The deficiency in the area's reporting is measured by the adjustments made to the OEEC country records plus the amounts in all records allocated to the Continental OEEC, but not identifiable by country (or the excess of these amounts over unallocated amounts in the Continental OEEC records, if any, which seem to cover the same transactions). Measured in this way, the Continental OEEC area accounted for 85 per cent of the total deficiency of \$5.5 billion in net increases in assets and in extended grants.<sup>21</sup> The area understated its estimated gross supply to all countries (including those within the area) by 43 per cent, and its receipts of repayments by 11 per cent. The deficiency in the supply includes the large French aid and investment flow to the dependencies whose exclusion from the French data is well known. But even if these amounts are excluded, the deficiency still amounts to 28 per cent of the gross supply, consisting of transactions whose omission is generally not apparent from the description of the data.

On the liability side a number of large adjustments in other records (mentioned below) made up the greater part of the over-all deficiency and the Continental OEEC's share was consequently less.<sup>22</sup>

<sup>21</sup> This amount consists of the net adjustments to changes in assets of \$3,270 million in the line "Adjustments to reported accounts" in Table 2 plus \$2,187 million net in unallocated changes in liabilities in excess of corresponding unallocated amounts on the asset side (contained in column 9 of Table 2), of which the Continental OEEC countries accounted for \$2,793 million in adjustments and \$1,864 million in unallocated amounts.

<sup>22</sup> Also, in this case, omitted receipts almost offset omitted repayments in the Continental accounts. The area only accounted, therefore, for less than 2 per cent of the over-all net deficiency of \$3.3 billion, the latter amount consisting of the net \$2,778 million in adjustments to reported accounts and of \$483 in net unallocated amounts.

The area accounted for 15 per cent of the total deficiency in gross receipts (receipts of grants included), but for two-thirds of the total deficiency in repayments. It understated its estimated gross receipts of foreign capital and grants by 6 per cent, its repayments to all countries by 16 per cent. The deficiencies in the Continental OEEC reports occurred, however, mainly in the capital account, which made up only one-third of the Continent's gross receipts since two-thirds were in the form of U.S. grants. For receipts of foreign capital alone the deficiency amounts to 17 per cent.

The major part of the deficiencies in the reported data of all countries other than those of the Continental OEEC area is accounted for by a few large adjustments. Reinvested profits of the United Kingdom and Canada in the United States account for close to half of the deficiency in the gross supply of all other reporting countries; reinvested profits of the United States in the U.K. and Canada,<sup>23</sup> all direct investment in India, and the direct investment in the U.K. Overseas Territories (for the years for which it was not reported) account for three-fourths of the deficiency in gross receipts of all other reporting countries. The remainder of the deficiencies are scattered over all areas.

The deficiencies in reporting during the 1950-54 period, especially the understatement by the Continental OEEC area of its supply, are of particular interest if they are found to persist in the data for later years. Some insight into this question can be gained by reference to data for 1963 and 1964 in Smith's study of balance-of-payments asymmetries.<sup>24</sup> Smith's data are joint IMF-OECD data for OECD member countries, which include the French aid and investments flows to the former dependencies, and IMF data for the Rest of the World. The latter exclude, however, a number of underdeveloped countries, among them most of the former French dependencies and some Middle Eastern oil countries. The data are adjusted for the transactions of the International Institutions. Grants are combined with private dona-

<sup>23</sup> Canadian data for U.S. reinvested profits in Canada are available (although not included in the IMF account), but the magnitudes are unreliable because they include reclassifications. The adjustment in the Canadian data was made with U.S. figures. This amount accounts for 40 per cent of the deficiency in gross receipts of the countries outside the Continental OEEC area.

<sup>24</sup> John S. Smith, "Asymmetries and Errors in Reported Balance of Payments Statistics," *Staff Papers*, IMF, July 1967, p. 232, Table 6.

tions, for which reason no comparison can be made for this item.<sup>25</sup>

Smith aggregates all net transactions (1) between the OECD member countries,<sup>26</sup> (2) of the OECD countries with the Rest of the World, and (3) of the Rest of the World with the OECD countries. The net capital transactions between OECD members should, of course, come out to zero, but they show sizable net credits for both years, i.e., understatements of outflows (\$3.6 billion and \$1.5 billion, respectively). The OECD transactions with the Rest of the World show net outflows for both years. The Rest of the World's figures agree with the OECD figures to the extent that they show net inflows from that area, but the inflow falls short of the OECD outflow in 1963 (by \$1.1 billion) and exceeds the latter in 1964 (by \$.2 billion). The Rest of the World's net receipts are, however, understated by the incomplete country coverage and by omissions of reinvested profits in many cases, while these are included in the supply of not only the United States but also of the United Kingdom for these years, which together account for some 80 per cent of private investment. The Rest of the World's receipts, if they were complete, would probably exceed the OECD's outflow figures in both years.<sup>27</sup> Smith suggests, as one explanation of the net credits within the OECD area, the possible geographical misallocation of outflows between the OECD area and the Rest of the World. But in that case the outflow to the Rest of the World becomes smaller by the intra-OECD discrepancy, and would fall short considerably of the (incomplete) receipts of the Rest of the World in both years. Either way, some OECD members understate their outflows.

On the other hand, the figures are consistent with our findings. For 1950-54, the deficiency in the Continental OEEC supply includes considerable omissions of transactions within the later OECD area, namely of investments in, and loans and repayments to, other Conti-

<sup>25</sup> Smith's figures show underreporting of receipts of donations in both years, which is no doubt largely attributable to the incomplete country coverage. The adjustments to grants for 1950-54 consisted mainly of the then not reported French grants and of the transactions of nonreported accounts. Relatively few adjustments were made to reported accounts.

<sup>26</sup> The OECD consists of the sixteen former OEEC countries, the United States, Canada, Japan, and Spain.

<sup>27</sup> The Rest of the World's net figures also include, of course, any discrepancies between the data of the countries of the Rest of the World, but since the capital transactions between these countries are relatively small, the error is likely to be small also.

mental OEEC countries, the United States, and Canada, as well as omissions of transactions with the Rest of the World. At the same time there was no evidence in partner records during our period that the United States understated its outflow, and the British record was found to be reasonably complete, except for the partial omission of reinvested profits. But these have been included in the U.K. account since the late 1950's, both on the asset and on the liability side. It is, therefore, at least very likely that the missing outflow in Smith's figures is still attributable to an understatement of the Continental supply. The presumption that the statistics of the capital suppliers have better coverage of capital transactions than those of the underdeveloped countries is thus not borne out by these findings, as far as the Continental countries are concerned.