



SPECIAL PAPERS IN INTERNATIONAL ECONOMICS

No. 5, SEPTEMBER 1963

THE BALANCE
ON FOREIGN
TRANSACTIONS:
PROBLEMS OF
DEFINITION AND
MEASUREMENT

WALTHER LEDERER

INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY · 1963

This is the fifth number in the series SPECIAL PAPERS IN INTERNATIONAL ECONOMICS.

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FRITZ MACHLUP, *Director*
International Finance Section

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The Balance on Foreign Transactions: Problems of Definition and Measurement

I. Introduction

Compilations of the balance of international transactions include data on all transfers of real resources and financial assets between residents of one country and those of others. They are historic records, based on a double-entry-bookkeeping principle. Each transaction appears twice in the accounts, with a credit entry and a debit entry, both in exactly the same magnitude. Thus, if goods are exported and payment is received in the form of a check drawn against an account of a foreign resident in a U.S. bank, the credit entry would be merchandise exports, the debit entry the corresponding decline in U.S. liabilities to foreigners, since checking accounts held by foreign residents in U.S. banks constitute a liability of that bank.

If the exports are not paid for in the same accounting period, because the payment has been deferred by a loan, the debit entry would be an "outflow" of U.S. capital; if the exports are provided as a gift, the debit entry would be called a gift or "unilateral transfer." No matter what form the financial arrangement may take, there always has to be a debit entry equal to the value of the exports.

If each transaction is represented by equal credit and debit entries, the total of all transactions must be represented by equal totals for all credits and all debits. Except for the fact that statistical data for international transactions are not complete and estimates may be off the mark, the two sides of the balance sheet always have to be equal.

By dividing all of the balance-of-payments items into two groups, each of the two will balance to the same figure with opposite signs. The figures themselves never indicate that one of these two groups is the cause, the other the effect. In fact, the number of potential groupings is quite large. If one attempts to read cause-effect relationships into such groupings, they represent hypotheses which are not based on the balance-of-payments data themselves, but on other assumptions. These assumptions, however, are not subject to proof or disproof on the basis of balance-of-payments statistics, and the number of such

hypotheses is potentially as large as the number of groupings into which the entire compilation can be divided.

The setting-up of categories, distinguishing between them with respect to their significance, calling attention to certain balances rather than to others, is thus a matter of interpretation of the data, analysis of the relationships between the various transactions, and the relationships of these transactions to other economic and sometimes non-economic developments, conditions, and policy goals. The analysis will necessarily vary with the purpose for which it is made.

It should be expected, therefore, that differences arise among analysts with respect to the interpretations of the data and the conclusions drawn from them. Some of these differences, however, indicate not really contradictory positions; instead, they are due to differences in the problems for which answers are sought, not to differences in answers to the same problem.

Neither the apparent nor the real conflicts in the interpretations of compilations of international transactions would be particularly disturbing if the discussion of balance-of-payments problems were only among the relatively few specialists in that field and had only theoretical interest. In most other countries in the free world, and for some years now also in the United States, the balance-of-payments problem has arisen as a subject of national concern, a major issue requiring public-policy formulation, and consequently has attracted growing interest among large sections of the population.

It is important, therefore, that the problems of analyzing the data be better understood. This requires not only the clarification of the purpose for which the analysis is intended, but also some knowledge of what the figures represent. In this paper it is attempted to set out some of the considerations in finding a focus for the analysis, to define that focus in terms of specific types of transactions, and to examine the statistical data and institutional conditions of the United States in order to determine which of the data best meet this purpose. The paper discusses also alternative concepts used by other analysts, and attempts to explain the reasons for the differences.

II. The Need for Balance-of-Payments Statistics: A Recent Development

1. *Early Interest Mainly Academic*

Perhaps the first approach to balance-of-payments statistics could be made by asking what is the purpose of such statistics, and when and why a need for them has arisen. An answer to these questions may, perhaps, help in singling out one or more types of analytical approaches which may make these statistics useful in the evaluation of past economic developments and as a tool in economic-policy formulation.

In the United States the interest in balance-of-payments statistics has only recently developed. In most other countries such interest arose much earlier. Even there, however, the use of such statistics in policy formulations by government or central-bank authorities hardly goes back before the 1930's, and in most countries it only started during or after World War II. Before that time, apparently, balance-of-payments statistics were not considered essential, although many countries had progressed to their present state of economic and financial development and although their international transactions were about as varied and intensive, relative to the size of their economies, as they are now.

This does not mean, however, that no balance-of-payments statistics were compiled. The interest in such statistics, however, was mainly theoretical and illustrative to provide examples of the different types of international transactions and their magnitude during a selected time period, and to show the movements in those particular items that were considered international reserves and means for international settlements.

Balance-of-payments data over longer periods of time were also used to show the longer-run changes in certain items and their interrelationships, as for instance in connection with the problem of economic development of a country and of a change in its position from international debtor to international creditor.

The compilations of balance-of-payments statistics in the United States date back to the years immediately following World War I. They were started as a result of the problems created by the large

loans which the United States gave its allies to finance their expenditures abroad (mostly in the United States), and of the problems of financing their postwar reconstruction. In Germany, interest in the balance of payments was greatly stimulated by the problems created by the transfer of reparations. Balance-of-payments data were used to expose the requisites for such transfers and the difficulties involved, but not necessarily to guide policy with respect to international reserves.

If countries once were able to get along without specific use of balance-of-payments statistics and to progress to a state of economic development not much different from that of the western world today—including highly diversified industrial economies operating with modern financial methods and linked with other countries through widespread real and financial exchanges—what has changed to make the use of balance-of-payments statistics indispensable as a guide for policy formulation?

2. *The Influence of Changing Institutions*

The principal changes are probably the separation of domestic and international liquidity considerations; the transfer of responsibility for the latter from the banking systems to the governments; and the attempts by the governments to pursue economic policies within each of the several countries independent of economic relationships to the rest of the world, and yet to maintain more or less fixed exchange relationships of their own currencies with those of other countries or with a recognized international medium of exchange, such as the U.S. dollar or gold. What matters here is the combination of these policies. Pursuing domestic economic policies independently of international economic relationships by isolating the domestic monetary system from the effects of reserve accumulations or reductions, or if necessary by changing exchange rates—a widespread practice during the interwar period, particularly the latter half—does not require balance-of-payments data as policy guides.¹ Only if the policy also includes the maintenance of stable foreign-exchange rates, do the transactions associated with changes in international liquidity become subject to direct or indirect policy actions, and data on the size of these transactions and understanding of the forces affecting them become essential.

¹ The operations of Exchange Stabilization Funds were analyzed by Ragnar Nurkse in *International Currency Experience* (League of Nations, 1944), chapter VI.

As long as private commercial banks, or even the central banks (which in some instances were in fact private banks themselves or central institutions organized by and for the commercial banks), did not distinguish between their domestic and foreign business, they did not have to distinguish between domestic and foreign assets and liabilities.

They generally followed the policy of keeping their less liquid higher-yield assets as large as possible without endangering their financial solvency.² To ensure this solvency they would keep their more liquid lower-yield assets in such ratios to their demand liabilities as they considered necessary to provide a safe margin.

What constituted a liquid asset depended upon its acceptance as a means of settling debts between banks and their creditors, including other banks, or such assets as could quickly be converted into acceptable means of settlement with a minimum loss of value.

In the absence of a central bank (whether established by the government or by usage), liquid assets of banks would have been gold. As central banks were established, or certain metropolitan banks developed into the position of bankers' banks, deposits in these banks or their notes served as liquid or reserve assets for other banks, provided the former assumed the obligation—and could clearly meet it—to convert their notes into gold. This, in fact, ensured the complete convertibility of national into international media of exchange, as was pointed out by Robert Triffin.³

Deposits in such banks, or their notes, served then as substitute for, or supplement to, gold as a medium for settling obligations and as a form of liquid asset which could be used as reserve assets against demand obligations by other banks, enterprises, or persons.

Since the notes and deposits created by these reserve banks were generally considered to be essentially a stand-in for gold—with gold remaining the ultimate means of settlement and ultimate reserve asset—the liabilities of the reserve banks were limited by their desire to pre-

² The term "financial solvency," as used here, refers to the ability of a debtor to pay claims against him when they are due. This implies that the debtor has sufficient amounts of "cash" (i.e. assets acceptable to others as a medium of exchange) on hand, or that he has liquid assets which can be converted into cash with a minimum of delay and loss in value. Financial solvency may be distinguished from total solvency, which means that the fair value of the total assets of the debtor (given a reasonable time for liquidation or assuming a reasonable capitalization of his earning assets) equal or exceed his debts.

³ "The Return to Convertibility: 1926-1931 and 1958- ? or Convertibility and the Morning After," Banca Nazionale del Lavoro, *Quarterly Review* (Rome, March 1959), pp. 6ff.

serve their financial solvency, that is, their ability to convert notes and deposits into gold whenever required.

The establishment in each of the various countries of central-reserve banks in which the other banks kept their reserves reduced the need for internationally acceptable assets, such as gold, for purposes of settlement of claims within each of these countries. The money supplies used in domestic circulation could be raised relative to the available reserves in international assets as long as the central-reserve banks stood ready—and were trusted—to convert upon demand their own liabilities (that is, their notes and deposits held there by the commercial banks) into international cash assets. As long as the central-reserve bank in each country followed the policy of safeguarding its own solvency, the international solvency of the country, in the sense of its ability to preserve the exchange value of its currency, was ensured.

Metropolitan banks, which were located in countries carrying on a large amount of foreign trade or able to provide financial resources to others, and which at the same time were considered to be sheltered from outside interference with their business operations, particularly with respect to their own financial solvency, developed into bankers' banks not only within their own country but for other countries as well.

The world-wide monetary system has thus been further enlarged, to the extent that private as well as central-reserve banks in each of the various countries keep as part of their own reserves such claims as deposits in the banks of a reserve-currency country. This gold-exchange standard depends upon the confidence that these claims are convertible into gold as long as gold is considered the ultimate medium of international payments.⁴

The higher up on the reserve pyramid a bank happens to be, the greater is its responsibility in this type of monetary system, and the more careful it has to be in safeguarding its own currency. This is sometimes accomplished by keeping higher reserve ratios, by reacting faster to changes in its reserve position, or by pursuing a more active policy to prevent such changes than would be required by banks on a lower level of the monetary pyramid.

Provided, then, each layer of bank—from the local level through the

⁴ The use of foreign exchange for monetary reserves of central banks before World War I was quite small. In 1913, foreign exchange accounted for less than 10 percent of central-bank reserve assets. The gold-exchange standard became more prevalent in the 1920's. In 1928 foreign exchange comprised about one-fourth of central-bank reserves, and outside the United States and the United Kingdom about 38 percent. (See Triffin, *op.cit.*, p. 24.)

various reserve levels—makes sure to preserve its financial solvency, there is no difference between domestic and international solvency of the banking and currency systems. An inflow of internationally acceptable cash (gold or deposits in a recognized large bank in a country whose currency is accepted for international transactions) provides the base for the recipient bank to issue its own notes or deposits and thus to increase the money supply in its own country. An outflow of international cash forces the bank to reduce its own liabilities, and thus the money supply in its country shrinks.

The ratio between cash reserves and demand obligations of a bank depends upon the judgment of the amount and speed of withdrawals of cash relative to receipts of new deposits, the ability to reduce withdrawals of funds or to attract new funds, and to liquidate loans and investments or obtain credit to meet an unforeseen excess of cash withdrawals. The higher the customary ratio between deposit and similar obligations to reserves, the more an inflow or outflow of internationally acceptable cash will affect the size of a country's banking deposits and notes, and thus its money supply.⁵ This will affect its economy, stimulating it, if the money supply increases, or constricting it if it declines.

Provided a country's standing in international trade and its attractiveness for capital investments is roughly equal to that of competing countries, the changes in money supply, and correspondingly in incomes and demands, will tend to counteract the forces which caused the changes in the country's assets in international reserves. This will be greatly facilitated if the banking system reacts quickly to changes in its liquidity position, and the forces which are responsible for these changes are counteracted before they can ramify and become strongly entrenched in the economy. Quick reactions will tend to maintain the country's competitive position and, therefore, minimize the drain on its reserves. A policy of maintaining reserves close to the required amount is often more effective in that respect than one which permits accumulations and reductions of excess reserves, because the latter policy will facilitate postponement of needed actions.

Except in those cases where a country's competitive position is seriously impaired by developments beyond its control, a decline in its reserves of international cash assets may affect the solvency of indi-

⁵ To keep the reserve ratio constant, the absolute change in the domestic money supply has to be a multiple of the change in reserves by the inverse of that ratio, but, relatively, the change in the money supply will be the same as in reserves.

vidual enterprises, but it will not affect the exchange value of its currency, as long as the banks themselves—at least those whose obligations are used in international transactions—preserve their own financial solvency, or the necessary ratio of liquid assets to demand liabilities. Thus the normal desire of the private banks and enterprises to maintain their solvency—which is just as important to preserve their ability to continue in operation as earning a return on their investment (and in the short run even more important)—will ensure the exchange value of a country's currency, and thus make it unnecessary for the government to take special actions to accomplish that.

International liquidity becomes a problem to the government when the government itself takes actions to relieve banks and the monetary authority of their country from the requirement of keeping their reserves in internationally acceptable assets and permits (or forces) them to substitute as reserve assets obligations of the government itself. In many countries, including the United States and the United Kingdom, the governments have taken over the international assets. Even where that has not been done, the independence of the central banks to follow their own policy of maintaining international liquidity and their ability to counteract or resist policies by their government is subject to doubt. In countries where the effective authority of the governments over the central banks and the rest of the banking system has been established—and most countries in the western world have accepted that political relationship—the task of maintaining international liquidity and the exchange value of their currencies has become the final responsibility of the governments. The more or less simple guidelines which banks and central banks have used for maintaining their international solvency—and thereby for safeguarding the exchange rate of the currency—have not been accepted by the governments in order to reduce the restraints imposed on domestic economic activity by the banking policy of maintaining fixed ratios between external reserves and the domestic money supply.

This development is stated here as a historic fact. It is neither deplored nor considered desirable. It has historic reasons and it is outside of the scope of this paper to judge whether the historic events with which this expansion in governmental authority and responsibility was associated left no other alternative to meet the problems created by them, and whether the same or other reasons force governments to continue this function.

III. Changes in International Liquidity as a Focus of Balance-of-Payments Analysis

1. *Interpreting Balance-of-Payments Statistics*

If governments want to meet the responsibility of maintaining the exchange value of their currencies, they require certain guidelines to substitute for those used by the banks in their effort to conduct their business within the limits imposed by considerations of financial solvency.

Balance-of-payments compilations and their analysis are supposed to be among such guidelines. The question is how the data should be interpreted to meet this purpose. This does not imply that balance-of-payments data could not also be used for other purposes, but such other uses are not being considered here. Neither does it mean that the balance of payments should be the only guideline to economic policy.

(a) General equilibrium versus exchange equilibrium

Several conditions which are implicit in the use of balance-of-payments compilations as a policy guide to public officials in their task of maintaining the exchange value of their currency may be reemphasized.

Changes in international liquidity could not serve as a focus of balance-of-payments analysis if it were the policy to let the exchange value fluctuate freely and to permit the demand and supply of the currency in the international exchange market to be equated through exchange-rate adjustments. In this case, reserves of internationally acceptable media of payment (except perhaps for major national emergencies) would not be needed, and the size of domestic liabilities of the banking system, and the domestic money supply, could be completely independent of the availability of external cash assets.

Under such conditions, international transactions would be in balance without net transfers of international cash assets. Differences in the movements of supply and demand would appear in changes of exchange rates, which are not shown in balance-of-payments statements. Changes in exchange rates, however, would have repercussions on the international transactions themselves and affect their magnitude. The latter would appear in balance-of-payments compilations, and