II. Interrelations Among Macroeconomic Accounts

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Introduction

Macroeconomic statistics are the basic information used to appraise and forecast economic performance. Reliable statistics are thus indispensable to policy makers. Such statistics can be classified into four distinct, but related, categories: the national income and product accounts, the balance of payments, government finance statistics, and the monetary accounts. 1/ For countries in which there is considerable state ownership, it is also useful to have access to the accounts of state enterprises so as to be able to distinguish their activities from those of households. While the various categories of macroeconomic statistics highlight particular aspects of the economy, they should, in principle, use broadly the same basic concepts so as to form an interconnected system that is internally consistent. This workshop focuses on the most important concepts underlying the different sets of accounts and on the interconnections among them. Special reference will be made to the Hungarian data used in the workshop series.

1/ Standards for the preparation of statistics in these areas have been developed by international organizations. The United Nations has published a comprehensive guide for the compilation of the national accounts entitled "A System of National Accounts (SNA)." The International Monetary Fund (IMF) publishes two manuals on the "Balance of Payments" and "Government Finance Statistics." It also has issued a draft "Guide to Money and Banking Statistics" which sets out the practices applied to all member countries in its monthly publication "International Financial Statistics."

Common Features of Macroeconomic Statistics

1. Residents and foreigners

The four sets of macroeconomic accounts relate to an economy defined to comprise all of its residents. *Residents* are those economic units which have a closer tie with the territory of the country than with any other country. Economic units that are not residents are referred to as *nonresidents*. The two expressions, resident and nonresident, need not have anything to do with nationality: a resident of one country may be a national of another.

To define residence, the following conventions have been used. Individuals residing permanently in a country are residents. Migrant workers are residents of the country in which they work if they have resided there for at least one year. A country's government, including the activities it carries out abroad, such as diplomatic representation, is regarded as a resident of the home country. All enterprises operating in the national territory are classified as residents, even if they are partly or wholly foreign owned. Analogously, foreign branches and subsidiaries of resident enterprises are classified as nonresidents.

2. Economic transactions

The macroeconomic accounts represent a summary record of economic transactions. An economic transaction takes place when ownership of a real or financial asset is transferred, or a service is rendered, by one economic unit to another. In most cases, economic transactions involve exchanges: goods and services may be exchanged for financial assets (e.g., sold against money) or financial assets may be exchanged against other financial assets (e.g., a security may be sold for money). In some cases, goods and services or financial assets are transferred without an exchange taking place, for example, when medical supplies are provided free to the population of an area hit by drought. These transactions are also treated as having two sides: the movement of goods, services or financial assets on the one hand and an unrequited transfer on the other. Such transactions may take place either within one country or from one country to another.

In the national income accounts the concept of economic transactions is broadened to include certain transactions within the same economic unit. For example, a farmer may produce food for his own consumption, or an owner who occupies his own house is the recipient of housing services; in neither case is any payment made by the consumer or received by the producer. The recording of such transactions within the same economic unit is necessary, however, if the national income aggregates for production and consumption are to be comprehensive and comparable among countries. Therefore, the farmer is assumed to have sold his production, in his capacity as a producer, to himself, in his capacity as a consumer.

Similarly, the implicit rent of owner-occupied dwellings is included in both production and consumption.

The two sides of each transaction are referred to as *flows*, in the sense that they measure activity per unit of time (this contrasts with the concept of *stock* which measures the amount outstanding of a given aggregate at any point in time). These flows are normally classified as either *nonfinancial* (real) or *financial*. *Nonfinancial* flows refer to transactions that occur in the process of producing or acquiring goods and services, i.e., flows of goods, services, income and unrequited transfers. *Financial flows* include changes in financial assets and liabilities. Many financial transactions have no corresponding nonfinancial transaction, e.g., the exchange of one financial instrument for another.

Real and financial flows taken together record all incomes and expenditures of an economic entity (households, enterprises, or government). For any given entity or sector, the balance on nonfinancial transactions should, apart from statistical errors, be equal to the change in its financial assets and liabilities vis-à-vis the other domestic sectors and the rest of the world, e.g., a family's excess of expenditure over its income must equal its dissaving or borrowing, or if a surplus, must equal its saving or lending.

With respect to the *timing* of transactions, in the national income accounts and balance of payments the convention is to record them when an obligation is incurred (typically when legal ownership of assets changes) rather than when it is settled, or on what is referred to as an *accrual* basis. In the case of Hungary, however, the balance of payments is on a *cash* basis. Government finance statistics, on the other hand, are generally recorded on a cash basis; this is the case in Hungary. Since monetary statistics are derived from balance sheets which are constructed in accordance with the rules of business accounting, they are also, in principle, on an accrual basis. They would, for instance, record liabilities before they are settled. However, since most transactions of banks are carried out immediately in cash this distinction is in general of little practical importance. The main exception in the case of Hungary relates to interest earned on bank deposits, which through late 1991, were paid at year-end rather than when they accrued.

National Income and Product Accounts and the Balance of Payments

1. National income and product accounts

The starting point for the national income and product accounts is the identity between output produced and the disposition of that output. The supply of goods and services in a given year may be viewed as the sum of domestically produced output and imports. The disposition of this supply is composed of aggregate expenditures by domestic residents on consumption and investment, plus the exports purchased by foreigners. In symbols:

$$Y + IM = C + I_g + X \quad (1)$$

where:

- Y = a measure of domestic output
- IM = imports
- C = consumption expenditure of households, enterprises, and government
- I_g = gross investment expenditure of households, enterprises and government (including inventory changes); and
- X = exports

Rearranging the above accounting identity, one obtains:

$$Y = C + I_g + (X - IM) \quad (2)$$

Output, Y, can be defined in several ways. *Gross domestic product* (GDP) is a measure of the total value added in all resident producing units; it is similar (but not completely identical) to the output produced in the territory of a given country. The term *gross* implies that no deduction has been made for the consumption (depreciation) of fixed capital that is used up in current production. Once such a deduction is made, *net domestic product* (NDP) would be derived. 1/

Another output measure is *gross national product* (GNP). It is a measure of the income earned, whether domestically or abroad, by the factors of production owned by residents. More specifically, GNP is defined as GDP plus payments from abroad to residents for services of factors of production owned by residents but located

1/ The gross concept of domestic product is most often used because of the inherent problems in recording economically meaningful amounts for depreciation: (1) it is difficult to know how long a capital good will last before becoming economically obsolete; (2) it is unclear whether the correct price to be assigned to the remaining value of a capital good is the price at which it was purchased some years ago or the price required to replace it today; and (3) in some cases the tax laws have explicit rules on the amount of depreciation to be subtracted that have little to do with the economic situation.

How Does the Concept of "Net Material Product" (NMP) Relate to GDP?

In centrally-planned economies the variable used as a measure of output is *Net Material Product* (NMP), which has its origins in the input-output tables underlying the central plan. The difference between NMP and GDP is primarily accounted for by the omission of depreciation and much of the value added of the nonmaterial service sector. Only those services connected with the distribution of physical products, such as shipping and storage and marketing, would, in principle, be included in NMP since such services are considered to be a "continuation" of material product. In addition, nonmaterial services used as inputs in production would implicitly be included as they are not recognized as inputs and thus are not netted out of NMP. Practices as to what constitutes a nonmaterial service, however, differ widely among countries. GDP can thus be constructed by adding to NMP depreciation and the total value added of non-material services, however defined, and subtracting from it non-material services used as an input in production so as to avoid the problem of double counting. In Hungary, in 1989 GDP was 24 percent higher than NMP.

Box 1

outside the reporting country, less payments to foreigners for services of factors of production they own and that are located in the home country. The difference between GDP and GNP is called *net factor income from abroad* and may be positive or negative.

Such payments and receipts relate to investment income, e.g., returns on direct investment and interest earnings (payments) on reserves and financial assets (liabilities); labor income, e.g., from migrant workers in so far as they are considered residents of their home countries rather than the country where they work; and rents on land and building and royalties (for books, films, music, etc.).

As a measure of changes in the income available to a country, GNP is superior to GDP, particularly where international factor income payments are large and fluctuate widely. As with GDP, *net national product* (NNP) can be derived by deducting depreciation.

The definition of output that is selected, thus, influences what is included in "X" and "IM" in equation (2). If Y is GDP, then exports and imports will include goods and nonfactor services. Adding net factor income from abroad, YF, to equation (2) we obtain GNP, i.e.,

$$GNP = Y + YF = C + I_g + (X - IM + YF) \qquad (3)$$

Factor Cost vs. Market Prices for Measurement of Output

The activity of government in the economy causes a discrepancy between the sum of all factor payments or incomes produced (valued at "factor cost") and aggregate expenditure (valued at "market prices"). Because of the existence of indirect taxes and government subsidies, the final price paid in a transaction is different from the actual receipts of the factors of production involved. Specifically, indirect taxes net of subsidies are compulsory payments to the government which producers treat as an expense of engaging in production. In other words, these costs are deducted in the calculation of the operating surplus of enterprises. They are not, as are direct taxes, paid out of incomes of the factors of production. As a result, in order to move from the concept GDP, measured from the income side at factor cost, to the concept of GDP, measured from the expenditure side at market prices, the amount of net indirect taxes must be added back. In addition, in the case of Hungary there may be significant valuation differences related to, among other things, CMEA trading arrangements and the valuation of inventories.

Output data by sources of income are not readily available for Hungary (Tables 7–8 of the statistical appendix, however, contain output measured at factor cost by branches of economic activity). The figures below are estimated for illustrative purposes using the available information so as to highlight the differences between GDP measured from the income side at factor cost and from the expenditure side at market prices.

	(In billions of forint) 1988
1. Compensation of employees 1/	698
2. Operating surplus 2/	383
3. Depreciation of fixed capital	133
4. GDP at factor cost (1+2+3)	1,214
5. Indirect taxes (net of subsidies) and valuation differences 3/	195
6. GDP at market prices (4+5) = (7+8+9)	1,409
7. Consumption	1,004
8. Gross investment	358
9. Foreign balance	47

1/ Differs from households' disposable income primarily as it excludes social benefits and other government transfers, and is calculated before the deduction of income taxes.

2/ Obtained as a residual. Part of this surplus is paid by producers in income taxes and what is left over after tax payments represents property income in the form of dividends, interest, or retained earnings.

3/ Obtained from Table 8 of the Statistical Appendix.

Box 2

There is one other measure of output that may be useful, which is called *gross national disposable income* (GDI). To derive this, the value of net transfer payments from abroad, TR, is added to equation (3) to yield:

$$GDI = Y + YF + TR = C + I_g + (X - IM + YF + TR) \qquad (4)$$

GDI is the total income that is available to residents for spending on consumption and gross capital formation if they are not, on balance, receiving or providing any foreign financing. The importance of adding current transfers to factor incomes to measure adequately income available to an economy can be made clear by considering the residency status of migrant workers. If such workers are treated as residents of the country in which they work, their remittances to their home countries are classified as transfers; if they are treated as residents of their home country, they become factor payments. Using GDI as the measure of income, the income available to the countries making or receiving the transfers is not affected by whether the workers are classified as residents of one country or the other. Net *national disposable income* (NDI) can be derived by deducting depreciation from GDI.

The term in brackets on the right-hand side of equation (4) now includes exports and imports of goods and all services and net foreign transfers. This sum is equal to a broad definition of the *external current account of the balance of payments*, CAB. The three definitions of output and the corresponding concepts of external balance are shown in Box 3.

National Income and Product Accounts and the Current Account in the Balance of Payments

National Account Concept	Current Account Definition
Gross domestic product	Exports and imports of goods and nonfactor services
Gross national product	Exports and imports of goods and services
National disposable income	Exports and imports of goods and services, and unrequited transfers

Box 3

Equation (2), (3), and (4) demonstrate that, whatever the definition of output that is used, any external imbalance must be reflected in a domestic imbalance in which residents' expenditure on domestic and foreign goods and services—the sum of consumption and investment expenditure, which is often called *absorption*—either exceeds or falls short of domestic output.

Rearranging equation (4):

$$\begin{aligned} GDI - A &= X - IM + YF + TR \\ &= CAB \end{aligned} \tag{5}$$

where:

A = residents' expenditure on domestic and foreign goods and services, i.e., $C + I_g$

Alternatively, the domestic imbalance can be rewritten in terms of an imbalance between saving and investment.

Given the definition of GDI, *gross saving*, S_g, can be defined as that part of GDI not consumed:

$$S_g = GDI - C \tag{6}$$

Substituting equation (6) into (4):

$$\begin{aligned} S_g - I_g &= X - IM + YF + TR \\ &= CAB \end{aligned} \tag{7}$$

Equation (7) indicates that to the extent that investment exceeds saving, it will be reflected in an external current account deficit. It should be emphasized that equations (5) and (7) are identities. Without additional information, no inference can be made from these equations as to whether the source of the imbalance was external (e.g., terms of trade deterioration) or domestic (e.g., expansionary financial policies).

Table 1 summarizes the various product and income concepts and the uses of disposable income as applied to the Hungarian economy in 1987–88. National product and income concepts were derived by adding to GDP (the measure of output conventionally used in Hungary) net investment income from abroad and external transfers as recorded in the balance of payments. 1/ Line 15 indicates that the excess of investment over saving was Ft −24 billion in 1988 and Ft −2.7 billion in 1988. While in principle these figures should be equal to the external current account deficit as recorded in the balance of payments, in practice they were not, particularly in 1988.

1/ This may not fully reflect net factor incomes from abroad since data for labor income and income from property other than investment are not separately identified in the balance of payments.

Table 1. Hungary: Relationship of Income and Product Concepts

(In billions of forint at current market prices)

	1987	1988
1. Gross domestic product (GDP)	1,226.4	1,408.8
2. Consumption of fixed capital	127.6	132.6
3. Net domestic product (NDP) (1) – (2)	1,098.8	1,276.2
4. Net factor income from abroad	–48.2	–55.1
5. Net national product (NNP) (3) + (4)	1,050.6	1,221.1
6. Consumption of fixed capital	127.6	132.6
7. Gross national product (GNP) (1) + (4)	1,178.2	1,353.7
8. Net current transfers from abroad	4.9	5.9
9. Net disposable income (NDI) (5) + (8)	1,055.5	1,227.0
10. Consumption (–)	–879.6	–1,004.1
11. Saving, net (9) + (10)	175.9	222.9
12. Consumption of fixed capital	127.6	132.6
13. Saving, gross (11) + (12)	303.5	355.5
14. Gross capital formation (–)	–327.5	–358.2
Fixed capital	(303.5)	(295.6)
Change in inventories	(24.0)	(62.6)
15. Balance on nonfinancial transactions (foreign balance, national accounts basis) (13)+(14)	–24.0	–2.7
Memorandum item:		
16. Current account of the balance of payments	–31.8	–28.8

Source: IMF Institute data base.

What accounts for these discrepancies? The Hungarian balance of payments is recorded on a cash basis, whereas the national accounts are recorded on an accrual basis. This could lead to substantial differences because of leads and lags in payment settlements. For example, if certain goods are exported in December but payment is not received until February of the following year, the national accounts would record the transaction in the year they were shipped while the balance of payments would record it in the following year. There may also be differences in coverage, valuation, and in classification. 1/ Finally, there may be statistical errors. Discrepancies such as those described above make it more difficult to appraise and forecast the economic performance of an economy by reducing the reliability of the statistical information. This is particularly so when there are large year-to-year swings in the size of these discrepancies.

It is useful to rewrite equation (7) in terms of the contributions of the different sectors of the economy to total saving. The conventional approach is to distinguish the government's position from that of the rest of the economy: the intention here is to separate the net saving of the government, which broadly speaking are under the authorities' control, and the net saving of the private sector which the authorities can influence only indirectly through various policy measures. In countries where state ownership of enterprises dominates and where the authorities can resort to extensive administrative controls over these enterprises, a different classification may be more appropriate in which the positions of households and enterprises are separately identified to reflect their different behavior. Sectorizing equation (7):

$$(S_{gH} - I_{gH}) + (S_{gE} - I_{gE}) + (S_{gG} - I_{gG}) = CAB \qquad (8)$$

where:

S_{gH} = gross saving of households
I_{gH} = gross investment of households
S_{gE} = gross saving of enterprises
I_{gE} = gross investment of enterprises
S_{gG} = gross saving of government
I_{gG} = gross investment of government

Procedures for calculating the sectoral nonfinancial transactions balances for the case of Hungary are discussed later in this chapter. It should, nevertheless, be noted here that the nonfinancial transactions balance of the government is equal to the overall budget balance after adjusting for capital transfers and net lending.

1/ Hungarian practice is to classify in the national accounts certain external transactions as domestic transactions. Specifically, private consumption is defined on a territorial basis rather than by residency. For purposes of this workshop series, an attempt was made to adjust the data to conform with the residency concept by subtracting foreign travel expenditures made in Hungary from private consumption and adding Hungarian travel expenditures made abroad to private consumption, with a corresponding adjustment made to the foreign balance. The travel data were obtained from the balance of payment accounts, which uses a cash basis rather than an accrual basis. It is likely that the territory versus residency basis produces other inconsistencies in the reporting of the external balance.

For purposes of economic analysis, equation (7) and (8) are frequently expressed in terms of proportions to total income or output so as to indicate the relative size of the imbalances of each sector as well as to facilitate inter-year comparisons. Moreover, by focusing on these ratios, the policy effort that needs to be implemented toward, for example, raising the rate of investment and an economy's domestic saving effort, can more clearly be measured.

For example, using the figures in Table 1 one can derive the gross saving and investment ratios for Hungary in relation to GDP [lines 13 and 14, respectively, divided by line 1]. Notably, gross saving increased from 24.7 percent of GDP in 1987 to 25.2 percent of GDP in 1988 while gross investment, despite increasing in absolute terms, fell from 26.7 percent of GDP in 1987 to 25.2 percent of GDP in 1988. The result was an improvement in the foreign balance, as measured in the national accounts, of 2 percentage points, i.e., from a deficit 2 percent of GDP to virtual balance.

As noted earlier, the external current account balance, as recorded in the balance of payments, shows somewhat different figures. Notably, the external current account deficit fell from only 2.6 percent of GDP to 2.0 percent of GDP [line 16 divided by line 1]. For reasons already discussed, such divergences could raise questions as to whether, on the one hand, the improvement in saving or decline in investment are overestimated in the national accounts or, on the other, the external accounts of the balance of payments underestimate the economy's improved position vis-à-vis the rest of the world. Answers to these questions carry policy implications.

Tables 7–10 of the Statistical Appendix provide data on the national accounts of Hungary. Tables 7 and 8 classify GDP by branches of economic activity (at factor cost) in constant and in current prices, respectively. Tables 9 and 10 present output from the expenditure side (at market prices) also in both constant and current prices. Chapter IV discusses issues relevant to *forecasting output and prices*.

2. Balance of payments

The *balance of payments* comprises the *external current account balance*, i.e., a record of transactions of residents with foreigners in goods, services and unrequited transfers (as discussed in the previous section), and the *capital account balance*, which provides summary statistics on the change in the net foreign asset position of domestic residents arising from transactions such as external borrowing or repayments, foreign direct investment, and short term capital movements.

The balance of payments recording system takes the form of a double-entry accounting system, in which each transaction is reflected in both a credit and a debit entry. Credit entries are used for (i) real resource flows denoting exports; and (ii) financial flows reflecting either a reduction in the economy's foreign assets or an increase in its foreign liabilities. Obversely, the compiling economy records debit entries for (i) real resource flows denoting imports, and (ii) financial items

reflecting either an increase in assets or a decrease in liabilities. For example, an export transaction in which the foreign exchange receipts are deposited abroad would be recorded as:

exports of goods: credit
short-term capital: debit

Following the convention that credits are indicated by a positive sign and debits by a negative sign, and given that each transaction in principle involves a credit and debit entry in the same amount, the sum of all entries should be zero. In practice, however, information on the debit and credit components of a transaction is usually obtained from different statistical sources. Deficiencies in coverage, as well as variation in the time of record and in the methods used for valuing transactions, necessitate the insertion of a balancing item in the accounts. This is usually referred to as *net errors and omissions*.

How then can one talk of an overall balance of payments surplus or deficit when the sum of all entries, including net errors and omissions, by definition equals zero? A surplus or deficit in the balance of payments involves summing up a subgroup of external transactions and distinguishing the transactions within this group (*"above the line"*) from items outside it (*"below the line"*). The decision on where to draw the line reflects a normative view as to what set of transactions best indicates the need for balance of payment adjustment.

The standard practice is to place below the line only the changes in short-term assets and liabilities of the monetary authorities, i.e., *the change in net official international reserves*. 1/ However, if the net foreign position of commercial banks and other economic units is sizable and under the effective control of the authorities, it can be argued that their foreign position should also be placed below the line in the definition of the overall balance. In the case of Hungary only changes in net official international reserves held by the monetary authories are placed below the line.

Insofar as there are limits to the change in reserves that countries are willing or able to accept, an overall imbalance represents an important indicator of the need for balance of payments adjustment. The adequacy of reserves is often discussed in gross terms (i.e., excluding short-term liabilities), and in relation to the level of a country's imports. 2/

The balance of payments identity can be written as:

$$\Delta R = CA + \Delta FI \qquad (9)$$

1/ Certain medium- and long-term borrowing of the monetary authorities, notably loans from international organizations that are used for balance of payments support, are classified below the line with other short-term liabilities.

2/ Gross reserves in terms of imports, while a useful indicator of a country's ability to sustain external shocks, needs to be interpreted with caution. In particular, imports represent only a part of external payments. Also the measure does not indicate the size of the potential imbalances between receipts and payments which reserves may need to finance.

where:

ΔR = the change in net official international reserves of the monetary authorities.

ΔFI = the change in net foreign indebtedness of domestic residents other than what is classified as official reserves.

Equation (9) highlights the way in which the balance of payments acts as a constraint to resource use in the economy. Specifically, a current account deficit—which was shown above to be equal to an excess of absorption over income—can be sustained only as long as capital inflows persist and/or net official international reserves are not depleted.

Imbalances in the current account do not necessarily imply a need for policy adjustment. A country might, for example, wish to have a current account deficit financed by long-term capital inflows linked to development expenditure. An important determinant of these flows is the judgement of creditors as to the debt-servicing capacity of the country and how efficiently the borrowed funds will be used. Alternatively, a country might wish to have a current account surplus in order to finance external investment or reduce its external indebtedness.

Tables 11 and 21 of the Statistical Appendix present summary data of the balance of payments for Hungary in convertible and nonconvertible currencies. The current account is divided into balances for the *trade*, *services*, and *unrequited transfers transactions*. From an economic point of view, the distinction between the flow of goods and flow of services is arbitrary: a unit of foreign exchange earned by the export of services goes as far to strengthen the external balance as a unit earned by the export of goods. Use of the trade balance concept lies essentially in the timely availability of merchandise data from customs reports, as well as the quality of trade statistics.

Trade in merchandise is defined on an f.o.b. (free-on-board) basis. This implies that the costs of distributive (transport and related) services performed up to the customs frontier of the exporting country are included in the value of merchandise, while such expenditure incurred beyond that point are treated as shipment *services*. The other major categories of services include travel (goods and services acquired by travellers outside their own country); and investment income (earnings from financial assets, with interest earnings and payments representing a major item under this heading). Unrequited transfers largely consist of government grants of goods, financial resources and technical assistance, but they also include workers' remittance.

The *capital account* distinguishes between short term and medium- and long-term capital. Note that in 1982–89 external borrowing was the main source of capital inflows. The short-term capital account, which includes errors and omissions, fluctuated significantly over the period. Issues relevant to *balance of payments forecasting* are discussed in Chapter V.

Monetary Accounts and the Other Macroeconomic Accounts

The institutions in the monetary system can be divided into two sub-sectors: the *monetary authorities* and the *commercial banks*. The *monetary authorities* usually comprise the central bank, in its capacity of issuer of currency, holder of national external reserves, borrower for balance of payment purposes, mainly from the Fund; and head of the monetary system. 1/ The typical *commercial bank* obtains funds from deposits, that are normally transferrable by check or in other ways in settlement of the obligations of the deposit holder, as well as from central bank and/or external credits. These funds are primarily used for making loans.

Monetary statistics are consolidated at three different levels: the assets and liabilities of the monetary authorities, the assets and liabilities of commercial banks and, finally, the *monetary survey*. The latter is a summary presentation of the consolidated balance sheets of the entire banking system, netting out all inter-bank transactions. 2/

A major purpose of the monetary survey is to allow analysis of the financial aggregates most influenced by the monetary authorities and which play an important role in the determination of output, prices, and the balance of payments. The monetary survey highlights that the liabilities of the banking system to the private sector and state enterprises—i.e., the money supply, consisting of currency in circulation, deposits, and other instruments issued by the banking system—are the counterpart of the sum of net foreign assets (valued in local currency) and net domestic credit extended by the banking system:

$$M = FA + DC \tag{10}$$

where:

- M = liabilities of the banking system (money supply)
- FA = net foreign assets of the banking system, including net official international reserves, R
- DC = net domestic credit extended by the banking system, including other items (net)

For each foreign asset transaction of the banking system, there should be a counterpart entry in the balance of payments, reflected either in the overall balance or above the line in the capital account. Specifically, the change in net foreign

1/ If some of these functions are undertaken by other government agencies, the functions of these agencies should, in principle, be consolidated with the accounts of the central bank.

2/ In countries where financial institutions outside of the commercial banking system, e.g., money market mutual funds, account for a substantial share of financial transactions, a fourth level of consolidation is often constructed to include the activity of these financial institutions. It is referred to as a *financial survey*.

assets of the banking system should be equal to (1) the change in net official international reserves as reflected in the overall balance; and (2) the change in net foreign assets of the banking system not included in the definition of official reserves, as reflected in the capital account.

To reconcile changes in net foreign assets as recorded in the balance of payments and the corresponding stocks of net foreign assets in the monetary survey, changes in the valuation (in local currency) of assets and liabilities denominated in foreign currency as a result of exchange rate movements need to be taken into account. For example, an exchange rate change will change the value of net foreign assets of the monetary survey. Since this change produces no monetary effect, there would be a counterpart entry in other items (net). 1/ The balance of payments accounts, on the other hand, will not have a valuation entry unless they are compiled in local currency, except for changes in the value of reserves caused by changes in exchange rates between the accounting currency and the currencies in which reserves are denominated. In certain countries, such valuation changes would be deducted from reserve changes through a counterpart entry to valuation changes in the reserve accounts of the monetary authorities.

The relationship between the monetary survey and national income and product accounts is not directly governed by accounting identities. Rather, the relationship reflects behavioral links, i.e., the response of components of the national income and product accounts (such as consumption or investment) to changes in components of the monetary survey (such as domestic credit or the money supply). Moreover, changes in output and expenditure will influence the current account of the balance of payments which, in turn, results in a change in net foreign assets, thus having a secondary "feedback" effect in the monetary survey. Integration of the accounting framework with the relevant behavioral relationship will be elaborated in subsequent chapters.

The *monetary survey* and the *accounts of the monetary authorities* for Hungary are shown in Tables 15 and 16, respectively, of the Statistical Appendix. The main headings of the tables are in the format of equation (10). The reconciliation of net foreign asset movements as recorded in the monetary accounts and the balance of payments is made difficult by the fact that the capital account of the balance of payments in Hungary does not separately identify banking system capital flows above the line. It should be noted, however, that gross foreign assets of the National Bank of Hungary were some 10–20 percent higher in 1986–89 than recorded gross international reserves (Tables 16 and 17 of the Statistical Appendix), which mainly reflects the exclusion of certain less liquid foreign assets from the definition of reserves. Movements in these less liquid foreign assets, if excluded from the definition of net official international reserves, should be recorded above the line in the capital account.

1/ Future flows of interest earnings or payments would, however, be affected and thus have a monetary impact. For example, a more depreciated currency would result in higher future debt service payments in local currency terms.

Several comments should be made as regards net domestic credit.

(1) Claims on the general government are shown "net" of government deposits. This treatment facilitates measurement of the impact of general government operations on the liquidity of the economy. Also, the government is the authority responsible for economic policy and, consequently, its decisions concerning expenditure are not usually bound by liquidity considerations like those which apply to other sectors, but on wider considerations. In Hungary, all credits to the general government are extended by the National Bank of Hungary. Net bank credit to the government sector is the most significant component of the domestic resources available for financing the fiscal deficit.

(2) Since the establishment of a two-tier banking system in 1987 virtually no credits have been extended (nor deposits received) to (from) the nongovernment sector by the Central Bank.

(3) Credits extended to commercial banks by the National Bank of Hungary are, by definition, netted out when constructing the monetary survey.

(4) The counterpart entry to valuation changes of net foreign assets are included in other items (net).

Issues relevant to *forecasting the monetary accounts* are discussed in Chapter VII.

Fiscal Accounts and the Other Macroeconomic Accounts

1. The fiscal balance

The operations of the government—through purchases of goods and services, resource transfers, revenue raising measures, and financing decisions—influence the level and growth of economic activity, the allocation of resources between different uses, and the distribution of income. The focus of these workshops is the macroeconomic impact of budgetary operations on income growth, inflation, and the balance of payments. A preliminary indication of the stance of fiscal policy is often obtained from a review of the major budgetary aggregates and the analysis of various concepts of budget balance.

The sum of all kinds of budgetary receipts must by definition equal the sum of all kinds of expenditures. Consequently, as with the balance of payments, the concept of budget balance involves separating out for analytical purposes a subset of total budgetary transactions. Box 4 provides a summary of the main aggregates that enter a budget statement.

Summary of Government Finances

Receipts	Expenditure
A. Current Revenue	D. Current Expenditure
B. Capital Revenue	E. Capital Expenditure
C. Grants	F. Net Lending
G. Financing	
Foreign	
Domestic	

$$A + B + C + G = D + E + F$$

Box 4

An *overall surplus* or *deficit* is normally defined as the difference between total revenue and grants (A+B+C) and total expenditure and net lending (D+E+F). 1/ Inasmuch as taxes and other government revenues absorb purchasing power of the private (nongovernment) sector and government expenditure increases aggregate demand, an overall deficit may be indicative of an expansionary fiscal stance. Similarly, an overall surplus may indicate a contractionary impact. Such an interpretation would, however, need to be qualified by analysis of the type of financing, the structure of receipts and expenditures, and the factors that may be causing the surplus or deficit. Nevertheless, sharp changes in the government's overall balance, particularly when measured in relation to output, may provide an important signal that the impact of government operations on the economy needs to be carefully reviewed.

A further concept that is often used in fiscal analysis is the *current account* surplus or deficit. This is defined as the difference between current revenue and current expenditure, and is a measure of government sector saving. A high level of government saving is sometimes interpreted as representing a contribution to development inasmuch as it allows a substantial amount of capital formation to be financed. 2/

Government transactions as recorded in the different categories of the national accounts can be linked directly to the fiscal accounts. For example, *government consumption* can be derived from the fiscal accounts by totaling current expenditure on goods and services, including wages and salaries. 3/ 4/ This balance may, however, differ from government consumption in the national accounts for several reasons.

(1) In measuring government consumption, the national accounts normally impute a value for contributions to unfunded employee welfare benefits and for consumption of fixed capital. This is a so-called "cost side" approach. The reason for including a value for fixed asset depreciation is to arrive at a measure of the "true" cost of government provided services that approximate the commercial methods applied in the nongovernment sector.

1/ Several other definitions of an overall balance are possible. For example, some analysts prefer to classify grants as a financing item, especially if most other financing is heavily subsidized and not much different from a grant, or if grants finance expenditure that would have been undertaken, irrespective of the financing. Others would include net lending as a financing item, blurring the distinction between financing undertaken for purposes of public policy rather than management of government liquidity.

2/ Government saving calculated on a national income basis may differ somewhat from the amount derived from the fiscal accounts because of the slightly different definitions used for consumption, as will be discussed in the next paragraph.

3/ Government fees and charges and nonindustrial sales should, in principle, be deducted from current expenditure on goods and services (assuming that these fees approximately equal the costs incurred by the government in providing the relevant services) since these would be classified in the national accounts as final or intermediate consumption of other sectors, e.g., fees for museums or recreational facilities as final consumption of households, and payments for government publications as intermediate consumption of business units.

4/ Note that there are substantial differences between government consumption defined in this way and government current expenditure. A principal reason is that the latter includes a large component of subsidies and transfer payments that are not classified as final consumption.

(2) As already noted, the national accounts are on an accrual basis while the fiscal accounts are on a cash basis.

(3) The definition of government used may differ among the accounts. In the national accounts, the common practice is to use the concept of general government, i.e., the central government, the political subdivisions of a federation, and local governments at all levels. In the Hungarian case, the concept of the general government is used in both sets of accounts.

Government capital formation in the national accounts definition is equal to the acquisition by the government of new and existing fixed capital assets less sales of assets plus purchases of stocks. Apart from differences arising from the second and third points noted above with regard to consumption, the definition of real capital formation in the fiscal accounts would differ from that in the national accounts to the extent of any sale of assets, e.g., through privatization of state enterprises. These would be reflected as capital revenue in the fiscal accounts.

Table 13 of the Statistical Appendix summarizes the general government accounts for Hungary. Government saving declined from 7.8 percent of GDP in 1988 to 5.2 percent of GDP in 1989. Capital expenditure in relation to GDP (including capital transfers) also declined—from 7.7 percent of GDP to 6.5 percent of GDP—which limited the deterioration in the overall deficit to just over 1 percentage point of GDP.

Table 2. Hungary: Government Consumption

(in billions of forint)

	Fiscal Data (1)	National Accounts Data (2)	Ratio (3) = (2)/(1)
1985	193.8	104.6	.54
1986	211.6	116.0	.55
1987	239.7	126.3	.53
1988	302.5	157.4	.52
1989	350.2	186.5	.53

Source: IMF Institute data base.

It should be noted that there is a large discrepancy between government consumption figures in the national accounts and those derived from the fiscal accounts (see Table 2). Although the same concept of general government is in

principle used in both accounts, classification differences exist. The most significant one is that the wages and salaries of government employees and other current expenditures incurred to provide social benefits in kind to the population are included in private consumption in the national accounts, whereas, they form part of the government wage bill and expenditures on other goods and services in the fiscal accounts. 1/

The simplest method for circumventing these difficulties when trying to forecast government consumption is to use the information highlighted in Table 2—that the ratio of government consumption calculated in the fiscal accounts to government consumption calculated in the national accounts has been relatively stable. Unless there is reason to believe that this ratio will change significantly in the future, it can be assumed to remain unchanged. Otherwise, the distribution of consumption between the private and government sectors would need to be revised to conform more closely to the fiscal accounts.

Government investment is approximated by general government fixed capital formation in the fiscal accounts since the national accounts classification in Hungary is by decision making authority rather than by the sector responsible for the investment expenditure.

2. Financing

The impact of a given overall surplus or deficit on aggregate demand depends on the way the balance is financed. Financing covers all transactions involving holdings of currency, deposits, government liabilities, and any financial assets held by the government for the purpose of liquidity rather than public policy. Transactions in claims on others undertaken for public policy purposes are normally classified as net lending and are included above the line. An example of such lending is the extension of trade or agriculture credits to state enterprises, often at subsidized rates. Financing of government operations is usually divided into external and domestic borrowing.

External financing is defined on a net basis. For example, it would include disbursements by nonresidents of new loans after deducting amortization payments on outstanding debt. Note that external interest payments are not included as a negative financing item, but are recorded above the line in current expenditure. Each external financing transaction of the government would have a corresponding entry in the capital account of the balance of payments, the classification of which would depend on the maturity and type of instrument used.

1/ This treatment of social benefits in kind in the Hungarian national accounts leads to an overstatement of private consumption expenditure and an understatement of government consumption expenditure. However, it does not create a bias in the derivation of appropriate sectoral saving and nonfinancial transactions balances because the same amount of social benefits in kind is added to both household consumption and disposable income.

Domestic sources of financing are normally divided into two parts: *bank and nonbank borrowing*. *Bank borrowing* can be obtained from the monetary survey, although in practice differences in the coverage and time of recording of transactions may prevent an exact reconciliation of the fiscal and monetary accounts. In particular, it should be noted that the fiscal accounts are maintained on a "checks issued" basis rather than a "cash" basis. As discussed in the previous section, bank borrowing is defined to be equal to the change in banking system credit extended to the government, less any change in government deposits. *Nonbank borrowing* consists of other forms of domestic financing such as the sale of government debt instruments (bonds, treasury bills, etc.) to the nonbank sector of the economy. Information on such borrowing is normally obtained directly from government sources.

In many developing countries, borrowing from the banking system represents a major source of budgetary finance and thus is an important factor influencing monetary developments. In these circumstances, monetary and fiscal policy are closely linked and any attempt to control monetary expansion is unlikely to succeed unless supported by an appropriate fiscal policy. Issues relevant to *forecasting the fiscal accounts* are discussed in Chapter VI.

Financial Transactions: The Flow of Funds

As explained previously, an economy's saving is equal to national disposable income less consumption (equation 6). The gap between saving and investment (including changes in stocks) is referred to as the economy's balance in nonfinancial transactions vis-à-vis the rest of the world, or the external current account balance (equation 7). This balance was seen to be financed by a corresponding capital flow or reserve change in the balance of payments (equation 9).

When the national income accounts are disaggregated by sector, and a record of financial transactions of each sector is added, then each sector's statement is quite similar to a balance of payments statement. Notably, each sector's balance on nonfinancial transactions—which is determined as the difference between sectoral saving and investment—should, in principle, be equal to the change in its financial assets and liabilities vis-à-vis the other domestic sectors and the rest of the world. Since transactions between domestic sectors cancel out, the sum of sectoral balances so defined should likewise, in principle, add to the balance of payments on current account (equation 8). If changes in financial assets and liabilities of a sector are defined in the same manner as capital movements in the balance of payments, then the sum of the financial transactions of all the domestic sectors should again, in principle, add to the international capital movements within each category. The phrase "in principle" is intended to indicate that the identities can be obscured by errors and omissions and other statistical problems discussed earlier.

A schematic *flow of funds* is shown in Table 3. Transactions are identified among four domestic sectors (households, enterprises, government, and a banking sector) and between these domestic sectors and the rest of the world. The government sector is represented by the general government; the banking sector is defined to cover those institutions whose positions are recorded in the monetary survey; and the enterprise sector comprises state enterprises and cooperatives, nonbank financial institutions, and small private enterprises. While it could be argued that private enterprises should be included with the household sector, in practical terms it makes little difference since the size of their operations, as recorded in the official statistics, is very small, and is likely to be substantially underestimated.

Line 1 indicates the sectoral nonfinancial transactions balances that need to be financed. For simplicity, the balance on nonfinancial transactions of the monetary sector is assumed to be zero, i.e., transactions in goods and services by the banking sector are attributed to other sectors. The convention is followed that from the point of view of the sector in question an increase in an asset takes a negative sign and an increase in a liability a positive sign, and vice versa. The sum of all rows and columns should thus equal to zero. For example, an increase in the money stock held by the household sector, which is a liability of the banking sector and an asset of the household sector, would be recorded twice in row 4a, in columns 1 and 4. Thus, the increase in the money stock would appear as a negative entry in column 1 and a positive entry in column 4. Dashes in column 5 indicate that transactions among domestic sectors in the relevant rows do not directly affect the balance of payments.

Table 3. A Schematic Flow of Funds

	Households (1)	Enterprises (2)	General Government (3)	Monetary System (4)	External Sector (5)
1. Sectoral balances	$(S_{gH} - I_{gH})$	$(S_{gE} - I_{gE})$	$(S_{gG} - I_{gG})$	--	-CAB
Financing					
2. External financing					
a. Households	•				•
b. Enterprises		•			•
c. Government			•		•
d. Monetary system				•	•
3. Bank credit					
a. Households	•			•	--
b. Enterprises		•		•	--
c. Government			•	•	--
4. Government domestic nonbank borrowing					
a. Households	•		•		--
b. Enterprises		•	•		--
5. Broad money					
a. Households	•			•	--
b. Enterprises		•		•	--

Table 4. Hungary: Sectoral Nonfinancial Transaction Balances

(In billions of forint at current prices)

	1985	1986	1987	1988	1989
1a. Gross saving	252.6	252.2	303.5	355.5	
b. Households	58.9	69.1	61.3	90.2	
c. Government	69.9	53.4	55.7	109.7	
d. Enterprises	123.8	129.7	186.5	155.6	
2a. Gross investment	258.4	292.7	327.5	358.2	
b. Households	45.5	51.8	51.5	58.5	
c. Government	71.8	70.4	73.2	88.6	
d. Enterprises	141.1	170.5	202.8	211.1	
3a. Nonfinancial sector balances (=4d)	-5.8	-40.5	-24.0	-2.7	
b. Households	13.4	17.3	9.8	31.7	
c. Government	-1.9	-17.0	-17.5	21.1	
d. Enterprises	-17.3	-40.8	-16.3	-55.5	
Memorandum items:					
4a. Foreign balance (national accounts)	34.4	1.3	19.3	46.5	
b. Plus: net factor income from abroad	-43.5	-45.4	-48.2	-55.1	
c. Plus: net transfers from abroad	3.3	3.6	4.9	5.9	
d. External current account	-5.8	-40.5	-24.0	-2.7	
5. Households' disposable income	695.2	747.8	814.6	936.9	1,116.7
6. Exchange rate (forint per U.S. dollar)	50.119	45.832	46.971	50.413	59.066

In constructing a flow of funds tables, each sector's nonfinancial transactions balance must first be calculated. Table 4 shows these sectoral balances for Hungary over the 1985–88 period. Given the lack of data on state enterprise accounts, the sectoral balance for enterprises was treated as a residual.

The nonfinancial sector balance for the economy as a whole (line 3a) was derived by adding net factor income and transfers from abroad (balance of payments data—Tables 11 and 21—converted into forint at the average exchange rate) to the national accounts definition of the foreign balance (lines 4a–d). Total gross investment was obtained from the national accounts (line 2a), with total gross saving being derived as a residual, i.e., (3a + 2a = 1a).

As regards sectoral balances, government saving and investment were obtained from the accounts of the general government (Statistical Appendix Table 13) with the government's overall nonfinancial balance being equal to the overall fiscal balance excluding capital transfers, which were treated as a financing item in the flow of funds (lines 1c, 2c, 3c). 1/ The household sector's gross saving (line 1b) was calculated as the difference between household disposable income (line 5) and consumption, as defined in the national accounts. Data for gross household investment (line 2b), consisting largely of housing investments, is found as a memorandum item in Statistical Appendix Table 10. The sectoral balance of enterprises is then derived as a residual (lines 1d, 2d, 3d). 2/

Table 5 constructs the flow of funds for Hungary for 1988. Row 1 summarizes the nonfinancial transactions balances of each sector derived in Table 4 (shaded box). Government capital transfers, which are assumed to be directed to the enterprise sector, are shown in row 2. By definition, total external financing (including changes in official international reserves) must be equal to the external current account deficit (from both the convertible and nonconvertible currency areas; Tables 11 and 21) expressed in terms of forint (column 5, row 3a: 572 x 50.413/1000). The net external borrowing of the government sector was obtained directly from Statistical Appendix Table 13 on general government operations (row 3b). Net external borrowing of the banking system was derived from the monetary survey (Statistical Appendix Table 15), with the change in the latter position being adjusted for changes in valuation (included in the other items (net) position of the monetary survey) so as to arrive at a better approximation of foreign capital transactions undertaken by the banking system (row 3d). External borrowing of households was assumed to be zero. The net external borrowing of enterprises was then derived as a residual (row 3c).

Data for the change in bank credit and its distribution among sectors were obtained from the monetary survey (rows 4a–d). Domestic nonbank borrowing of the government sector (row 5) was obtained as the difference between the overall

1/ While, in principle, capital transfers should be treated as a financing item in the flow of funds, they are sometimes included in the definition of the nonfinancial sectoral balance because of the difficulty of distinguishing capital and current transfers.

2/ While national accounts data do not provide a breakdown of investment by sector, private investment figures were obtained from official sources that are conceptually consistent with national accounts data.

Table 5. Hungary: Flow of Funds, 1988

(In billions of forint)

	Households (1)	Enterprises (2)	Government Sector (3)	Banking Sector (4)	External Sector (5)
1. Sectoral nonfinancial transactions	31.7	-55.5	21.1	-	2.7
2. Government capital transfers		20.5	-20.5		
3a. External financing		-11.5	-8.4	48.7	-28.8
b. Government external borrowing			-8.4		8.4
c. Enterprise external borrowing		-11.5			11.5
d. Banking system external borrowing				48.7	-48.7
e. Direct investment					
4a. Bank credit (flows)	31.7	23.3	7.5	-62.5	
b. To households	31.7			-31.7	
c. To government			7.5	-7.5	
d. To enterprises		23.3		-23.3	
5. Government domestic nonbank borrowing	-0.3		0.3		
6. Broad money (incl. bonds; flows)	-40.0	21.9		18.1	
7. Other items, net (flows)	-23.1	1.3		-4.3	26.1

Source: IMF Institute data base.

domestic financing obtained by the government (as recorded in the table on general government's operations) and net government bank financing (row 4c). The definition of broad money used here corresponds to the concept of liabilities of the banking system to the nongovernment sector as recorded in the monetary survey (row 6). In the absence of the necessary information, it was assumed that all currency in circulation is held by households.

Other items (net) position are derived as a residual. The discrepancy in the banking sector column (row 7, column 4) corresponds to the change in other items (net) of the monetary survey, excluding valuation changes. In the external sector column (row 7, column 5), the discrepancy represents the gap between the external current account balance on a national accounts and balance of payments basis. The fact that the latter two discrepancies cannot be allocated among different financing items has its counterpart in the discrepancies that remain in the accounts of households and enterprises.

As a cross-check, it should be recalled that the figures in column 3 should be consistent with the table on general government operations, row 1 being equal to the "above the line" overall balance (excluding capital transfers) and rows 2–7 to the "below the line" financing of the overall balance (including capital transfers). Column 4 should coincide with the "change" in the monetary survey and column 5 with the consolidated balance of payments expressed in local currency units.

Exercises and Issues for Discussion

1. Exercises

a. Using the Statistical Appendix Tables derive the nonfinancial transaction balances for each sector for 1989 using the format of Table 4.

b. Prepare a flow of funds for 1989 in the format of Table 5. Assume that government net domestic repayments to households is Ft 2.3 billion, with the remaining funds being repaid to enterprises.

2. Issues for discussion

a. Based on the above exercises:

(1) What changes took place in the sectoral nonfinancial transactions balances between 1988 and 1989? How well does this reconcile with developments based on balance of payments data? (expressing variables in relation to GDP may be useful).

(2) How were the sectoral balances financed in 1989 compared with 1988?

b. Suppose the Hungarian government had decided to raise its expenditures above the level actually recorded in 1989.

Indicate how:

(1) the nonfinancial transaction balances might have changed

(2) the flow of funds might have been affected

In discussing these points, alternative methods of financing the increase in expenditure should be considered (e.g., tax increases vs. an increase in central bank credits).

Table 6. Hungary: Selected Economic Indicators

	1982	1983	1984	1985	1986	1987	1988	1989	1990 Reference	1990 Program
					(Growth rates in percent)					
GDP at 1986 prices	2.8	2.1	2.4	−0.5	1.2	3.9	−0.3	3.5		
Domestic demand at 1986 prices	−0.1	−0.1	0.2	0.5	2.9	2.9	−1.2	5.4		
GDP deflator	4.9	3.5	6.6	6.2	4.1	8.4	15.2	18.7		
Consumer prices	6.9	7.3	8.3	7.0	5.3	8.7	15.7	17.0		
Broad money	9.9	3.2	5.3	11.2	9.1	10.9	2.0	12.1		
Net domestic bank credit 1/	...	4.1	4.9	6.2	12.9	13.0	5.0	14.7		
Net credit to general government	...	1.4	−3.6	1.0	19.8	14.3	1.9	13.4		
Credit to public enterprises	...	2.7	5.7	9.1	12.1	6.2	−1.8	21.3		
Credit to households	...	15.3	16.1	14.2	14.7	15.3	12.0	5.6		
Nonruble export volume	6.3	6.4	0.4	−6.6	−3.9	5.0	8.8	2.7		
Nonruble import volume	−2.3	6.4	0.4	2.6	0.7	2.5	−6.9	4.9		
Nonruble terms of trade	...	1.6	−2.5	−0.7	−7.5	−0.1	1.1	2.4		
Ruble export volume	...	...	...	8.3	−0.1	2.5	0.6	−13.5		
Ruble import volume	...	...	...	−0.4	3.8	3.7	4.0	−17.1		
Real effective exchange rate (REER) (+ appreciation)	3.7	−4.6	1.5	3.3	−10.3	−10.1	2.9	1.0		
					(In percent of GDP, unless indicated otherwise)					
General government										
Revenue	59.2	60.9	60.8	60.0	61.5	59.1	63.4	58.9		
Expenditure	61.2	61.9	59.4	61.1	64.6	62.7	63.3	60.2		
Deficit(−)	−2.1	−1.1	1.4	−1.1	−3.1	−3.5	0.0	−1.3		
External financing	0.3	0.5	0.1	−0.1	−0.3	−0.6	−0.6	−0.6		
Domestic financing	1.7	0.6	−1.5	1.2	3.9	4.2	0.6	1.9		
Convertible current account	−1.3	0.3	0.3	−4.1	−6.3	−3.4	−2.9	−4.9		
Convertible external debt (end-period) 2/	44.1	51.1	53.9	67.7	71.2	75.0	70.1	70.3		
Convertible reserves (in months of convertible imports)	2.7	4.7	6.0	8.3	7.8	5.2	4.7	3.5		
Convertible debt service ratio 3/	47.0	45.4	51.0	79.2	87.1	64.2	54.8	48.2		
Nonconvertible current account	−1.0	−1.2	−0.1	1.9	0.6	0.8	0.8	3.0		

Source: IMF Institute data base.

1/ Excluding other items (net).

2/ End of period external debt divided by GDP for the year as a whole in local currency units and converted into U.S. dollars at the period average forint/U.S. dollar exchange rate.

3/ As a percent of merchandise exports, travel and investment credits.

Table 7. Hungary: Gross Domestic Product by Sector

(In billions of forint, at approximately 1986 prices) 1/

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Industry	344.0	350.3	359.2	351.7	350.0	361.8	362.0	355.4		
Agriculture and forestry	172.2	172.3	180.2	173.0	178.9	174.7	188.6	181.8		
Construction	84.6	86.9	82.4	78.0	77.7	82.3	78.3	79.7		
Transport and communications	80.8	81.0	83.4	82.6	85.5	89.8	91.6	96.1		
Trade	100.3	102.6	102.3	105.9	107.4	114.4	101.0	102.0		
Other material branches	20.6	22.4	23.8	25.5	25.9	28.6	27.6	36.8		
Non-material branches	136.7	139.2	145.7	151.7	155.7	168.1	171.2	212.1		
GDP at factor cost	939.1	954.7	976.9	968.4	981.1	1019.7	1020.3	1064.0		
Plus: indirect taxes less subsidies and valuation changes 2/	79.4	85.2	87.8	91.5	91.5	95.1	91.2	86.9		
GDP at market prices	1018.5	1039.9	1064.7	1059.9	1072.6	1114.8	1111.5	1150.9		
Memorandum item:										
GDP deflator	83.2	86.2	91.9	97.5	101.5	110.0	126.7	150.4		

Source: IMF Institute data base.

1/ The value of the deflator for GDP at market prices in 1986 is 101.5 (see Memorandum item).

2/ Turnover taxes, customs taxes, and other business taxes, less government transfers to enterprises. Also includes valuation changes and a statistical discrepancy.

Table 8. Hungary: Gross Domestic Product by Sector

(In billions of forint, at current prices)

	1982	1983	1984	1985	1986	1987	1988	1989	1990 Reference	1990 Program
Industry	290.0	303.8	329.7	351.9	361.0	399.9	430.3	515.3		
Agriculture and forestry	148.5	153.0	166.1	159.4	174.5	189.3	209.3	235.5		
Construction	60.1	65.4	71.1	74.0	79.0	91.6	96.8	114.7		
Transport and communications	70.5	71.4	74.2	77.7	86.3	94.4	101.2	124.2		
Trade	69.9	76.8	86.8	96.7	108.0	128.1	125.9	157.9		
Other material branches	16.2	18.9	21.9	31.3	34.2	30.4	30.6	37.3		
Non-material branches	103.3	112.9	125.4	140.4	154.3	176.7	220.0	308.9		
GDP at factor cost	758.5	802.2	875.2	931.4	997.2	1110.4	1214.1	1493.8		
Plus: indirect taxes less subsidies 1/	89.4	94.2	103.3	102.3	91.6	116.0	194.7	236.6		
GDP at market prices	847.9	896.4	978.5	1033.7	1088.8	1226.4	1408.8	1730.4		
Less: Depreciation	97.3	99.5	105.7	114.3	121.3	127.6	132.6	151.7		
Net domestic product	750.6	796.9	872.8	919.4	967.5	1098.8	1276.2	1578.7		
Memorandum items:										
Net nonmaterial services	54.2	58.8	68.7	77.1	85.6	105.6	131.5	185.3		
Net material product	696.4	738.1	804.1	842.3	881.9	993.2	1144.7	1393.4		

Source: IMF Institute data base.

1/ Turnover taxes, customs taxes, and other business taxes, less government transfers to enterprises. Also includes valuation changes and a statistical discrepancy.

Table 9. Hungary: Components of Aggregate Demand

(In billions of forint at 1986 prices)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Household consumption 1/	651.4	653.6	660.6	670.6	681.1	700.3	687.2	744.5		
Public consumption	105.5	105.7	107.1	111.4	116.5	117.1	123.5	127.9		
Total consumption	756.9	759.3	767.6	781.9	797.6	817.4	810.7	872.4		
Gross fixed investment	281.5	272.0	261.9	253.8	261.2	284.9	261.2	274.7		
Stockbuilding	-3.1	2.8	6.3	5.3	12.5	-0.5	17.0	0.6		
Gross investment	278.5	274.8	268.1	259.2	273.7	284.4	278.2	275.3		
Domestic demand	1035.4	1034.1	1035.8	1041.1	1071.3	1101.8	1088.9	1147.7		
Exports of goods and nonfactor services 2/	385.7	412.7	441.4	464.7	459.2	486.4	518.5	530.3		
Imports of goods and nonfactor services 2/	402.6	407.0	412.5	445.9	457.9	473.4	495.9	527.1		
GDP at market prices	1018.5	1039.9	1064.7	1059.9	1072.6	1114.8	1111.5	1150.9		
Memorandum item:										
Distribution of gross fixed investment				253.8	261.2	284.9	261.2	274.7		
Household investment	...	...	...	49.2	51.8	47.4	44.7	46.9		
State investment	...	...	...	78.5	70.4	68.7	78.3	79.8		
Enterprise investment	...	...	...	126.1	139.0	168.8	138.2	148.0		

Source: IMF Institute data base.

1/ Standard definition: consumption of residents at home and abroad.
2/ Standard definition: including foreign tourism.

Table 10. Hungary: Components of Aggregate Demand

(In billions of forint at current prices)

	1982	1983	1984	1985	1986	1987	1988	1989	1990 Reference	1990 Program
Household consumption 1/	505.5	540.0	587.6	636.3	678.7	753.3	846.7	1059.8		
Public consumption	84.2	90.9	95.3	104.6	116.0	126.3	157.4	177.7		
Total consumption	589.7	630.9	682.9	740.9	794.7	879.6	1004.1	1237.5		
Gross fixed investment	213.9	220.0	225.4	232.1	261.2	303.5	295.6	348.3		
Stockbuilding	27.9	17.1	26.4	26.3	31.6	24.0	62.6	96.6		
Gross investment	241.8	237.1	251.8	258.4	292.7	327.5	358.2	444.9		
Domestic demand	831.5	868.0	934.7	999.3	1087.4	1207.1	1362.3	1682.4		
Exports of goods and nonfactor services 2/	336.5	378.4	422.9	459.2	459.2	502.3	574.0	678.9		
Imports of goods and nonfactor services 2/	320.2	349.9	379.1	424.8	457.9	483.0	527.5	630.9		
GDP at market prices	847.9	896.4	978.5	1033.7	1088.8	1226.4	1408.8	1730.4		
Memorandum item:										
Distribution of gross fixed investment				232.1	261.2	303.5	295.6	348.3		
Household investment	...	...	...	45.5	51.8	51.5	58.5	73.4		
State investment	...	...	...	71.8	70.4	73.2	88.6	101.2		
Enterprise investment	...	...	...	114.8	139.0	178.8	148.5	173.7		

Source: IMF Institute data base.

1/ Standard definition: consumption of residents at home and abroad.
2/ Standard definition: including foreign tourism.

Table 11. Hungary: Balance of Payments in Convertible Currencies

(In millions of U.S. dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Trade balance	668.0	773.0	891.0	128.0	-482.0	37.0	489.0	536.0		
Exports	4831.0	4832.0	4916.0	4188.0	4186.0	5051.0	5505.0	6446.0		
Imports	-4163.0	-4059.0	-4025.0	-4060.0	-4668.0	-5014.0	-5016.0	-5910.0		
Services (net)	-1028.0	-755.0	-889.0	-1035.0	-1087.0	-1018.0	-1408.0	-2100.0		
Freight and insurance, net	-222.0	-164.0	-154.0	-156.0	-237.0	-309.0	-299.0	-310.0		
Travel (net)	180.0	167.0	165.0	147.0	199.0	367.0	41.0	-349.0		
Credits	264.0	256.0	268.0	281.0	364.0	553.0	670.0	738.0		
Debits	-84.0	-89.0	-103.0	-134.0	-165.0	-186.0	-629.0	-1087.0		
Investment income (net)	-1118.0	-758.0	-816.0	-833.0	-963.0	-988.0	-1076.0	-1386.0		
Credits	79.0	97.0	128.0	186.0	252.0	235.0	230.0	219.0		
Debits	-1197.0	-855.0	-944.0	-1019.0	-1215.0	-1223.0	-1306.0	-1605.0		
Other current payments (net)	132.0	0.0	-84.0	-193.0	-86.0	-88.0	-74.0	-55.0		
Unrequited transfers (net)	61.0	53.0	63.0	61.0	74.0	102.0	115.0	126.0		
Current account	-299.0	[illegible]	65.0	-846.0	-1495.0	-879.0	-804.0	-1438.0		
Medium- and long-term capital	-43.4	-158.4	1298.5	1692.7	1107.1	1109.8	690.5	1563.1		
Assets (net)	-510.0	-185.0	-43.0	-240.0	-79.0	-84.0	-26.0	32.0		
Liabilities (net)	466.6	26.6	1341.5	1932.7	1186.1	1193.8	716.5	1351.1		
Disbursements	1701.6	1522.6	3102.5	4513.0	4105.0	3364.0	2565.5	3091.2		
Amortizations	-1235.0	-1496.0	-1761.0	-2580.3	-2918.9	-2170.2	-1849.0	-1740.1		
Direct capital investment								180.0		
Short-term capital (including errors and omissions)	-708.0	438.0	-1247.2	-170.0	79.3	-770.8	65.0	-218.0		
Total Capital account	-751.4	208.6	51.3	1522.7	1186.4	339.0	755.5	1345.1		
Overall balance	-1050.4	279.6	13.7	676.7	-308.6	-540.0	-48.5	-92.9		
Financing	1050.4	-279.6	-13.7	-676.7	308.6	540.0	48.5	92.9		
Change in reserves (inc=-)	813.0	-635.0	-449.2	-766.4	-260.5	893.8	182.0	251.0		
Use of Fund credit	237.4	355.4	435.5	-89.7	-48.1	-353.8	-133.5	-158.1		
Purchases	237.4	355.4	435.5	0.0	0.0	0.0	221.5	65.8		
Repurchases	0.0	0.0	0.0	-89.7	-48.1	-353.8	-355.0	-223.9		

Source: IMF Institute data base.

Table 12. Hungary: Nonruble Trade, Customs Basis

(In millions of US$ and percentage change)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Exports, fob	4974.3	4989.2	4899.4	4483.3	4485.7	5005.7	5833.0	6030.0		
(percent change)		0.3	-1.8	-8.5	0.1	11.6	16.5	3.4		
Exports fob, 1986 prices	4487.1	4774.3	4998.3	4667.1	4485.7	4709.0	5123.5	5259.8		
(percent change)		6.4	0.4	-6.6	-3.9	5.0	8.8	2.7		
Export prices, 1986=100	110.9	104.5	98.0	96.1	100.0	106.3	113.8	114.6		
(percent change)		-5.7	-6.2	-2.0	4.1	6.3	7.1	0.7		
Adjustments from customs to BOP basis 1/	-143.3	-157.2	16.6	-295.3	-299.7	45.3	-328.0	416.0	416.0	416.0
Convertible currency exports, B.O.P.basis	4831.0	4832.0	4916.0	4188.0	4186.0	5051.0	5505.0	6446.0		
Imports, cif	4512.0	4453.4	4297.5	4353.7	4937.7	5386.7	5313.0	5476.0		
(percent change)		-1.3	-3.5	1.3	13.4	9.1	-1.4	3.1		
Imports, cif, 1986 prices	4474.8	4761.2	4776.1	4902.3	4937.7	5062.7	4715.2	4943.9		
(percent change)		6.4	0.4	2.6	0.7	2.5	-6.9	4.9		
Import prices, 1986=100	100.8	93.5	90.0	88.8	100.0	106.4	112.7	110.8		
(percent change)		-7.2	-3.8	-1.3	12.6	6.4	5.9	-1.7		
Adjustments from customs to BOP basis 1/	-349.0	-394.4	-272.5	-293.7	-269.7	-372.7	-297.0	434.0	434.0	434.0
Convertible currency imports, B.O.P.basis	4163.0	4059.0	4025.0	4060.0	4668.0	5014.0	5016.0	5910.0		
Terms of trade (US$)	109.9	111.7	108.9	108.2	100.0	99.9	101.0	103.5		
(percent change)		1.6	-2.5	-0.7	-7.5	-0.1	1.1	2.4		

Source: IMF Institute data base.

1/ Adjustments account for freight and insurance, leads and lags, and trade under clearing arrangements in currencies other than the ruble.

Table 13. Hungary: Operations of the General Government

(In billions of forint)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Revenue	501.6	545.6	594.8	620.1	669.4	724.8	892.9	1,019.0		
Tax Revenue 1/	420.6	474.3	514.6	515.9	568.7	642.9	760.9	836.0		
Nontax revenue 2/	81.0	71.3	80.2	104.2	100.7	81.9	132.0	183.0		
Total expenditure 3/	519.2	555.1	581.2	631.9	703.5	768.4	892.3	1,041.5		
Current expenditure	440.2	479.9	503.8	550.2	616.0	669.1	783.2	929.3		
Wages and salaries	63.2	65.5	70.4	81.1	87.8	92.9	122.9	141.6		
Other goods and services	99.1	94.6	103.2	112.7	123.8	146.8	179.6	208.6		
Interest payments	9.4	2.1	5.5	3.7	14.1	31.6	22.5	41.3		
Subsidies and transfers	268.5	317.7	324.7	352.7	390.3	397.8	458.2	537.8		
Capital expenditure 3/	79.0	75.2	77.4	81.7	87.5	99.2	109.1	112.2		
Fixed capital formation	50.9	68.9	71.0	71.8	70.4	73.2	88.6	101.2		
Capital transfers 3/	28.1	6.3	6.4	9.9	17.1	26.0	20.5	11.0		
Overall balance	-17.6	-9.5	13.6	-11.8	-34.1	-43.5	0.6	-22.6		
Financing	17.6	9.5	-13.6	11.8	34.1	43.5	-0.6	22.6		
External financing	2.9	4.1	1.3	-1.1	-2.8	-7.7	-8.4	-10.3		
Domestic financing	14.7	5.4	-14.9	12.9	36.9	51.2	7.8	32.9		
Bank borrowing, net	...	4.2	-10.8	2.9	58.4	50.3	7.5	55.0		
Nonbank borrowing	...	1.2	-4.1	10.0	-21.5	0.9	0.3	-22.1		

Source: IMF Institute database.

1/ Including profit transfers from government-owned financial and nonfinancial enterprises.
2/ Including capital revenue.
3/ Including a small amount of lending less repayments.

Table 14. Hungary: General Government Tax Revenue

(In billions of forint)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	
									Reference	Program
Income taxes	106.5	125.4	132.4	108.8	129.6	155.4	184.9	214.4		
Individuals	4.3	8.0	8.7	9.6	8.4	9.5	66.3	94.2		
Enterprises	102.2	117.4	123.7	99.2	121.2	145.9	118.6	120.2		
Payroll taxes	75.7	81.6	114.4	162.2	180.9	190.4	203.2	243.9		
Social security contributions	74.5	81.6	114.4	134.3	141.3	147.8	188.9	243.9		
Taxes on wages and earnings	1.2	0.0	0.0	27.9	39.6	42.6	14.3	0.0		
Property taxes	22.5	30.6	38.8	28.3	23.2	25.2	7.0	6.2		
Net wealth, corporate	13.5	13.0	13.5	19.4	17.5	19.8	--	--		
Confiscation and other	0.4	8.8	17.4	0.2	0.3	--	0.8	--		
Local property taxes	8.6	8.8	7.9	8.7	5.4	5.4	6.2	6.2		
Taxes on goods and services	208.8	223.1	209.1	204.8	220.0	241.9	361.4	369.3		
Consumer turnover taxes and excises	72.5	83.6	88.0	94.0	105.5	127.5	211.8	230.7		
Producers' differential turnover taxes	94.1	94.9	72.7	73.1	57.3	60.6	93.9	65.9		
Import duties	23.1	24.8	24.5	27.6	32.7	34.7	36.3	48.9		
Other taxes on goods and services	19.1	19.8	23.9	10.1	24.5	19.1	19.4	23.8		
Other taxes	7.1	13.6	19.9	11.8	15.0	30.1	4.4	2.2		
Total tax revenue	420.6	474.3	514.6	515.9	568.7	643.0	760.9	836.0		

Source: IMF Institute data base.

Table 15. Hungary: Monetary Survey

(In billions of forint, end of period)

	1982	1983	1984	1985	1986	1987	1988	1989	1990 Reference Program
Net foreign assets	-336.9	-386.4	-427.8	-451.9	-574.5	-728.3	-830.2	-1074.1	
Net domestic credit	742.8	808.5	887.1	963.4	1134.1	1363.7	1483.7	1806.5	
General government (net)	298.1	302.3	291.5	294.4	352.8	403.1	410.6	465.6	
State enterprises	276.8	284.2	300.3	327.5	367.1	389.9	382.8	464.4	
Private entrepreneurs	2.5	3.1	4.0	4.6	5.1	6.9	8.6	18.5	
Financial institutions 1/	133.4	135.7	148.2	149.6	147.5	180.2	208.9	238.2	
Households	131.0	151.1	175.5	200.5	230.0	265.2	296.9	313.5	
Other items (net)	-99.0	-67.9	-32.4	-13.2	31.6	118.4	175.9	306.3	
Of which: valuation changes	...	31.4	40.9	43.2	106.2	196.3	249.5	460.7	
Liabilities to nongovernment	405.9	422.1	459.3	511.5	559.6	635.4	653.5	732.4	
Broad money	397.7	410.5	432.3	480.8	524.7	582.0	593.7	665.6	
Currency in circulation	84.9	94.8	105.4	116.7	130.7	153.7	164.4	180.5	
Household deposits	167.6	185.5	203.9	225.4	252.8	261.3	284.2	273.3	
State enterprise deposits	142.6	126.6	117.7	137.1	135.0	158.9	138.7	174.8	
Private enterprise deposits	—	—	—	—	—	—	...	23.9	
Financial institutions' deposits 1/	2.6	3.6	5.3	1.6	6.2	8.1	6.4	13.1	
Bonds and savings notes	8.2	11.6	27.0	30.7	34.9	53.4	59.8	66.8	
(In percentage change, unless otherwise indicated)									
Memorandum items:									
Credit									
Including other items		8.8	9.7	8.6	17.7	20.2	8.8	21.8	
Excluding other items		4.1	4.9	6.2	12.9	13.0	5.0	14.7	
Of which:									
State enterprises	...	2.7	5.7	9.1	12.1	6.2	-1.8	21.3	
Household sector	...	15.3	16.1	14.2	14.7	15.3	12.0	5.6	
General government (change in relation to GDP)	...	0.5	0.1	0.3	5.4	4.1	0.5	3.2	
Broad money	...	3.2	5.3	11.2	9.1	10.9	2.0	12.1	
GDP growth	...	5.7	9.2	5.6	5.3	12.6	14.9	22.8	

Source: IMF Institute data base.

1/ Mainly State Development Bank.

Table 16. Hungary: Accounts of the National Bank of Hungary

(In billions of forint, end of period)

	1983	1984	1985	1986	1987	1988	1989	1990	
								Reference	Program
Net foreign assets	-340.5	-382.2	-411.6	-524.4	-677.0	-774.4	-954.3		
Foreign assets	91.0	121.3	172.7	159.8	138.3	138.6	162.7		
Less: Foreign liabilities	431.5	503.5	584.3	684.2	815.3	913.0	1117.0		
Domestic credit	664.7	671.4	741.7	876.6	990.4	1073.7	1312.4		
Central government (including State Development Bank) 1/	440.6	440.1	446.0	502.7	577.5	619.7	706.7		
Commercial banks 2/	--	--	--	--	253.8	225.4	252.1		
Other residents (net)	238.8	255.4	294.7	331.3	2.0	4.6	1.1		
Other items (net)	-14.7	-24.1	1.0	42.6	157.1	224.0	352.5		
Reserve money	324.2	289.2	330.1	352.2	313.4	299.3	358.1		

Source: IMF Institute data base.

1/ Note that this line closely approximates the sum of credits extended to the general government and to financial institutions in the monetary survey.

2/ Refinancing credits.

Table 17. Hungary: International Reserves and Other Foreign Assets

(In millions of U.S. dollars, end of period)

	1982	1983	1984	1985	1986	1987	1988	1989
International reserves in convertible currencies	941.9	1576.9	2026.1	2792.5	3053.0	2159.2	1976.3	1725.3
Gold 1/	213.4	367.9	504.7	639.9	750.6	525.1	509.7	479.1
Foreign exchange	728.5	1209.0	1521.4	2152.6	2302.4	1634.1	1466.6	1246.2
Nonconvertible currencies 2/	58.0	45.0	43.0	224.6	174.2	289.4	201.9	567.1
Total international reserves	999.9	1621.9	2069.1	3017.1	3227.2	2448.6	2178.2	2292.4
Other foreign assets								
Convertible currencies 3/	2007.3	2174.5	2408.2	3116.4	3185.9	3741.7	3659.9	3764.6
Nonconvertible currencies	395.2	430.0	384.0	422.1	481.0	523.5	501.7	669.0
Total international reserves and other foreign assets	3402.4	4226.4	4861.3	6555.6	6894.1	6713.8	6339.8	6726.0
Memorandum items:								
Change in convertible currency international reserves		635.0	449.2	766.4	260.5	-893.8	-182.9	-251.0
Change in nonconvertible international reserves		-13.0	-2.0	181.6	-50.4	115.2	-87.5	365.2

Source: IMF Institute data base.

1/ Actual holdings of gold, at national valuation of US$4275 per fine troy ounce from 1982 to 1985, and US$4320 per troy ounce from 1986.

2/ Valued at the official exchange rates.

3/ Mainly trade credit extended by Hungarian enterprises.

Table 18. Hungary: Outstanding External Debt

(In millions of U.S. dollars, at end of period)

	1982	1983	1984	1985	1986	1987	1988	1989
Total external debt	11,515	12,125	12,216	15,106	17,928	20,531	20,150	20,966
In convertible currencies	10,216	10,746	10,983	13,955	16,907	19,584	19,603	20,605
By original maturity								
Short-term	3,261	3,904	2,977	3,019	3,494	3,103	3,363	3,306
Medium- and long-term	6,955	6,842	8,006	10,936	13,413	16,481	16,240	17,299
By type of credit:								
Financial loans	9,155	9,208	9,428	12,175	15,084	17,508	17,469	18,060
Trade-related credits	661	1,144	1,125	1,318	1,433	1,652	1,626	1,763
Intergovernment credits	5	4	3	2	1	0	--	--
Other	396	390	428	459	389	422	508	568
In nonconvertible currencies	1,299	1,379	1,233	1,151	1,021	947	547	361
By original maturity								
Short-term	250	367	916	106	111	184	120	87
Medium- and long-term	1,049	1,012	317	1,045	910	763	427	274
By type of credit:								
Financial loans	251	366	313	133	140	210	136	88
Trade-related credits	39	30	24	0	--	--	--	--
Intergovernment credits	974	948	863	1,009	873	728	438	260
Other	35	38	32	8	8	8	8	12
Memorandum item:								
Convertible currency debt 1/ (as percent of GDP)	44.1	51.1	53.9	67.7	71.2	75.0	70.1	70.3

Source: IMF Institute data base

1/ End of period convertible currency external debt divided by GDP for the year as a whole in local currency units and converted into U.S. Dollars at the period average forint/U.S. Dollar exchange rate.

Table 19. Hungary: External Debt Service in Convertible Currencies

	1982	1983	1984	1985	1986	1987	1988	1989
				(In millions of U.S. dollars)				
Total debt service	2,432	2,351	2,705	3,689	4,182	3,747	3,510	3,569
a. Principal	1235	1496	1761	2670	2967	2524	2204	1964
Excluding Fund repurchases	1,235	1,496	1,761	2,580	2,919	2,170	1,849	1,740
Fund repurchases	0	0	0	90	48	354	355	224
b. Interest	1,197	855	944	1,019	1,215	1,223	1,306	1,605
				(In percent)				
Total debt service 1/	47.0	45.4	51.0	79.2	87.1	64.2	54.8	48.2
a. Principal								
Excluding Fund repurchases	23.9	28.9	33.2	55.4	60.8	37.2	28.9	23.5
Fund repurchases	0.0	0.0	0.0	1.9	1.0	6.1	5.5	3.0
b. Interest	23.1	16.5	17.8	21.9	25.3	20.9	20.4	21.7

Sources: IMF Institute data base.

1/ As percent of merchandise exports, and travel and income credits.

Table 20. Hungary: Commodity Composition of Nonruble Trade 1/

(In millions of U.S. dollars)

	1986	1987	1988	1989
Exports				
Energy products	137.9	150.0	186.4	202.8
Raw materials and semifinished products	1639.3	1930.7	2413.0	2671.3
Capital goods and transportation equipment	608.9	610.8	727.0	626.8
Industrial consumer goods	687.4	822.3	899.2	897.9
Food products	1129.8	1194.4	1475.1	1618.4
Total	4203.3	4708.2	5700.7	6017.2
Of which: Nonenergy	4065.4	4558.2	5514.3	5814.5
Imports				
Energy products	213.8	148.9	84.0	40.1
Raw materials and semifinished products	2683.8	2968.5	3282.5	3281.6
Capital goods and transportation equipment	658.1	751.3	716.2	943.6
Industrial consumer goods	583.5	615.7	534.1	645.0
Food products	532.8	543.4	565.0	552.5
Total	4672.0	5027.8	5181.8	5462.8
Of which: Nonenergy	4458.2	4878.9	5097.8	5422.7
Balance of trade				
Energy products	-75.8	1.0	102.4	162.7
Raw materials and semifinished products	-1044.5	-1037.7	-869.5	-610.3
Capital goods and transportation equipment	-49.2	-140.6	10.8	-316.8
Industrial consumer goods	103.9	206.6	365.0	252.9
Food products	597.0	650.9	910.1	1065.9
Total	-468.6	-319.8	518.8	554.4
Of which: Nonenergy	-392.8	-320.7	416.5	391.8

Source: IMF Institute data base.

1/ Exports are on an f.o.b. basis, imports on a c.i.f. basis.

Table 21. Hungary: Balance of Payments in Nonconvertible Currencies

(In millions of U.S. dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990 Estimate
Trade balance	−258.0	−339.0	−111.0	320.0	17.0	43.0	94.0	507.0	194.0
Exports	4207.0	4146.0	4174.0	4390.0	5012.0	4916.0	4484.0	4047.0	2746.0
Imports	−4465.0	−4485.0	−4285.0	−4070.0	−4995.0	−4873.0	−4390.0	−3540.0	−2552.0
Services (net)	21.0	85.0	82.0	67.0	112.0	157.0	136.0	355.0	7.0
Freight and insurance, net	−91.0	−70.0	−65.0	−83.0	−76.0	−82.0	−77.0	−56.0	−10.0
Travel (net)	81.0	96.0	104.0	112.0	167.0	170.0	113.0	190.0	52.0
Credits	138.0	158.0	167.0	177.0	239.0	254.0	195.0	246.0	160.0
Debits	−57.0	−62.0	−63.0	−65.0	−72.0	−84.0	−82.0	−56.0	−108.0
Investment income (net)	5.0	−17.0	−34.0	−34.0	−28.0	−39.0	−16.0	−7.0	17.0
Credits	30.0	20.0	11.0	9.0	9.0	12.0	10.0	13.0	34.0
Debits	−25.0	−37.0	−45.0	−43.0	−37.0	−51.0	−26.0	−20.0	−17.0
Other current payments (net)	26.0	76.0	77.0	72.0	49.0	108.0	116.0	228.0	−52.0
Unrequited transfers (net)	2.0	3.0	3.0	4.0	4.0	3.0	2.0	4.0	53.0
Current account	−235.0	−251.0	−26.0	391.0	133.0	203.0	232.0	866.0	254.0
Medium- and long-term capital	96.0	100.0	15.0	−3.0	−215.0	−177.0	−268.0	−278.0	−98.0
Assets (net)	−18.0	8.0	−5.0	15.0	−48.0	−69.0	−69.0	−127.0	25.0
Liabilities (net)	114.0	92.0	20.0	−18.0	−167.0	−108.0	−199.0	−151.0	−123.0
Disbursements	133.0	131.0	182.0	54.0	66.0	59.0	44.0	20.0	12.0
Amortization	−19.0	−39.0	−162.0	−72.0	−233.0	−167.0	−243.0	−170.0	−135.0
Short-term capital (including errors and omissions)	180.0	128.0	3.0	−206.4	31.6	89.2	−51.5	−222.8	79.9
Capital account	276.0	238.0	24.0	−209.4	−183.4	−87.8	−319.5	−500.8	−18.1
Overall balance	41.0	−13.0	−2.0	181.6	−50.4	115.2	−87.5	365.2	235.9
Financing	−41.0	13.0	2.0	−181.6	50.4	−115.2	87.5	−365.2	−235.9
Change in reserves (inc.=−)	−40.0	13.0	2.0	−181.6	50.4	−115.2	87.5	−365.2	−235.9

Sources: IMF Institute data base.

Table 22. Hungary: Ruble Trade, Customs Basis

(In millions of U.S. dollars and percentage change)

	1984	1985	1986	1987	1988	1989	1990
Exports, fob	3685.9	4025.2	4675.5	4559.6	4124.8	3653.0	2517.0
(percent change)		9.2	16.2	−2.5	−9.5	−11.4	−31.1
Exports fob, 1986 prices	4323.3	4680.5	4675.5	4792.0	4820.5	4169.0	2775.4
(percent change)		8.3	−0.1	2.5	0.6	−13.5	−33.4
Export prices, 1986=100	85.3	86.0	100.0	95.2	85.6	87.6	90.7
(percent change)		0.9	16.3	−4.9	−10.1	2.4	3.5
Imports, cif	3805.5	3849.8	4654.7	4462.1	4040.4	3397.0	2518.0
(percent change)		1.2	20.9	−4.1	−9.5	−15.9	−25.9
Imports, cif, 1986 prices	4500.9	4484.2	4654.7	4826.5	5021.7	4163.7	3080.2
(percent change)		−0.4	3.8	3.7	4.0	−17.1	−26.0
Import prices, 1986=100	84.5	85.9	100.0	92.5	80.5	81.6	81.7
(percent change)		1.5	16.5	−7.6	−13.0	1.4	0.2
Terms of trade	100.8	100.2	100.0	102.9	106.3	107.4	110.9
(percent change)		−0.7	−0.2	2.9	3.3	1.0	3.3

Source: IMF Institute data base.

Table 23. Hungary: Commodity Composition of Ruble Trade 1/

	1986	1987	1988	1989
Exports				
Energy products	26.1	21.5	14.9	15.3
Raw materials and semifinished products	1041.6	997.1	893.4	852.7
Capital goods and transportation equipment	2147.3	2127.0	1922.3	1693.6
Industrial consumer goods	779.5	741.9	679.8	617.4
Food products	665.1	614.5	554.9	476.4
Total	4659.6	4502.0	4065.3	3655.4
Of which: Nonenergy	4633.4	4480.4	4050.3	3640.1
Imports				
Energy products	1489.2	1286.0	1101.6	934.6
Raw materials and semifinished products	1514.1	1486.9	1399.5	1200.8
Capital goods and transportation equipment	944.8	944.8	810.9	658.4
Industrial consumer goods	522.8	568.0	545.6	523.6
Food products	130.1	138.1	103.1	82.8
Total	4601.0	4423.8	3960.7	3400.2
Of which: Nonenergy	3111.8	3137.9	2859.0	2465.6
Balance of trade				
Energy products	-1463.1	-1264.5	-1086.7	-919.4
Raw materials and semifinished products	-472.6	-489.8	-506.1	-348.1
Capital goods and transportation equipment	1202.5	1182.1	1111.4	1035.2
Industrial consumer goods	256.7	173.8	134.2	93.8
Food products	535.0	476.4	451.8	393.6
Total	58.5	78.0	104.6	255.1
Of which: Nonenergy	1521.6	1342.5	1191.3	1174.5

Source: IMF Institute data base.

1/ Exports are on a f.o.b. basis and imports on a c.i.f. basis. Trade flows settled in rubles are converted from their forint value given in official statistics at the period U.S. dollar exchange rate.