



MAGYAR NEMZETI BANK

**FINANCIAL  
ACCOUNTS OF  
HUNGARY**

**2008**



**Financial accounts of Hungary**  
**(Data, analyses,**  
**methodological explanations)**

**2008**



This publication serves the purpose of describing the content, composition and utilization possibilities of financial accounts, with a view to propagating the benefits of this relatively new statistical area among a wider range of users.

The statisticians preparing Hungarian financial account statistics summarize their experience on statistics and the economy acquired in relation to the study of methodological manuals, the survey of practice applied in other countries and the compilation of financial accounts.

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# Introduction

## Purpose of the publication

Based on the division of tasks between the statistical bodies, the MNB is responsible for compiling financial accounts in Hungary, which constitute a part of the national accounts. Since April 2003 the MNB has published financial account statistics relating to the financial worth of the national economy and of its individual sectors, as well as the components of its changes on a quarterly basis, with a lag of one quarter. The publication *Financial Accounts of Hungary 2005* called users' attention to the fact that the scope of the published data increased significantly in 2005. The publication, issued in July 2005, was designed as a combination of methodological summary, database and analysis tool. The goal of the present publication is to renew and update the information base contained in the first edition, and to introduce the new developments and results of the past three years.

## Developments

The general government, financial corporations and non-residents are the economic sectors of national account statistics – and the financial accounts – for which the most extensive and best quality data are available. According to international experience, data for non-financial corporations and households are typically not available in the same quality due to the large number of participants they involve, and their extensive financial relationships outside the banking sector. In Hungary, the above statement primarily applies to the financial worth and financing relationships of corporations, while the financial accounts of households are traditionally of high quality, as the sector's investments and borrowings are largely related to financial intermediaries.

Developments in the last few years have particularly focused on improving the quality of the data of non-financial

corporations and their partners, as they relate to information contained in financial accounts. The improved reliability of the MNB's statistics primarily reflect the efforts made to identify inter-company lending and trade relations, to incorporate derivative transactions, to refine data and estimates in relation to shares and equity, to provide more accurate data regarding financial operations vis-à-vis non-residents, and to include data of special purpose entities. In co-operation with the Central Statistical Office, the MNB commenced the harmonisation of national accounts, the first results of which were also evident in the data of national accounts. These developments allowed and indeed necessitated that the scope of this publication be expanded to address the financial worth and special financing aspects of the corporate sector at length and in more detail than its predecessor.

## Data update

In addition to the MNB's own data collection, the financial account statistics of the Magyar Nemzeti Bank broadly rely on data sources and products of other central banking statistics, thus potential changes in these sources will also modify the data included in the financial accounts. Information contained in this publication reflects the status of financial accounts as of September 2008, and data may be altered in subsequent publications, particularly those relating to the last two years. Data contained in this publication should therefore be compared to the updated statistical data and time series published quarterly on the homepage of the MNB ([www.mnb.hu](http://www.mnb.hu) / Statistics / Statistical time series / VI. Financial accounts), and in case of any material discrepancy, the latter should prevail. References under the tables and charts of this book provide assistance in navigating the homepage of the MNB.





# 1 Methodology





# 1.1 Role of financial accounts in statistics

Financial accounts are financial statistics which constitute a part of the **national accounts**, expressing the financial assets and liabilities of the total economy and the economic sectors in HUF billions, their changes, and the components of these changes. Due to the close link with other (non-financial) areas of national accounts, with a view to better understanding financial accounts statistics it is worth providing a brief overview of the overall structure of national accounts. The methodological framework of national accounts also covers additional financial statistics prepared by the central bank, including balance of payments statistics, securities statistics and monetary statistics. These statistical areas are addressed in the second part of this section.

The accounts indicate economic events (their descriptive concepts) occurring in the specific period (year, quarter), while the balance sheets reveal the stock of assets and liabilities as of the end of a specific period (end of year or quarter). The balances of the individual accounts and balance sheets are the indicators of the economy. Some of the most important of these indicators include: value added (GDP at the national economy level), disposable income, savings, net lending (or financial savings) and net worth.

The system of national accounts is divided into current accounts, accumulation accounts and balance sheets (Chart 1-1).

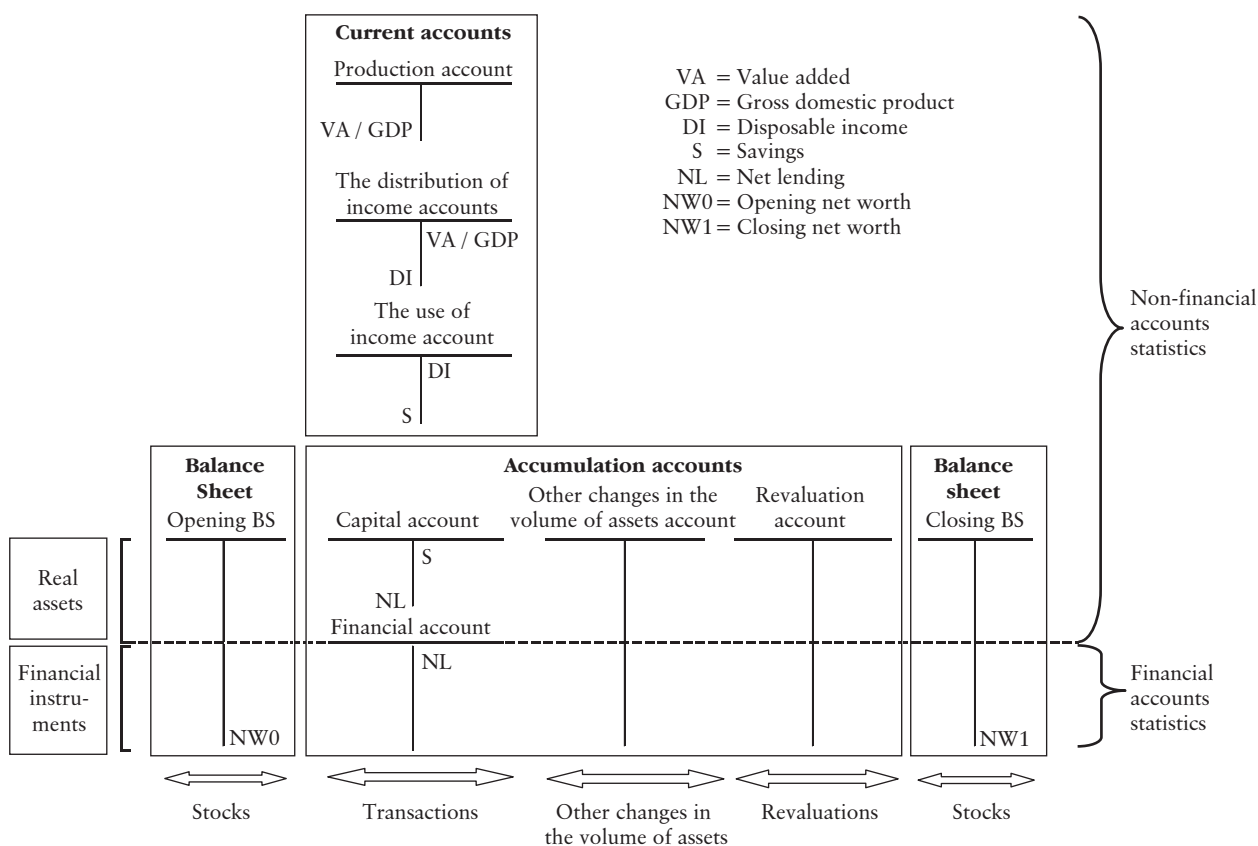
## Structure of the national accounts

The closed accounting system of national accounts defines the operation and condition of the national economy on the level of the whole economy and the economic sectors through its accounts and balance sheets, built on and linked

The **current accounts** define the process of production, income distribution and consumption. The production account indicates how value added is produced as a difference between output and intermediate consumption in the course of production activity. The distribution accounts indicate the income elements composing value added and

Chart 1-1

The structure of the national accounts



other income transfers which shape the level of institutional units' disposable income. The balance of the use of the income account arises as the difference between savings, disposable income and consumption.

The **accumulation accounts** indicate the elements of change affecting net worth and the stocks of financial and non-financial assets and liabilities. Constituting a part of the accumulation accounts, the **capital account** records the changes affecting real assets (i.e. non-financial assets) related to transactions, in other words, investments. The opening balance of the account corresponds to savings, the closing balance indicates net lending (or financial savings), corresponding to the difference between savings and investment.<sup>1</sup> Another part of the accumulation accounts is the system of **financial accounts**, which capture the transactions with financial instruments.

The revaluation account records changes in the stocks of non-financial and financial assets and liabilities resulting from price changes. The other changes in the volume of assets account are due to special, primarily non-economic factors (resulting from changes in classification, structure), such as natural disasters or technical factors. Among the balance sheets, opening balance sheets indicate the stock of financial and non-financial assets and liabilities at the beginning of the accounting period (i.e. at the end of the previous period), while closing balance sheets record those existing at the end of the accounting period.

## The role of financial accounts in the system of national accounts

The concept of 'financial accounts' is used in a **broad sense** and in a **narrower sense** in international literature. In a broad sense, financial accounts include financial assets and liabilities, as well as the balance sheets and accounts indicating the components of flows. In a narrower sense, in the series of accounts, the financial account follows the capital account, indicating changes arising from transactions linked to financial assets and liabilities. Unless otherwise indicated, in this publication the term 'financial accounts' is generally used in the broad sense.

In the more limited sense of the term, financial accounts denote transactions related to financial instruments. The balance of transactions corresponds to **net lending**, which also equals to the closing balance of the capital account. This correspondence implies that the difference between savings and investment is expressed in the accumulation of financial

assets or the assumption of liabilities. Therefore, financial accounts fit in the system of national accounts in the sense that they indicate, through transaction data, the financial instruments (issued by another sector or non-residents) that a specific sector or the national economy as a whole will invest in from its disposable income after consumption and investments are deducted (i.e. from its non-financial account balance), and the sectors (consuming or investing in excess of their income) whose net borrowing requirement it can thereby satisfy by using its net lending capacity.

Financial account statistics contain the parts of the balance sheets and accumulation accounts which indicate the stock of financial instruments and the components of their volume changes; in other words, the parts of Chart 1-1 which are marked below the dotted line separating financial assets and real assets.

The potentials and limitations of the application of information contained in the financial accounts are detailed in Section 1.7.

## Relationship between financial accounts and other central bank statistics

In addition to financial account statistics, the Magyar Nemzeti Bank prepares and publishes balance of payments statistics, monetary statistics and securities statistics. All three statistical areas capture specific sections, sectors or instruments within the financial accounts which constitute the national accounts. In this context, the financial account data and stocks shown in the balance of payments statistics indicate the financial assets and liabilities of resident (domestic) economic sectors vis-à-vis the rest of the world, while monetary balance sheet statistics indicate financial assets and liabilities of monetary financial institutions (central bank, credit institutions, money market funds) vis-à-vis other sectors, and securities deposit statistics present the holder sector structure and flow data of major securities issued by residents. All three central bank statistics provide important data for financial accounts, and its products are comparable in content to the corresponding components of financial accounts. The comparison, however, is complicated by numerous classification, evaluation and technical differences (see details in Section 2.4).

In financial accounts, the stock and transaction data for the assets and liabilities of the national economy vis-à-vis non-residents are identical in terms of content with the stock and financial account data of the **balance of payments** statistics.

<sup>1</sup> The balance of capital transfers is also accounted on the capital account, affecting net lending.

**Table 1-1**
**Breakdown of financial accounts and balance of payments (financial account data of balance of payments) according to financial instrument and sector**

Sector breakdown		Instrument breakdown	
Financial accounts	Balance of payments	Balance of payments	Financial accounts
Central bank (the MNB)	Central bank (the MNB)	Bonds and notes	Long-term securities
Other monetary financial institutions	Other monetary financial institutions	Money market instruments	Short-term securities
Other financial intermediaries	Other sectors	Financial derivatives	Financial derivatives
Financial auxiliaries		From Portfolio investments: shares and other equity.	Quoted shares, Unquoted shares, Other equity,
Insurance corporations and pension funds		From Direct investments: Equity and reinvested earnings	Mutual funds shares
Non-financial corporations		From Direct investments: Other investments (loans).	Monetary gold and SDRs,
Households		Other investments (deposits, loans, other accounts	Currency and deposits
Non-profit institutions serving		receivable)	Loans,
Central government	General government		Other receivables
State government			
Local government			

The biggest difference is in the breakdown of the data, due to presentation reasons stemming from functional differences (see Table 1-1).

Balance of payments statistics divide the resident economy into four sectors, of which monetary institutions and the general government correspond with national account sectors of the same contents. Balance of payments statistics classify instruments (financial assets and liabilities) according to the extent of ownership or influence (direct capital investments, portfolio investments and other investments), while instruments are classified on the basis of type (loans, deposits, securities, shares, etc.) in financial accounts.

**In monetary balance sheet statistics** – another important source for the financial accounts – stock data (balance sheets) relating to the sectors of monetary institutions are published. Monetary balance sheet statistics present the assets and liabilities of the central bank (the MNB), credit institutions and the sector of other monetary institutions (including money market funds). Thus, the products of monetary statistics can be compared with the corresponding balance sheet data of financial accounts. In this case, the categories applied for classification, sectors and instruments also correspond with those of the financial accounts. However, the amounts listed under similar category names are not the same in the two statistics, which primarily reflects differences in methodology, including data content and valuation. Since monetary statistics are prepared on a monthly basis with a short time lag, monetary balance sheets can be used to estimate financial accounts, whose availability is more

delayed. In certain cases, a more in-depth breakdown of monetary statistics into instruments or sectors assists in a detailed presentation of financial account data.

In 1997, the **securities statistics** of the MNB were expressly prepared for the purpose of supporting financial accounts and satisfying their data requirements. Accordingly, with respect to securities data, the securities statistics are fundamentally consistent with information contained in the financial accounts. The range of comparable data are instruments issued by residents, including mutual fund shares, quoted shares, government securities and other debt securities (corporate, local government and bank bonds and mortgage bonds). Bills of exchange, compensation notes, unquoted shares and other participations (business shares) are presented as a surplus in the financial accounts. Rather than securities statistics themselves, it is the financial account data and stock statistics of the balance of payments – which in fact incorporate securities statistics – that serve as a data source for residents' foreign security holdings in the financial accounts.

### Relationship between financial accounts and general government statistics

In developed countries, the most important data sources for financial accounts are the stand-alone sector statistics: banking statistics, balance of payments statistics and government financial statistics. In Hungary, however, there are no comprehensive, quarterly published general government statistics which present – as an independent

financial statistical area – the income, expenses, balance, financing and debt of the government sector in a single, consistent system. Hungarian financial account statistics therefore cannot rely on the existing financing and balance sheet data of the government sector, but they are produced by the central bank in the framework of financial accounts, based on several varying data sources. The general government gross consolidated debt at nominal value is generated in the system of financial accounts as well (see Section 3.3 for more detail). For this purpose, the existing stock of different debt components (deposits, loans, security-type government liabilities) must be recorded in the financial accounts not only at regular market value, but also at nominal value.

Based primarily on budgetary accounting data sources, the Central Statistical Office (CSO) is responsible for preparing

the government's non-financial national accounts, which contain the general government's income, expenses and their balance (i.e. its net lending/net borrowing). To ensure that the financial account and debt data provided by the MNB are consistent with those of the government's non-financial accounts compiled by the CSO across all reports and data disseminations, close co-operation is required between the two institutions. Financial statistics data of the general government – including its income, expenses, balance and financing, as well as borrowings, are typically presented together in data reports to international institutions and their publications. The most important of these statistics are the report on the Excessive Deficit Procedure (EDP; see Section 3.3 for more information), and the government finance statistics (GFS) collected and published by the Statistical Office of the EU (Eurostat), the European Central Bank (ECB) and the International Monetary Fund (IMF).

## 1.2 Methodological principles and rules

General methodological principles and rules relating to the compilation of financial accounts are defined in international methodological manuals (SNA, ESA) on national accounts.

The **System of National Accounts** (SNA) is a methodological manual revised at 15-year intervals under the management of the UN, serving as a recommendation for the preparation of national accounts on a global level. It provides a basis for the elaboration or revision of many other financial statistical methodologies, prepared in accordance with the IMF manuals (BOPM5 and GFS2001) describing the compilation of the balance of payments statistics and the general government statistics, and the ESA manual representing the EU standard for preparing national accounts. The upcoming 2008 version of the SNA will not contain any substantial modifications relative to the existing SNA93, but it will take account of any new phenomena and instruments which have evolved as financial markets have developed or have become significant for the purposes of analysis.

The **European System of Accounts** (ESA) is a mandatory regulation in the Member States of the European Union (Council Regulation (EC) No 2223/96) relating to the compilation of national accounts and the related data supply obligations. The annex to this Act includes a methodological manual which, as the European version of the SNA, describes the contents of the financial and non-financial accounts of the national economy and their method of compilation. This methodological manual and the attached supplementary rules comprise the basis for the compilation of the Hungarian financial accounts (in addition to the SNA). The next, SNA2008-compliant version of the existing ESA95 will be published in 2010.

In addition to the general accounting regulations of the ESA, which cover the economy as a whole, the Statistical Office of the European Union (Eurostat) prepares a special collection of regulations for the statistical processing of general government finances. The special importance of the government sector's statistical indicators justifies the publication and regular revision of the **Manual on Government Deficit and Debt**. This manual is also used to assist in compiling the EDP report regulated by Council Regulation (EC) No 3605/93, in that it details the contents of the Maastricht deficit (net borrowing) and debt defined in the Council regulation and provides guidelines with respect to the recording of government-specific economic events.

The original purpose of the national accounts manuals presented above was to provide assistance for the compilation of annual statistics. The second half of the 1990s, however, saw an increasing demand for quarterly accounts in the European Union. In addition to the traditional general macro indicators, the focus shifted primarily to the quarterly compilation of the financial and non-financial accounts of the general government, the rest of the world, and financial corporations. While Eurostat is solely responsible for co-ordinating the overall compilation of the quarterly sector accounts (non-financial national accounts), a division of labour has evolved between the European Central Bank and Eurostat with respect to financial accounts. Eurostat has developed a methodological manual to support the compilation of quarterly accounts (Manual on Sources and Methods for Quarterly Financial Accounts), while the ECB has prepared legislation on the quarterly financial accounts of the euro area (Monetary Union Financial Accounts Guideline). Separate Council regulations govern the compilation and transmission of the general government's quarterly financial and non-financial accounts.

Methodological manuals on national accounts lay down general principles as well as specific rules with respect to the processing of economic events, the classification of economic participants, and the contents of statistical indicators. The latter rules are presented in subsequent points of this Section.

The list below presents the **major principles** applied in Hungarian financial account statistics in accordance with international regulations:

- Priority of economic substance over legal or accounting content.
- Enforcement of market valuation, accrual accounting.
- Gross presentation of interest-bearing instruments increased with accrued interest.
- Institutional principle for sector classification, sector classification according to principal activity.
- Correspondence between assets and liabilities (selection of common data sources).
- Sum of components of changes of stocks must equal changes in stocks.
- Balances close with zero in a closed economy.
- Consistency of consolidated and non-consolidated accounts.
- Consistency of quarterly and annual accounts.
- Continuous data revision, temporal consistency.
- Priority of economic substance over legal or accounting content



The objective of statistics is to provide analysts, researchers and decision-makers with an undistorted picture of the financial processes and state of the economy with the least amount of data reporting burden on economic participants. Statistics therefore strive to utilise, to the extent it is possible, the available administrative records (corporate register, securities register, financial supervisory records, and tax returns) and accounting statements (annual reports, budget statements, business plans). However, legal and accounting regulations change periodically and may vary in different countries, while statistics must be comparable and consistent in time and space. It is therefore essential for statisticians to understand the administrative and accounting categories prevailing in the reference period, and to be able to translate them to the terminology of statistics and economics. Understanding the economic contents (event or behaviour) behind legal or accounting forms is vital for the selection of the appropriate statistical category.

### **Rules of valuation in the financial accounts**

Based on the applied methodology, the stocks of financial assets and liabilities and the related operations and transactions must be recorded at market value in financial accounts (for all sectors and instruments). This valuation principle is fundamentally different from the general valuation principle adopted in business accounting, where accounting value is generally identical to purchase price or issue price. According to the approach applied for the preparation of national accounts, it is the market value that best reflects the actual financial wealth of individual economic participants and at the same time allows for data comparison. However, as the required source data are not always available, the principle of market valuation cannot always prevail in the compilation of financial accounts. This problem arises primarily in the case of instruments which are not traded on markets and are therefore difficult to price. Consequently, specific rules are defined in the methodological manuals of national accounts regarding the market valuation of instrument categories with no secondary market (loans, deposits, other equity and other claims). These rules are detailed in the section describing the contents of individual instruments.

### **Time of recording, accrual accounting**

Accrual accounting must be used in national accounts. In the case of financial accounts, this means that if a transaction in non-financial accounts (e.g. a transaction related to production, distribution of income, consumption or investment) is linked to a transaction affecting the financial accounts, the two transactions must be recorded

simultaneously, at the point in time when the real economy transaction occurs. If no payment is effected when the non-financial transaction occurs, it is to be recorded under other receivables/payables in the financial accounts. As financial instruments establish a link between two institutional units (the creditor and the debtor), it is equally important that transactions affecting financial instruments be recorded by both units simultaneously. In practice, accrual accounting is applied for items relating to wages, taxes, social contributions, transfers, and the provision of goods and services. Adjustments based on the accrual method are to be made for all purchase/sale transactions when a financial instrument (typically a security) is traded in the secondary market and the payment is made at a different time from that of the transfer of ownership. Accrual accounting of interests is presented in the sub-section below.

### **Gross presentation of interest-bearing instruments**

As property income, interest is subject to accrual accounting in the national accounts. Due to interest income receivable but yet unpaid for the period, the creditor accrues a claim against the debtor (while the debtor, for its part, accrues a liability in the same amount). As opposed to the rules of business accounting, which typically require that accrued interest be recorded as an accrued or deferred item, international methodological manuals recommend that accrued interest be added to the stock of instruments providing interest income (interest-bearing instruments). Therefore, in domestic financial accounts, the market value of loans and deposits with agreed maturity reflects the nominal value (the amount repayable under the contract) plus accrued interest, while the market value of securities other than shares reflects the net market value plus accrued interest (i.e. the gross market value). The property income not yet received from investment fund shares (regarded as interest) and technical provisions (regarded as other own assets) is also accrued in the stock of the above instruments. Regarding the presentation of securities at gross market value, the products of financial accounts are consistent with those of the security statistics prepared by the central bank. However, as they reflect accrued interest as well, deposits and loans are presented at higher values in the financial accounts than either in monetary balance sheets or accounting reports.

### **Institutional principle and sector classification according to principal activity**

The basic element of national accounts for the processing of economic actors is the institutional unit (company, non-profit



institution, budgetary organisation, fund, household, other organisation). An institutional unit is an economic participant acting as an independent business entity with its own records and accounting. National account statistics classify economic participants into sectors on the basis of their behaviour and the role they play in the economy. Classification is based on institutional units, in consideration of their principal activity. In the case of multiple activities performed by the same organisation, its principal activity will be the one from which the organisation realises most of its revenues. Unless there are extremely compelling reasons to do so, institutional units cannot be divided into pieces, and their parts cannot be classified into different sectors. In particular, the branch office of a company which operates in a different country is considered an independent institutional unit. Similarly, statistics establish an independent institutional unit (quasi corporation) for resident real estate owned by non-residents, or for agricultural interventions conducted on behalf of the European Union.

### Correspondence between assets and liabilities (selection of common data sources)

The methodological manuals of national accounts (SNA, ESA) do not specify the data sources or the method to be used for the compilation of statistics. In most countries, accounts are broken down by sector, and are compiled from own data sources (data are collected from the sector itself), and differences (or a part of the differences) between the data are subsequently eliminated for the sector or instrument with the poorest quality data. In Hungarian practice, financial accounts are prepared in such a manner that for an instrument, **the same data** are recorded under the liabilities of the debtor sector as under the financial assets of the creditor sector. Data presented under the different sectors are therefore not independent of one another but derive from a common data source at the level of individual instruments, and this data source is the one which, based on the established **data source hierarchy** in statistics, is considered the more reliable of the data provided by the two relevant sectors (debtor, creditor) or an external participant (financial intermediary). This method ensures that the methodological rule regarding correspondence between financial assets and liabilities is satisfied in practice across the national economy.

### Correlation between stocks and flows

The financial accounts present the opening and closing stocks of financial instruments and the components of changes in stocks. The **stocks** (balance sheets) indicate the value of the financial assets at a given point in time, while flows reflect changes (turnover data) relating to a specific period (quarter,

year). Three groups of flows are distinguished: transactions, revaluations and other changes in volume. Transactions are flow data originating from the creation, termination, purchase/sale or transfer of financial instruments. Such flows record economic events – **transactions** – which take place through the mutual agreement of the involved institutional units. **Revaluations** are flows arising from the price changes of financial instruments (changes in the market environment). **Other changes in volume**, in turn, are flows resulting from technical rather than economic reasons.

The general formula below holds true for all financial instruments:

$$\text{opening stock} + \text{transaction} + \text{revaluation} + \\ + \text{other changes in volume} = \text{closing stock}$$

Transactions play a prominent role in the components of flows, for they correspond to economic events over which institutional units have direct control. Transactions are also indicated in the current accounts and capital accounts of national accounts, thus revaluation and other changes in volume are excluded from the categories of production, income and consumption.

### Balance indicators in financial accounts

The equal size of financial assets and liabilities in financial accounts ensures that the sum of the balance indices computed as their difference is zero for the economy (taking account of the rest of the world sector in national accounts establishes the comprehensiveness of economic relations). In addition to financial assets and liabilities, the balance sheets of financial accounts also indicate the difference between assets and liabilities in the form of **net financial worth**. Net financial worth reveals the ‘external financial position’ of a sector, i.e. its position as a net lender or a net borrower. Naturally, changes affecting net financial worth may be divided into 3 types: flows resulting from transactions, revaluations and other changes in volume. Changes in net financial worth originating from transactions correspond with the narrow interpretation of the balance of financial accounts, **net lending/net borrowing**. Changes in net financial worth originating from revaluation or other changes in volume correspond with the balance of the revaluation and other changes in volume accounts calculated for their financial instruments.

### Consolidated and non-consolidated indicators

For national accounts, the principle of **gross settlement** is to be used. This means that in the case of financial accounts

all assets and liabilities of institutional units must be taken into account, irrespective of whether they refer to a relationship inside or outside of a specific group. The smallest units of financial accounts are **institutions** (companies, general government institutions, households, other institutional units). On the level of institutional units, data are “consolidated” in all cases; any assets or liabilities of a company vis-à-vis itself are not interpreted in the statistics (hence, financial accounts do not indicate shares or bonds repurchased by the issuer). The difference between non-consolidated and consolidated data is reflected at the level of groups (sectors) created from institutional units. Elimination of financial relations within the group (consolidation) may be useful when the external financial positions of a specific group (such as a sector) or changes in those positions are to be presented. In Hungarian financial accounts, data of households and non-profit institutions serving households are always consolidated (even in non-consolidated tables), because the accounts of these two sectors are generated exclusively from external data sources (partner data), and thus the relationships within the sector are not known. The rest of the world and the central bank (MNB) sectors are inherently consolidated as well.

### Consistency of quarterly and annual accounts

In most countries only annual national accounts statistics existed for a long time; quarterly accounts were introduced later, as a separate statistical area. Quarterly accounts are generally based on other data sources; they contain more estimates and are finalised retrospectively, as they are adjusted to the annual accounts. In Hungary, quarterly financial accounts are generated, and annual figures are based on these statistics as well. This ensures the consistency of quarterly and annual data at all times. The data sources and estimation methods of quarterly statistics ensure that comprehensive and nearly finalised annual data are available at the first data report. Most products of the Hungarian

financial accounts consist of quarterly tables, from which annual data are easy to extract. Yearly (end-of-year) stocks (stock of financial assets and liabilities, net financial worth) are equal to the stock data as of the last quarter of the year; while yearly flows (transactions, revaluations, net lending/borrowing) are the sum of the corresponding flow data for the four quarters.

### Continuous data revision, temporal consistency

The objective of national account statistics is to provide users with a data set that is up-to-date and comparable in time and space. Complying with the international methodological standards allows for consistency in space (between countries or regions), while consistency in time is ensured by the relatively stable nature of standards and the appropriate handling of methodological or technical breaks. One of the basic principles of domestic financial account statistics is that the time series emerging in the products must reflect the most current state of the data, and must be consistent in terms of contents. The area of statistics is continuously expanding and developing; new data sources and new estimation methods are being incorporated in data processing and the system of data compilation. Those preparing the financial accounts strive to ensure that any novelties and changes are updated across the time series, if there is no other way, through the use of estimates. This is done by extraordinary (unscheduled) data revision, and may impact data as far back as 5-10 years. Indeed, data of the current year and of the two calendar years preceding it may change any time when data reports are submitted due to data source changes and clarification of the contents of economic events, or corrections of their settlement. Scheduled revisions are performed when the announced data review process of balance of payment statistics takes place, during the compilation of EDP reports, and whenever the annual accounting reports and corporate tax returns become available. Revision policies relating to central bank statistics are available on the homepage of the MNB.

## 1.3 Content of economic sectors

Similarly to other parts of the national accounts, institutional units are classified in accordance with the international methodology in financial accounts. On the one hand, the classification of institutional units is based on the regional principle (resident – non-resident units); on the other hand, the methodology classifies residents into sectors on the basis of their economic behaviour and characteristics. Units are generally divided into two main groups: residents (domestic) and non-residents (rest of the world). The main economic interest of residents is inside the specific country, while for non-residents it is outside of the specific country.

### Resident sectors in financial accounts

National account statistics classify resident economic participants into the **5 main sectors** below (statistical codes in brackets):

- Non-financial corporations (S.11)
- Financial corporations (S.12)
- General government (S.13)
- Households (S.14)
- Non-profit institutions serving households (S.15)

The sectors were established according to the economic behaviour (principal activity) of the institutional units. The general features of the individual sectors are as follows:

The sector of **non-financial corporations** consists of profit-oriented institutional units, whose activity comprises the production of marketable goods and non-financial services. In addition to manufacturers and service providers, this includes, for example, condominiums and non-profit institutions serving non-financial corporations (for example chambers). The sector of non-financial corporations include special purpose entities (see Section 2.3 for a more detailed description of SPCs); and the imaginary corporations established for the domestic real estate investments of non-residents. In the statistics, this sector contains the imaginary company which acquires agricultural products on behalf of the European Union (intervention organisation).

**Financial corporations** are institutional units whose primary activity is the provision of financial services. This sector is typically composed of credit institutions, insurance companies, investment funds, fund managers, leasing companies, brokerage firms, pension funds and organisations undertaking guarantee, registered by the Hungarian Financial Supervisory Authority. (In order to assist data providers in

their classification of their partners, the MNB publishes an up-to-date list of all institutional units in the sector on its homepage).

The **general government** (the government sector) consists of units which produce non-market goods and services or participate in the re-distribution of income, whose activity is mainly financed by compulsory payments (taxes). As a general rule, the sector includes all central or local government budgetary institutions, extra budgetary and Social Security funds. From a statistical perspective, however, the government sector implies a broader institutional range than the legal category of the general government, as it includes not only budgetary organisations but also corporations and non-profit institutions.

The sector of **households** comprises natural entities which primarily behave as the end consumers of goods and services and as the suppliers of the work force. The household sector includes sole proprietors as well, as their behaviour (decision making and operations) cannot be separated from the operating private households. In this sense therefore, the household sector is a wider category than individual households.

**Non-profit institutions serving households** consist of non-market producers of goods and services directly financed or controlled by households. This sector includes political parties, churches, most foundations and associations. Non-profit institutions are included in the sectors of non-financial corporations, financial corporations and the general government; however, only non-profit institutions serving households are included in the statistics as an independent, main sector.

### Sub-sectors in financial accounts

For the purpose of providing in-depth analysis, statistics further divide the financial corporation and general government sectors – which are best covered by data sources – into additional sub-sectors.

**Financial corporations** are broken down into the following sub-sectors:

- Central bank (S.121)
- Other monetary (financial) institutions (S.122)
- Other financial intermediaries, except insurance corporations and pension funds (S.123)

Financial auxiliaries (S.124)

Insurance corporations and pension funds (S.125)

The **central bank** functions as the monetary authority of a specific country (the MNB in Hungary's case), which is responsible for the issue of banknotes (and often coins) and the management of international reserves. The accounts of commercial banks and the government are usually managed by the central bank. In line with these functions, cash and deposits dominate the liabilities side of the central bank's balance sheet, while the assets side contains mainly securities.

**Other monetary institutions** are financial institutions other than the central bank, which operate as financial intermediaries; their liabilities generally arise in the form of deposits or close substitutes. Credit institutions (banks, specialised credit institutions, cooperative credit institutions, home savings funds, credit institutions' branch offices) and money market investment funds all represent monetary institutions. The central bank and other monetary institutions jointly compose the group of monetary institutions.

**Other financial intermediaries** include (non-monetary) financial corporations (not including insurance corporations and pension funds) which take part in financial intermediation, but whose liabilities are less liquid than deposits. This sector typically comprises lending institutions and institutions investing in securities, which collect their funds in the form of loans or securities. Such institutions include most financial and investment enterprises, mutual funds (except money market funds) and their managers. An example of such an institution is Diákhitel Központ Zrt. (Student Loan Company).

**Financial auxiliaries** are financial corporations which do not participate in financial intermediation directly, but their activity facilitates financial intermediation. Consequently, their balance sheets and net worth indicate lower figures, for such companies do not deal with the collection, transformation and placement of financial assets, but mediate participants linked to financial intermediation without

producing an impact on their own balance sheets. Such institutions are typically exchanges and clearing houses (except the credit institution clearing house), securities brokers, investment protection funds and institutions performing other financial auxiliary services.

**Insurance corporations and pension funds** represent financial corporations which undertake long-term liabilities (generally over 10 years) and/or offer insurance services. This sub-sector includes organisations such as insurance corporations, insurance associations, private pension funds, voluntary mutual pension funds, health funds and voluntary self-assistance funds. The liabilities of the sector typically comprise insurance fee reserves, which they invest primarily in securities.

The **general government** (government sector) is divided into the following sub-sectors:

Central government (S.1311)

Local governments (S.1313)

Social security funds (S.1314)

**Central government** incorporates central state administration and its institutions. This sector includes non-profit institutions which are financed and controlled by the central government. The group also includes companies owned by central government which conduct quasi-fiscal activities in the areas of income redistribution, provision of certain non-market services and the management of state assets. The scope of corporations and non-profit institutions comprising the central government is defined by the working group engaged in general government accounting under the management of the Central Statistical Office (for the information of data providers, the MNB also publishes a list of all business organisations and non-profit institutions which are included in the sector of the central government). The **local government** sub-sector includes the local, regional and local minority governments and their institutions (budgetary organisations). **Social security funds** cover mandatory, state-organised social security (health and pension funds) and the related institutions.

## 1.4 Financial instruments

In an economic sense, financial instruments differ from non-financial instruments in the fact that financial instruments are assets that are simultaneously liabilities of other institutional units. The financial accounts statistics present the financial worth of the total economy, or a part thereof (sector) through seven main instruments, including a breakdown of a total of 19 instrument types. The funded financial instruments are as follows (international codes in brackets, further domestic statistical breakdowns in italics):

- Monetary gold and SDR (AF.1)
  - Monetary gold (AF.11)
  - SDR (AF.12)
- Currency and deposits (AF.2)
  - Cash (AF.21)
  - Transferable deposits (AF.22)
  - Other deposits (AF.29)
    - Other short-term deposits*
    - Other long-term deposits*
- Securities other than shares (AF.3)
  - Short-term securities (AF.331)
  - Long-term securities (AF.332)
  - Financial derivatives (AF.34)
- Loans (AF.4)
  - Short-term loans (AF.41)
    - Short-term real estate loans*
  - Long-term loans (AF.42)
    - Long-term real estate loans*
- Shares and other equity (AF.5)
  - Quoted shares (AF.511)
  - Unquoted shares (AF.512)
  - Other equity (AF.513)
  - Mutual fund shares (AF.52)
- Insurance technical reserves (AF.6)
  - Net equity of households on life insurance reserves (AF.611)
  - Net equity of households on pension fund reserves (AF.612)
  - Prepayments of insurance premiums and reserves against outstanding claims (AF.62)
- Other accounts receivable/payable (AF.7)
  - Commercial loans, advance payments (AF.71)
  - Other (other) accounts receivable/payable (AF.79)
    - Taxes receivable/payable*
    - Wages receivable/payable*

Statistics primarily use the same instrument types as those applied in business accounting, with standard contents worldwide. The instruments are presented and broken down in

the order of liquidity and negotiability. Short-term financial instruments have an original maturity of no more than one year (upon issue). Long-term instruments have an original maturity over one year. The same instruments are indicated on the assets and liabilities side of the balance sheet, as a financial instrument is obviously a liability for another institutional unit. (This is why the term 'instrument' is used for the joint definition of assets and liabilities.) The sole exception is the instrument called Monetary gold and SDR; this is a financial instrument of central banks without representing another party's liability. The use of instruments in financial accounts is also uniform at the level of sectors; nevertheless, certain items may not be listed among the assets or liabilities of certain sectors.

### Monetary gold and SDR

Monetary gold and SDR (special drawing rights) comprise the special reserve instruments of central banks which do not represent the liabilities of any other sectors. The above is presumably based on the fact that an underlying instrument element exists in relation to both instruments, which allows the creation of a financial instrument of value without being the liability of an external unit. With respect to monetary gold, the physical gold reserves constitute such an instrument, monetised by the monetary authority. Regarding SDR, it is represented by the financial contribution related to IMF membership, on the basis of which the international organisation allocates SDR to the member organisations. As a result, the monetisation and demonetisation of gold (production and termination of monetary gold) and the allocation of SDR is not possible through transactions (as these would require two parties), but only by way of a change in volume (the asset quality changes). The purchase and sale of (available) monetary gold, however, constitutes a transaction. Hungarian financial account statistics register monetary gold and SDR as a foreign exchange instrument; accordingly, revaluation is calculated for it as a result of exchange rate changes.

### Currency and deposits

Currency and deposits are financial instruments which represent the debt of monetary institutions and potentially central governments (treasuries), which is either used as currency, or may be easily transformed into currency. Hungarian (forint) and foreign (currency) banknotes and coins constitute cash. Deposits include transferable deposits and time deposits (other deposits) which may have short-term or long-term maturities, depending on the term. Deposits are distinguished from credit-type instruments in that these may

only constitute the liabilities of monetary institutions (or governments); their creation is initiated by the creditor (depositor) party, and theoretically these may be cancelled (terminated) any time by the depositor. Current accounts are deposits from which transfers may be made at any time without a loss of interest. In financial account statistics cash is presented at nominal value (denomination value) and deposits are presented at nominal value increased with accrued interest. In addition to the purchase/sale transaction, revaluation is accounted for currency cash and foreign exchange deposits resulting from changes in the foreign exchange rates.

## Securities other than shares

Securities other than shares comprise maturing financial instruments which are generally traded on secondary markets, or there is the possibility that such financial instruments are traded (for this purpose, such securities are provided with standardised features supporting negotiability and are generally issued in series composed of securities with similar features). Based on current regulations such securities include financial derivatives as well. Apart from derivatives, securities other than shares are generally interest-bearing debt securities, presented in financial accounts statistics in a short-term and long-term breakdown. The largest group of such securities includes HUF and foreign exchange government bonds, various treasury bonds, compensation bonds, local government bonds, corporate and bank bonds, mortgage bonds, deposit certificates and bills of exchange. Securities must be presented at gross market value increased with accrued interest.

## Loans

Loans (credits) represent financial instruments with maturities which are typically established upon the lending of money, and which are generally not present in secondary markets. In addition to money lending, this group includes claims and debts arising from deferred and instalment payments, financial leasing, factoring, cash-pool and repo transactions and fictitious repurchase agreements. Thus, loan instruments indicated in national accounts represent a broader category than the terms of credit and loan defined in accounting. Financial accounts present credit-type assets at a nominal value increased with accrued interest (repayable by contract). Loans whose repayment is unlikely cannot be recorded as an asset or liability in statistics.

## Shares and other equity

Shares and other equity comprise financial instruments linked to shareholder rights and other rights providing yields. This group includes quoted and unquoted shares, other equities and mutual funds shares. Shares are securities issued by

companies operating in the form of shareholding companies. Other equity (non-share equities) represents the liabilities of companies with other corporate forms (co-operatives, limited liability companies, limited partnerships, public companies, etc.) which, in a legal sense, are not securities. Statistics, however, consider these to be financial instruments incorporating ownership. Mutual funds shares comprise the liabilities of various mutual funds. Quoted shares and mutual funds shares are included in the statistics at an observed market value; while unquoted shares and other equities, in the absence of additional information, are recorded at an adjusted book value of own funds both under the liabilities of the issuer (debtor) sector, and under the assets of the owner sector. In line with the practice of balance of payments statistics, financial account statistics calculate reinvested earnings for investment fund shares and for shares and other equities involved in foreign direct capital investments.

## Insurance technical reserves

Insurance technical reserves represent the reserves of insurance corporations and pension funds accumulated on behalf of customers. These special instruments are always booked among the liabilities of the affected insurance corporations and funds, but customers seldom record such amounts as assets or financial instruments. In financial accounts, these instruments are added to the balance sheets and accounts of partner sectors on the basis of information supplied by the insurance corporations and funds. A portion of the insurance technical reserves is presented by the reporting institutions at market value, while others record these at book value in accordance with accounting rules. As to the type of reserves, these may be life insurance and pension fund reserves managed on behalf of households or other insurance technical reserves, where the beneficiary may be any insured sector.

## Other accounts receivable/payable

Other receivables and payables are generally financial assets and liabilities outstanding on a temporary basis, which support the applying of accrual accounting, bridging the time differences linked to economic events and the related financial settlement. Typically financial assets arising from the supply of goods and the provision of services and the related advance payments are accounted for in the category of trade credits and advances, while other other receivables primarily indicate items arising from the accrual accounting of taxes, social contributions, subsidies and wages. Trade credits are derived from the balance sheets of corporations and budgetary organisations, while other other receivables are calculated from the temporal adjustment of budgetary cash-flow data or by means of special statistical reports.



## 1.5 Data sources of financial accounts

Triggered by the publication of SNA93, the development of financial account statistics commenced in the middle of the 1990s. After becoming familiar with the methodology, the first step was to identify possible data sources. From 1997, the central bank launched several new data collection procedures and expanded existing statistics, in consideration of the demands of financial accounts. As a result, from 1997 on most data sources have been available with a quarterly frequency at the very least.

### Legal basis of central bank data collection

Since 1997, the MNB's practice has been to define the contents and terms of submission of external reports using data supply guidelines. Data collection required for the operation of the central bank information system is prescribed by

- the National Programme for Statistical Data Collection (OSAP Government Decree) based on the provisions of the Act on Statistics,
- the decree of the Governor of the central bank on the basis of the Act on the Magyar Nemzeti Bank, or
- agreements between the institutions.

Recently the MNB has introduced new forms of data collection serving the financial accounts; furthermore, existing data sources have been expanded and further developed as warranted.

### Internal and external data sources

Hungarian financial accounts statistics rely on over 50 data sources, approximately ten of which are linked to data originating from other statistics of the MNB, while the remaining external data are collected from financial or non-financial corporations or government units. Internal central bank data cover two thirds of the information appearing in the products of financial accounts. The largest external data source is supplied by the Hungarian Tax and Financial Control Administration (APEH): the annual corporate balance sheet database submitted as an annex to corporate tax returns. Financial accounts make use of a significant amount of data gathered from the supervisory reports supplied by the Hungarian Financial Supervisory Authority (PSZÁF), the budget reports from the Hungarian Treasury,

and from the data supplied by the Government Debt Management Agency. Statistics reflect the information gained from supervisory reports under the information on non-monetary financial intermediaries and the related sectors, while corporate balance sheets provide data on shares and other equities, inter-company lending and trade credits. Budgetary data play an important role primarily in the presentation of intra-sectoral relationships in the sector of the general government, and the indication of loans and other receivables. Of the external data sources, the largest problem in the compilation of statistics is related to the annual frequency and long lags of corporate balance sheet data supplied by APEH (9 months following the reference year for the preliminary data).

#### Main areas of origin of data sources:

- Central bank statistics (balance of payments, monetary statistics, securities statistics)
- Balance sheet data of the MNB (accounting statements)
- Central bank data supplies of other financial institutions (insurance corporations, investment funds, Student Loan Company)
- Supervisory reports of financial institutions (pension funds, financial and investment enterprises) (PSZÁF data)
- Corporate balance sheet data contained in the tax returns of corporations (APEH database)
- Data in annual reports of corporations and in the corporate register (data supplied by the Court of Registration and ministries)
- General government, budgetary data (balance sheets, cash flow statements, debt)
- Central bank reports of companies owned by the central government or local governments (public corporations)
- Data on non-profit institutions (data from the Central Statistical Office)
- Supplementary information (prices, exchange rates, price indices, interest rates, wages, etc.)

**The hierarchy of data sources is as follows:**

1. MNB securities statistics
2. MNB balance of payments statistics
3. The balance sheet of the MNB
4. Monetary statistics of the MNB (credit institutions)
5. Data pertaining other financial organisations
6. Data pertaining the general government
7. Corporate data (APEH and direct sources)
8. Data on non-profit institutions

From the overall data sources, only those data are utilised for the purposes of financial accounts, which may not be extracted from any other data source preceding them in the hierarchy. All of the selected data appear simultaneously in two places in the financial accounts: under the assets of a certain sector, and under the liabilities of another sector. Any data not used directly for the purposes of financial accounts – i.e. those originating from a lower level of the hierarchy – are used for the validation of data used.

### **Estimates supplementing the data sources**

Regarding the extent of data source coverage of sectors and instruments in financial accounts, in most cases a comprehensive range of information on instruments may be typically extracted from the data provided by the relevant

sector, or by a financial intermediary participating in the transaction. Source data are supplemented with estimates in relation to cash, loans, shares and other assets/liabilities. Despite the extensive scope of the utilised data and estimates, data pertaining to individual sectors with respect to cash, loans, insurance technical reserves, financial derivatives and other receivables are not complete in the financial accounts. Such data shortage is negligible in volume, and does not affect the usability of the statistics.

Data gathered for the financial accounts primarily comprise stock (balance sheet) data. With the exception of flow data relating to the rest of the world (which are extracted from the balance of payments), transactions are typically calculated by means of estimates in the practice of the domestic financial account statistics. In order to formulate the estimate additional information is required to supplement stock data, from which transactions may be defined either directly, or – based on the known figure of other changes in volume – can be calculated as a residual value of stock changes. For cash, loans, shares and other assets/liabilities, the transactions or revaluations can be usually estimated based on the foreign exchange composition of stock data. In the case of securities, as a part of securities statistics, the central bank collects specific price and quantity information as well, which serves the purposes of market pricing and the breakdown of changes in volume into components.



## 1.6 Products of financial accounts

As a part of the National Statistical Service, in Hungary the MNB is responsible for the compilation of the financial accounts of the national economy, and for carrying out the related international data transmission obligations. Quarterly statistics are published with data on financial accounts on the home page of the MNB, in the form of Excel spreadsheets and textual information. The on-line data supply can be accessed on the home page of the MNB under the menu option 'Statistics', in the Statistical Time Series block, as indicated below:

### VI. Financial accounts

(financial assets and liabilities of institutional sectors)

#### **Comprehensive data** (current data, information on the financial accounts)

Information on the financial accounts (textual description)

Comprehensive figures by sectors (Excel spreadsheet)

Comprehensive quarterly tables (Excel spreadsheets)

Methodological notes

Diagrams based on financial account data

Release on financial account data

#### **Preliminary financial accounts of households and the general government**

Data on households (Excel spreadsheets)

Data on general government (Excel spreadsheets)

Release on financial account data

#### **Time series of detailed financial accounts by sectors**

Stocks, non-consolidated, by sectors

Stocks, consolidated, by sectors

Transactions, non-consolidated, by sectors

Transactions, consolidated, by sectors

Revaluations, non-consolidated, by sectors

Revaluations, consolidated, by sectors

Detailed financial accounts of general government

General government gross debt at nominal value

Release on financial account data

Methodological notes

Diagrams based on financial account data

#### **Financial accounts including data on special purpose entities (SPEs)**

Stocks, non-consolidated, by sectors

Stocks, consolidated, by sectors

Transactions, non-consolidated, by sectors

Transactions, consolidated, by sectors

### **Preliminary financial accounts of households and the general government**

The MNB prepares separate preliminary financial accounts for two sectors, the general government and households on a quarterly basis, with a time lag of one and a half months. Data and the related textual information are published on the business day following the 15th day of the second month following the reference quarter. For both sectors, a summary table is prepared presenting the reference quarter and year-to-date information, as well as retrospective, quarterly time series tables reaching back to 1990. With regard to the general government, the summary table indicates the sector's gross, consolidated (Maastricht) debt as well. In addition to the data tables, the documentation includes charts produced from the GDP-proportionate time series of the sector's net lending/net borrowing, which is the most important balance index of financial accounts. For the calculation of GDP-proportionate indices, the central bank uses its own current price GDP estimate pertaining to the last period.

In response to user requirements, the central bank was producing regular publications on the financial worth and financing of households and the general government even before it launched the financial account statistics. The financial relationships of these two sectors have become more complex since then, but the accumulated experience and available data sources ensure that the preliminary financial accounts of these sectors can be prepared with adequate quality at all times. Regarding the rest of the sectors – primarily due to the delayed availability of balance of payments statistics, securities statistics and the data supplies of financial supervision – financial accounts may be compiled only partially, with a lag of one and a half months, and consequently, it requires three months to publish comprehensive financial accounts covering all the sectors of the national economy. The financial accounts of the central bank (the MNB) and other monetary institutions can be projected on the basis of data reports produced by the MNB on its monetary balance sheet statistics.

The data dissemination on the preliminary financial accounts of the general government and households becomes outdated when the comprehensive financial account statistics are published one and a half months later. All preliminary data

and the information release remain unchanged and available on the home page of the MNB until the publication of the next preliminary data publication; they are not deleted or updated when the standard financial accounts are published. Thus, as soon as the standard, comprehensive statistics become available it is recommended to rely on the latest publication on general government and household information rather than the preliminary data.

### Data supply of the comprehensive financial accounts

On a quarterly basis, with a lag of three months the central bank prepares comprehensive (standard) financial accounts for the national economy as a whole, including all its sectors. Data tables and their textual descriptions are updated on the home page of the MNB on the first business day of the fourth month following the reference quarter (the last quarter indicated in the time series, i.e. the reference period). The data of financial accounts are published both in the form of **comprehensive tables** covering individual quarters, and in the form of **time series tables** containing quarterly data. Comprehensive tables are located under 'Comprehensive data', while time series data are located under 'Time series of detailed financial accounts by sectors'. Comprehensive, standard data releases present the sector of the national economy and the sector of non-financial corporations therein without special purpose entities (SPEs). The financial accounts which do contain SPEs are presented under 'Financial accounts including data on special purpose entities (SPEs)'.

**Cross tables** for individual periods indicate the relevant indices of the national economy as a whole, in a breakdown by economic sectors and financial instruments. Cross tables provide a fast overview of stock or transaction data pertaining to a specific period; however, the time sequence of data is difficult to follow, and requires the simultaneous use

of several tables. Indeed, these latter analyses are supported by the **time series presentation** of data, available in separate tables for each sector. Time series tables present detailed data under the standard data field also contained by cross tables, which indicate the portion of instruments denominated in a foreign currency (FX) on the one hand, and on the other hand, certain instruments (typical of the specific sector) are further broken down by type or by partner sector. Combined, such detailed data for individual sectors allow for an in-depth analysis of the financial and financing relationships of the national economy. **Yearly data can be calculated** as required from quarterly tables by taking account of end-of-year figures only for stock data, and adding up the flow data (transactions and revaluations) of the four quarters of the relevant year. The other changes in volume can be derived from the change in stocks (difference between stocks) by deducting transactions and revaluations.

In consideration of the special significance of **general government data**, and in order to make the contents of international data supplies publicly available, the detailed financial accounts of the general government and data on the gross government debt at nominal value are also presented here, along with the comprehensive financial accounts.

### Financial accounts including data on special purpose entities (SPEs)

As a default, the published data of financial accounts do not include data pertaining to special purpose entities, because data without SPEs allow for a more informative analysis of the economic processes. In accordance with the methodological rules of international data supplies, and for the purpose of presenting the operation of SPEs, a separate group was created on the home page of MNB, which includes the financial accounts containing the data of SPEs as well. Section 2.3 provides a detailed demonstration of how SPEs are handled in the statistics.

## 1.7 Applicability and limitations of financial accounts

Information disclosed in financial accounts and balance sheets can be put to a wide range of uses, the most important being information on the **net lending/net borrowing position of the individual sectors**. Such information reflects the financial balance of a specific sector during a certain period. This balance takes the form of either net supply or demand in the financial market. As the net lending/net borrowing indicator in financial accounts is calculated from changes arising from transactions in financial instruments (from bottom to top), it can be used as a reliable guideline for evaluating the reliability of the net lending/net borrowing indicator calculated on the income and investment side (from the top to the bottom). The difference between the two indicators calculated from two directions may indicate potential shortcomings and errors in statistical processing. The net lending/net borrowing indicator is of the utmost importance in general government as it is the indicator to which the Maastricht criteria must be applied. The EDP Notification prepared in the framework of the excessive deficit procedure to measure the above, must present the balance from top to bottom; moreover, the differences in net lending/net borrowing positions calculated from top to bottom and vice versa, must be reported as well.

Data on the **stocks of financial assets and liabilities** describe the financial relations of the sectors at a specific moment in time, their financing patterns, the depth of financial intermediation, and the sum of gross and net assets and liabilities. The revaluation of financial assets and liabilities represents important contributory information for the analysis of the behaviour of institutional units, as real holding gains – revaluation adjusted for the effects of inflation – have similar characteristics as income: institutional units may spend it in a specific period without incurring a decline in their initial wealth.

A number of **restricting factors** should be taken into consideration when using the financial accounts. As the compilation of the financial accounts is primarily based on stock data, and transactions are often not directly observed but are calculated from the stock data using estimates, the transaction data are less reliable than the stock data. At the same time, this means that the transaction balance generated for a financial account (net lending/borrowing position calculated from bottom to top) is theoretically less precise than the transaction balance based on observed economic

events (net lending/borrowing position calculated from top to bottom) rather than calculated from the direction of financial accounts.

Through its effect on the value of stocks of financial assets and liabilities, inflation may distort interest income and revaluation significantly, especially if those stocks are large (relative to GDP, for instance). Obviously, these distorting effects are reflected in transactions and revaluations in the financial accounts, making it considerably more difficult to perform economically reasonable comparisons between data both over time and on an international scale. Indeed, when analysing net lending/borrowing positions and revaluations, the relevant inflation levels and interest rates of interest-bearing stocks are worth considering as well. **Operational balances** provide assistance to the users in addressing this issue; they reflect net lending/borrowing positions excluding the distorting effect of inflation on interest.

We provide examples below to demonstrate the impact of certain typical economic events on financial accounts and on the non-financial parts of national accounts.

### Transactions affecting the financial account only

These involve transactions through which an institutional unit grants or takes up a loan, repays its existing debt, or sells or purchases a financial asset. In such cases, the increase or decrease in the financial assets of an institutional unit is offset by the decrease or increase in other financial assets or the increase or decrease in liabilities. Such transactions do not have a direct impact on the economic indicators of the participants of the transaction; they merely affect the structure of their financial assets and liabilities. Consequently, such transactions do not influence production, income, savings, net lending/net borrowing or net worth. For instance, if the government sells its holdings of shares to individuals at market value, its claims arising from shares will be replaced by cash, while for households the decrease in cash will be associated with an increase in their holdings of shares (if the state sold its shares below the market price, that would affect the net lending/borrowing position and net worth of both the government and households, as in this case the government would provide a transfer affecting financial assets).

## Transactions affecting financial and non-financial accounts

In the case of these transactions, a transaction on the financial account is associated with another transaction taking place on a non-financial account. In these cases, for the institutional units involved, all the economic indicators (balances) located between the relevant non-financial account and the financial account will change. For example, if an individual buys a service from an enterprise, then the added value, disposable income, savings, net lending/borrowing and net worth of the corporate sector also increase, as in the case of the corporate sector, this transaction must be recorded on the production account as well as the financial account. For the household sector, using the service in question qualifies as consumption, which is recorded on the uses of income account. Thus the savings, net lending/borrowing and net worth of households

decrease. However, the added value and disposable income of the household sector do not change.

## Changes in the market value of financial instruments

In the national accounts, this non-transaction flow only affects the net worth of the institutional units involved. However, it is worthwhile to note that the effect of real holding gains and losses is similar to an increase or decrease in income. For example, if the exchange rate of the national currency appreciates against foreign currencies, then a holding loss and a decline in net worth are recorded for households on their deposits denominated in foreign currencies, and a holding gain and an increase in net worth are recorded for other monetary institutions. The indicators of added value, income, savings and net lending/net borrowing do not change for either sector.

## **2 Practical issues**





## 2.1 Financial derivatives in financial accounts

Financial derivatives are recorded in financial accounts and balance of payments statistics as **separate instruments**. This includes all financial instruments with a market value, whose value depends on an underlying instrument or index. Exchange traded and over-the-counter options, futures, forwards and swaps are derivatives.

In national accounts, derivatives must be recorded for each contract **at market value**. Contracts with a negative market value are recorded under liabilities, while contracts with a positive value are recorded under financial assets. The market value of a derivative contract may go through extreme changes during its duration period; it may become zero, or it may even move to the other side of the balance sheet (due to a change in its sign). This change in price, the extent of which is not typical of any other financial instruments, combined with the lack of a nominal value makes it impossible for statistics to estimate stocks and transactions at market value without external data sources. Thus, derivatives must be treated differently in accounting and statistical records, and consequently, data sources providing the required stock information and information on the components of changes in volume are necessarily collected in the form of special statistical questionnaires.

Another characteristic of derivatives is the fact that they comprise financial instruments to which no **own assets** (interest, dividend or fee) are linked; and changes in volume originate either from revaluations, or from transactions which affect the financial account only (defined in a narrower sense). Any payments made by the partners during the term of these deals must be considered as transactions affecting the financial account. Any changes in volume deriving from a change in market conditions (exchange rates, yields, etc.) are recorded by statistics as revaluations. Since the market value of derivatives is generally very sensitive to changes in market conditions, the volume of revaluations for derivatives is rather extreme relative to other instruments.

Despite the difficulties involved in characterising the statistical observation of this instrument, the data coverage and data quality of financial derivatives are relatively good in Hungarian financial accounts, mainly due to the fact that the number of economic participants engaged in derivatives is rather limited. The following sectors and institution groups are required to provide statistical data supplies on derivatives:

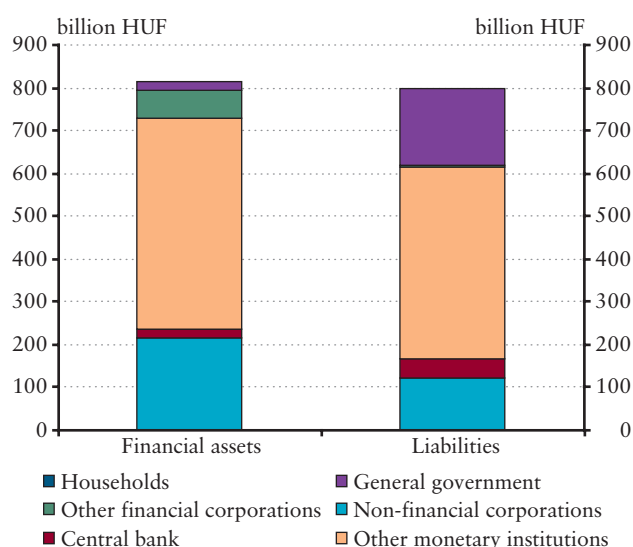
Monetary institutions (the MNB and credit institutions) – with respect to all partner sectors;

Non-financial corporations – with respect to their transactions with the rest of the world;  
Investment funds – with respect to all partner sectors;  
Other private funds – with respect to all partner sectors;  
Central government (ÁKK – Government Debt Management Agency) – with respect to all partner sectors.

The largest stocks and transactions of financial derivatives are registered in the sector of **other monetary institutions** (credit institutions) in the financial accounts (see Chart 2-1). The stock of derivatives is rather significant for **non-financial corporations** and the **general government** as well. On the whole, the assets and liabilities of the national economy – and its segment of monetary institutions – are in balance; the general government has larger derivative positions on the liabilities side, while non-monetary financial intermediaries and non-financial corporations have more derivative positions on the assets side (based on the data for end-2007). All three sectors with significant stocks have the most extensive relationships with non-resident partners. This has always been the case for monetary institutions and non-financial corporations, while before 2004 the hedging transactions of the central government were limited to deals with the central bank.

Nearly 80 per cent of all the derivative transactions of credit institutions are related to non-resident business partners. Two thirds of the remaining part represents domestic interbank stocks.

**Chart 2-1**  
**Stock of derivatives at end-2007 by sectors**



Source: MNB, *Financial accounts (non-consolidated stock data)*.



## 2.2 Inter-company lending and trade relations in financial accounts

The financial relations of non-financial corporations (S.11) with other sectors are easy to track based on the data provided by the general government, the financial sector and the balance of payments. However, the internal relationships of the corporate sector – in the absence of relevant, regularly conducted surveys – may be examined by means of the financial accounts only. (In the products of financial accounts the size of the assets and liabilities existing within the sector is indicated by the difference between the non-consolidated and consolidated data pertaining to the sector). Non-financial corporations finance each other's operations primarily through the acquisition of shares, lending and granting trade credits. This section of the publication focuses on the contents and measuring methods of these two latter instruments. Data pertaining to shares (shares and equities) are presented in Section 3 on securities.

### Separation of loans and trade credits

The fundamental difference between the **loan-type instruments** recorded in financial accounts (AF.4) and **trade credits** (AF.71) is the fact, that loans typically involve the transfer of a financial asset, while trade credits are created through the delivery of products or the provision of services. Therefore, the granting of a loan is an economic event, in which both accounting legs are recorded on the financial account; while trade credits consist of an item accounted on a financial account, and an item recorded on a non-financial account (for the classification of transactions, see Section 1.7).

Loans and trade credits may occur among the financial assets and liabilities of any economic sector. Economic actors providing loans to the general public as a regular business practice and primary activity are located in the sector of financial corporations. Resident corporations granting loans within a company group (even as a primary activity) are recorded in the sector of non-financial corporations in the financial accounts. Trade credits may be granted between economic participants with a commercial relationship only (delivery of products or services). If a third party (typically a financial institution) is involved to finance the activity, the trade credit will become an actual loan. The third party may participate in the deal from the start (financial lease), or may become involved at a later point (factoring). At this time, the trade credit between the partners participating in the

commercial transaction will cease to exist, and the financial intermediary will have a loan receivable from the debtor (buyer).

According to original **maturity**, loans can be short-term or long-term (with a maturity over one year). Trade credits are typically short-term; spanning the period between physical and financial delivery (usually 30-60 days). Another indication of the technical nature and short term of trade credits is the fact that while the lender normally expects property income (interest) in exchange for the provision of a loan, trade credits are in fact interest free in domestic practice. Nevertheless, it can happen that the partners in a trade credit deal agree to have a payment term of over one year (for example for investments), or that the originally defined shorter term is extended due to non-payment or delinquency. In this latter case, the future handling of the trade credit depends on the steps of the business partners. If the debtor (buyer) still exists and the lender (supplier) either writes the receivable off (forgives the debt) or sells it, it will result in a transaction-induced decrease in the loan (trade credit) stock in the financial accounts. If the original debtor no longer exists (the receivable has no debtor linked to it) the loan (trade credit) should be eliminated through other changes in volume. However, as there is no information on any unilateral relief of inter-company claims without partners, in domestic financial accounts any relief of this kind is recorded as a transaction.

In addition to external circumstances, in trade relations the timing of the payment and the physical delivery depends on the type of the affected real economic transaction or the partners' business relationship. In addition to or instead of payment after delivery, the supplier may require an advance payment as well. In financial accounts, the contents of trade credits and (trade) **advance payments** are the same, and hence these items fall into the same instrument category (AF.71 – Trade credits and advances). The difference between an advance payment and a loan is the fact that the former is interest free, by default; it is a deal made between commercial partners, and is terminated by a real economic event (product delivery or provision of services). Advance payments do not have to be re-booked retrospectively as loans even though the payment paid out in advance is paid back due to the cancellation of the commercial deal.

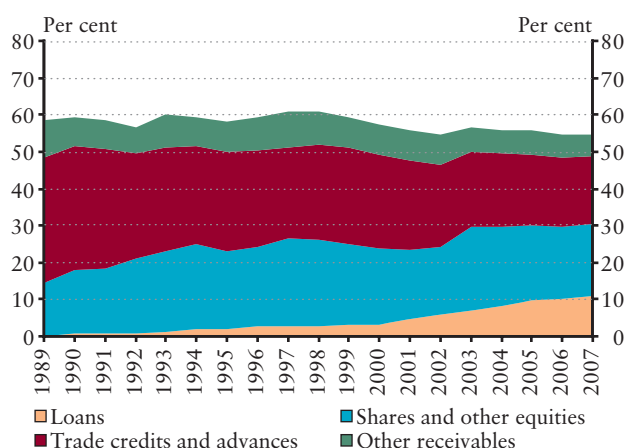


## Measuring of inter-company assets and liabilities

Inter-company claims of domestic non-financial corporations comprise more than a half of their total financial assets, representing one-third of the balance sheet on the liabilities side at the end of 2007, according to financial account statistics. **Shares and other equity** represent the largest part of inter-company assets and liabilities (36%). **The stock of trade credits and advances** comprises approximately one-third of the total assets, while **loans within the sector** represent one-third, and other assets and liabilities represent 10%. The proportion of **securities** other than shares issued and owned by corporations is negligible.

Chart 2-2

### Development of inter-company claims within the total financial assets of corporations



Source: MNB, *Financial accounts (difference between non-consolidated and consolidated stock data relative to total financial assets)*.

As direct statistical or accounting data sources are not available to measure the size of **assets and liabilities within the sector**, in financial accounts this information is typically a residual figure, calculated as the difference between total (non-consolidated) and external (consolidated) data. The stock and flow data of inter-company assets and liabilities are defined by instruments (shares and equities, loans, trade credits and other receivables), making use of all information pertaining to the specific instrument.

Inter-company relations manifested in shareholdings are estimated on the basis of the **shareholders' equity** recorded on the liabilities side of the accounting balance sheet. In the database containing unique corporate data, the instrument

categories indicated in the financial accounts are divided at the corporate level into quoted shares, other shares and equities. **Inter-company relations other than shareholders' equity** are estimated on the basis of the assets side of the corporate balance sheet. This practice is used because it ensures a better opportunity to extract inter-company claims based on the residual principle, as the stock of financial assets is smaller than liabilities, and features a more detailed breakdown regarding type.

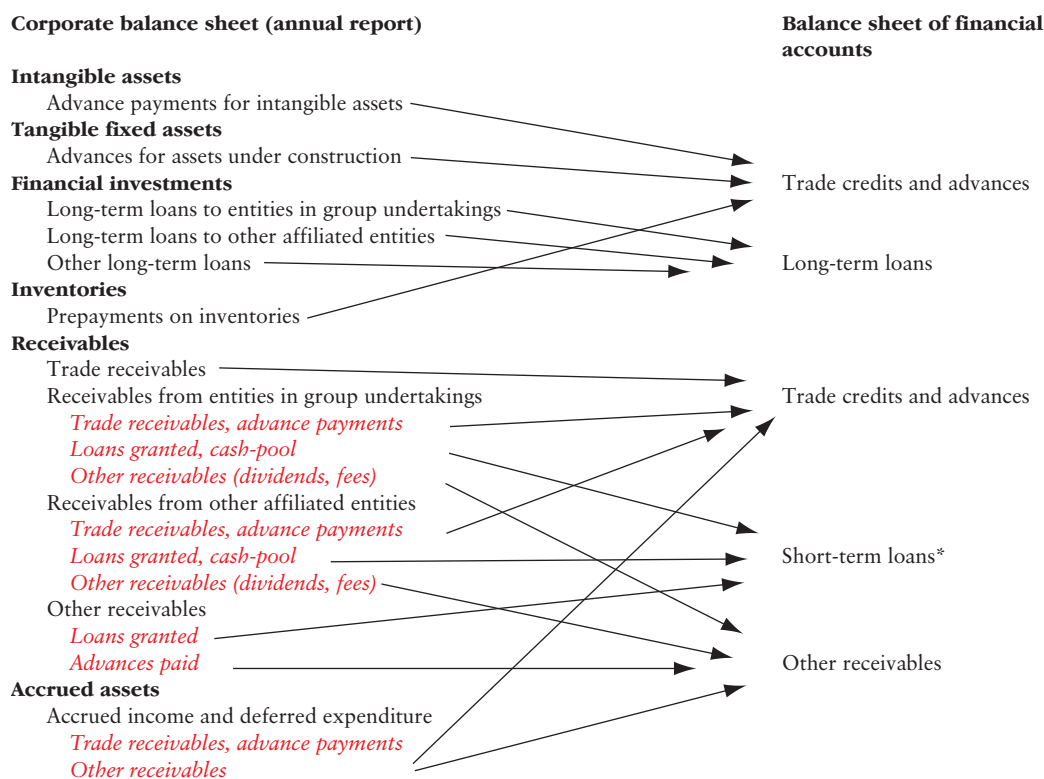
## Inter-company lending and trade credits

The stock of loans provided by resident, non-financial corporations to other, non-financial corporations exceeds HUF 3,000 billion. Estimates regarding the current figure may be inaccurate for two reasons: the total stock of inter-company claims other than shares and other equity and the breakdown of these corporate claims according to type (loans, trade credits, advances and other receivables) both contain estimation errors. **Estimates prepared for inter-company loans** by financial account statistics use data extracted from the annual reports of corporations and are based on the assumption that non-financial corporations provide loans primarily to other corporations within the same corporate group (group undertakings and other affiliated entities) and their employees. While according to expert estimates 30% of inter-company loans are foreign exchange loans; direct information is not available in this regard.

The estimation of **assets and liabilities arising from the delivery of products and services** and the estimation of advance payments raise different other issues and require other solutions than those used for loans. While lending activities affect a relatively narrow group of corporations, nearly all corporations have receivables (from clients) originating from the delivery of products or the provision of services. Receivables from clients are closely related to revenues, and the portion of revenues not yet settled financially is recorded as a receivable. In addition to specified clients, the larger part of receivables from entities in group undertakings and other affiliated entities as well as accrued assets are also included in this instrument; therefore, its total stock exceeds HUF 8,000 billion at the national economy level. The majority of the stock represents inter-company receivables, while its smaller portion is comprised of receivables from non-resident suppliers. The debt of the general government and households vis-à-vis corporations is around HUF 200 billion and HUF 100 billion, respectively.

**Chart 2-3**

**Estimation of loans, trade credits and other receivables based on the corporate balance sheet**



*Items in bold print are included in the balance sheet of the summary report.*

*Items in regular print are included only in the balance sheet of the detailed report (sub-categories).*

*Items printed in italics in red may be estimated only.*

*\* In the business accounting balance sheet, receivables are classified according to remaining maturity (term of commitment).*

## 2.3 Special purpose entities (SPEs) in financial accounts

In general, special purpose entities (SPEs) are corporations established by their owners for carrying out a **special task**. This task may be the financing of a specific project, the separate management or securitisation of different components of corporate assets, or exploiting specific regulatory or taxation benefits (special purpose entities established specifically for securitisation purposes are called special purpose vehicles or SPVs in the literature).

From a statistical perspective, special purpose entities in **domestic practice** are resident corporations of non-resident owners, which perform a **passive, financial intermediary** function between their non-resident partners. Rather than performing an activity affecting the real economy (manufacturing or services), these organisations are engaged in intermediating financial assets within the enterprise group (as their special purpose). Prior to 2006, financial intermediary activities were typically performed in the form of loan disbursements to non-residents. Starting from 2006, however, some SPEs have moved their lending activities to their non-resident branch offices, and invest the funds received from abroad in non-resident shareholdings (shares and other equities). Despite this practice, however, SPEs are classified as non-financial corporations (S.11) because from a statistical perspective, financial intermediation is considered a market service, which can be performed by financial corporations in contact with the general public.

The **separation of the above group of SPEs** within the sector of non-financial corporations is necessary, because – based on the affected corporate assets, financial transactions and the related income – passive financial intermediary (group financing) activities performed for non-resident enterprise groups have a rather significant share in Hungary. As SPEs do not represent an independent legal category, in statistics they may be identified and separated on the basis of their business accounting or statistical indicators (non-resident owners, small number of employees, low revenues, significant financial assets and liabilities existing exclusively vis-à-vis non-residents.)

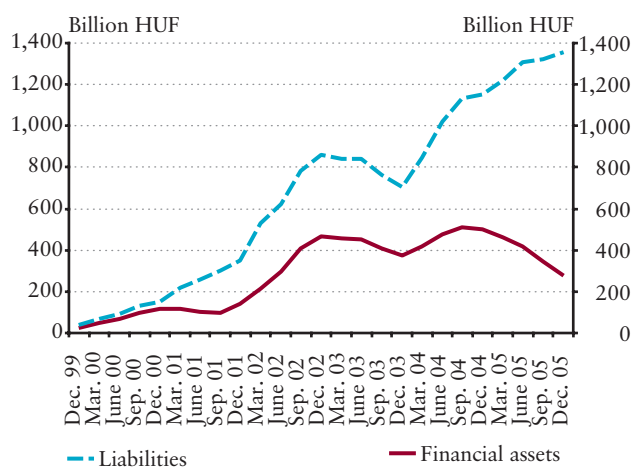
In Hungary, the legal and taxation category of **off-shore companies existed until the end of 2005**. Based on their tax office license, those companies were listed under this category, whose business contacts were exclusively non-resident economic participants. Since domestic financial

statistics did not consider off-shore companies as resident economic participants, until the end of 2005 data pertaining to these companies were excluded – either through netting, or completely – from the national accounts, the balance of payments, and the financial accounts. Off-shore companies registered in Hungary typically performed a passive financial intermediary activity within a non-resident enterprise group, or traded intangible assets with non-resident partners. The exclusion of off-shore companies from the statistics was a useful approach from a practical perspective, but was not consistent with international methodological standards.

**At the beginning of 2006, the legal status of off-shore companies ceased to exist.** Corporations with this former license continued to operate as normal corporations, and in domestic statistics they were included in the sector of resident corporations. At the same time, domestic statistical organisations intended to continue the practice of separating **intra-group financial intermediation** – i.e. the primary activity of former off-shore companies – from ‘normal’ real economy and financial processes, therefore they established and applied the category of SPEs in statistics. Nevertheless, at the beginning of 2006 the elimination of the off-shore status and the replacement of off-shore companies with SPEs resulted in breaks in both the national accounts and the balance of payments, as follows.

**Chart 2-4**

**Stock data of non-SPE off-shore companies added to the balance of payments until the end of 2005 as presented in financial accounts**



From 2006, data excluding off-shore companies were replaced by data pertaining to all corporations (including SPEs) in national (non-financial) accounts.

In the balance of payments statistics, net flow and stock data of off-shore companies vis-à-vis the rest of the world were incorporated into the data through the end of 2005. From 2006, separate statistics are prepared for corporations without SPEs, and for all corporations (including SPEs).

Incorporation of off-shore company data into the statistics caused the most significant break in the stock data indicating financial worth. The total assets of off-shore companies, more than 800 in number, exceeded HUF 11,000 billion. Nearly 10% of this amount was represented by companies trading rights (and thus excluded from the SPE category), which numbered over 100. In line with the balance of

payments statistics and based on data extracted from the statistics, from 2006 financial accounts statistics present the financial worth and the components of asset changes for both the **'normal'** economy and corporate sector **excluding SPEs**, and for the **'whole'** economy and corporate sector **including SPEs**. In consideration of the significance of stock data and to provide comprehensive data coverage for the non-financial corporate sector, as opposed to the practice of other statistics, all categories valid from 2006 are **applied retrospectively** by estimates in financial accounts for previous years also; thus the consistency of the time series is ensured. For the purposes of this data revision, the gross data of off-shore companies and non-SPE corporations classified among off-shore companies were estimated on the basis of their annual reports, corporate tax returns and previous balance of payments data.

## 2.4 Relationship between financial accounts and other central bank statistics

Below we present the **technical and methodological differences** between the financial accounts and the security statistics, monetary statistics and balance of payments statistics of the MNB, which normally lead to inconsistencies in the data published. The main data sources of financial accounts statistics are other statistics prepared by the central bank, which also present independent products. The **financial accounts and stock data of the balance of payments statistics** correspond with the relevant parts of the financial accounts related to the rest of the world. The **products of securities statistics broken down by holder sectors** for quoted shares, debt securities and investment fund shares correspond with the relevant instruments of the financial accounts. **Monetary balance sheet statistics** reflect similarities with the relevant data in the financial accounts regarding stock data of monetary institutions within the sector of financial corporations. The balance of current accounts and capital accounts, monetary interest rate statistics and securities issue statistics are excluded from the analysis, as these statistical sub-sections are not directly related to the data of financial accounts.

The system of national accounts is the joint methodological basis of the statistical areas presenting financial instruments. Despite this shared theoretical methodological background, due to methodological and technical reasons there are discrepancies between the above statistics in terms of contents and presentation. Some of these discrepancies between the individual methodologies of statistical areas and the methodology applied for national accounts are deliberately and permanently accepted at an international level either for presentation or for practical purposes. These are called **practical methodological reasons** (the applied

methodology of an individual statistical field requires or allows the generation of data in different contents or structure than presented in financial accounts). **Technical reasons** account for the mostly local and temporary deviations from the prevailing methodological requirements of individual statistics (a statistical field is unable to fully comply with its own methodological requirements either currently or retrospectively).

### Reasons for practical methodological discrepancies between different statistics

According to its original purpose, the system of national accounts is a methodological framework assisting in the compilation of statistics released with annual frequency, presenting data over a long-term period. The underlying assumption behind the system is that by the time the stock and flow statistics for a specific year are completed, all accounting and statistical information is available for the separation of sectors and instruments, and for the execution of market valuation and accrual accounting. While demand for quarterly national accounts has become more keen in the last several years, in the absence of standard, comprehensive methodological regulations, in most countries these sub-statistics merely supplement the traditionally compiled annual national accounts.

By contrast, monetary, securities and balance of payments statistics – which might be considered the satellite statistics of national accounts – were in fact implemented as statistical systems released with monthly or quarterly frequency for a shorter monitoring period to allow for

**Table 2-1**

#### Connections between central bank financial statistics

Financial accounts	Non-financial corporations	Financial corporations	General government	Households	NPISH	Rest of the world
Monetary gold and SDRs		Monetary balance				Balance of payments
Currency and deposits						
Securities other than shares	Securities statistics (security holdings statistics)					
Loans		sheet				(financial accounts
Shares and other equities	Securities statistics (security holdings statistics)					
Insurance technical reserves		statistics				and stock data)
Other receivables						

prompt analysis and decision making. These statistical fields therefore provide regular, prompt information on specific sectors or instruments (not for the economy as a whole), based on the data sources available at the time of their compilation. The special requirements for analysis and decision making resulted in the creation of sector and instrument categories different from the standard categories of national accounts, and – due to the special characteristics of available data sources – statistical methodologies allowed for exceptions from the valuation and accounting rules of national accounts.

## Discrepancies between financial accounts and monetary balance sheet statistics

The monetary statistics of the MNB were designed in the early 1980s, based on the methodological recommendations of the IMF and were subsequently re-designed in view of Hungary's accession to the European Union, based on the regulations and data requirements of the ECB. Monetary balance sheet statistics are prepared covering the central bank and other monetary financial institutions including credit institutions and money market funds. The data source for these statistics is the supervisory balance sheet, which is based on the accounting records of the affected institutions. While the monetary balance sheet statistics generated from this data source comply with the international regulations of monetary statistics, they are not completely consistent with the methodology of national accounts. The deviations are as follows:

### • Discrepancies in data structure

Monetary balance sheets are **not symmetrical** in terms of the presentation of loans and deposits because statistical areas primarily stress the fact that monetary institutions collect deposits (thus the main instruments on the liabilities side are deposits) and grant loans (thus the main instruments on the assets side are loans). By contrast, financial accounts distinguish between the instruments of loans and deposits on both the assets and the liabilities side.

Moreover, monetary balance sheet statistics are not symmetrical in terms of the presentation of shareholders' **equity** either: while they recognise shares and equities owned by monetary institutions as financial assets on the assets side, the equity they present on the liabilities side is consistent with the business accounts own fund, which is not part of the liabilities. By contrast, financial account statistics record shares and equity in the same manner among both the assets and the liabilities.

In line with the methodological regulations of the IMF and the ECB, monetary statistics present interest-bearing financial instruments according to the prevailing business accounting practice: without **accumulated (accrued) interests**. Unpaid interest due for the period is accrued under other assets and other liabilities (monetary statistics release them in a separate table for information purposes). On the other hand, financial account statistics present interest-bearing instruments (deposits, loans and securities) at gross market value increased with accrued interest.

### • Discrepancies in data contents and valuation

In line with Hungarian business accounting regulations, as a result of **delivery repo** and **securities lending** transactions the affected securities are being moved in the accounting records, and hence in the balance sheets of monetary statistics (and securities statistics) as well. By contrast, securities must be kept at their original place in financial accounts (and balance of payments statistics), while a loan must be input in the balance sheets of the participants of the transaction against the cash transfer.

Monetary institutions not performing fair valuation do not present **financial derivatives** in their balance sheets, however, they record related accrued interest and accrued foreign exchange losses. In monetary balance sheets, other assets and other liabilities contain, mixed together, the derivatives of institutions applying fair valuation at market value, and those technical items, which other institutions include in their balance sheets. Since all financial derivatives are presented at market value in financial accounts (and in the balance of payments), the technical items contained in the monetary balance sheets must be replaced with information from other data sources.

The **pricing of securities** in monetary balance sheet statistics is based on data extracted from the accounting records of data supplier institutions. Historical values, updated historical values and net market values are all used on the assets side, while securities issued by monetary institutions are generally presented at nominal value on the liabilities side. In financial accounts (as is the case with securities statistics and the balance of payments) all securities must be presented at gross market value (i.e. increased with interest), which necessitates the use of data sources other than monetary statistics.

In monetary statistics, all business accounting balance sheet items, which cannot be classified under any existing instrument category, are presented **as other assets and other liabilities**. Therefore, in addition to accruals and

technical items (as described above), provisions, value adjustments and valuation differences are also presented here. In financial accounts, other assets and other liabilities are not miscellaneous instruments; they can only include classified items arising from accrual accounting, which serve the purposes of time adjustments. The equilibrium of the balance sheet in financial accounts is ensured by net worth; the stock of assets and liabilities may differ from one another.

## Discrepancies between financial accounts and securities statistics

The MNB introduced independent securities statistics in 1997. Securities statistics present security stocks and the components of their changes in stocks broken down by holder sectors, and their main data sources are, in addition to custodian reports, the direct data supplies of resident security issuers and security holders. In terms of data contents, the stock and flow statements released by securities statistics essentially correspond with the relevant parts of the financial accounts (and the balance of payments). Due to practical methodological reasons, however, minor differences still remained between the two presentation types of securities, including:

- **Different management of securities owned by the issuer**

In order to support stock exchange capitalisation and correspondence with accounting/legal categories, securities statistics present the stock of quoted shares owned by the issuer institution as a part of the stock in circulation (in the sector of the issuer institution). As opposed to this practice, the portion of instruments issued by the owner itself is not a part of the financial accounts, because the liabilities of institutional units vis-à-vis themselves cannot be interpreted. Therefore, the outstanding amount of the affected securities is lower in the financial accounts than in the securities statistics.

- **Different handling of delivery repo contracts and securities lending**

In line with domestic accounting rules and the regulations of securities law, custodian and clearing house records, which are the main data sources of securities statistics, present the volume of securities lent under delivery repo contracts and securities lending agreements (booked on securities accounts) as a transfer of ownership. Thus, securities participating in these transactions are transferred between the two parties as if two independent purchase and sale transactions were performed in the same value, but in the opposite directions. As opposed to this, under the provisions of the

methodological rules of national accounts, for securities lent or sold for a predefined period of time under predefined terms and repurchased under specific terms, neither transfer of ownership nor purchase or sale can be booked on the financial accounts, as no independent economic events took place between the parties. If the securities are transferred between the parties for a price that is to be paid back, a lending and subsequently a loan repayment must be input in the amount of the cash transfer in the statistics (from a statistical perspective, cash is not the counterpart of the transferred security that is to be returned to the lender, but the counterpart of the loan granted against the security as a collateral).

- **Discrepancies in the scope of observation and categories of securities**

Financial accounts statistics present financial relationships (assets-liabilities) between the debtor and creditor (in other words: issuer and owner) sectors, in instrument categories defined on the basis of liquidity. Securities statistics present stock and flow data of certain security types broken down by holder sector. As a result of this presentation difference, based on the products of securities statistics the total amount of securities issued or held by an economic sector cannot be determined, or cannot be detailed in a breakdown by issuer sectors.

In order to facilitate consistency with stock exchange capitalisation, securities holdings statistics contain all (domestic and rest of the world) securities traded at the Budapest Stock Exchange, broken down by holder sectors. By contrast, in financial accounts quoted shares are broken down by issuer and holder sectors rather than based on whether they are traded at the Budapest Stock Exchange or not. In line with the securities law, government securities cover securities issued by the government and by the MNB in securities statistics; this, however, does not mean that the category covers all debt securities of the central bank and the central government. Financial accounts also include the securities of the MNB issued abroad, compensation notes representing central government debt, and bonds issued by the Hungarian Privatisation Company.

## Discrepancies between financial accounts and the financial accounts of the balance of payments

Theoretically, the differences between the rest of the world account of the national accounts and the balance of payments are merely related to presentation (breakdown of the data presented). In fact, the international methodology of the balance of payments allows several deviations from the



methodology of national accounts in terms of data coverage or valuation. Consequently, even the total figures of the assets and liabilities of residents vis-à-vis the rest of the world do not match in practice in these two statistics. These differences affect balancing items and flow data less frequently than stock data. Practical methodological discrepancies can be summed up as follows:

- **Difference in approach: the case of monetary gold and the SDR**

While the balance of payments presents the relationships of residents with the rest of the world, the rest of the world sector of financial accounts views the domestic economy from the perspective of non-residents. As a result, the only group of financial instruments, which do not represent anybody's liability – that is monetary gold and the SDR – appears in the balance of payments (and in the domestic financial accounts) as a financial asset, while it cannot be presented as a liability on the rest of the world account. This results in continuous discrepancies (of insignificant amounts) between the financial accounts and the balance of payments in stocks, transactions and balancing items as well.

- **Discrepancies in the valuation of shares and other equity**

As a general rule, financial assets and liabilities – including shares and equities – are valued at current market price in both the financial accounts and the balance of payments. At the same time – due to the different breakdown of financial assets in the two statistics – the methodology of national accounts and the balance of payments draws the line differently between the equity categories where **market valuation is mandatory**, and those which can be presented at book value in the absence of market information. According to the methodology applied for national accounts, both quoted and unquoted shares must be **presented at market value**. Other equities must be presented in the statistics at the book value of the issuer corporations. Based on the balance of payments categories, the market valuation of portfolio investments is mandatory, while equity representing direct investment can be also presented at book value.

- **Discrepancies in the accounting of EU funds in terms of timing**

In line with the budgetary accounting of the EU, balance of payments statistics present EU funds granted to Hungary based on a cash-flow approach. However, national accounts – in accordance with the EU regulations pertaining to national account statistics – do not account for EU funds as revenue when the funds are received in Hungary (cash flow),

but rather when the funds are disbursed (accrual accounting). Disbursement of the funds may in fact precede the cash flow (if the government is willing to advance the funds), or may follow it.

## Technical differences between central bank statistics in general

Technical reasons comprise **deviations from the methodological requirements**, or the introduction of **unique accounting solutions** in areas not directly covered by the regulations of applied methodologies. These will be manifested in differences between the products of statistics if the individual statistical areas deviate from methodological rules in different ways, or introduce different accounting solutions. The majority of technical differences affect retrospective data, reflecting the fact that different options are available for individual central bank statistical areas in retrospective data revisions or adjustments triggered by methodological or technical changes.

## Technical deviations from monetary balance sheet statistics

- **Consolidation difference**

The balance sheet data of monetary balance sheet statistics are generated from the balance sheets provided by data supplier credit institutions and money market funds, by the aggregation of balance sheet items. Due to reporting errors, the assets and liabilities of credit institutions vis-à-vis one another will not match in the aggregate balance sheet. Financial account statistics eliminate this discrepancy by calculating an average figure for the items on the assets and liabilities sides, and present these average figures as assets and liabilities. Consolidation errors have affected maximum 10 per cent of the stocks, representing an amount of HUF 50-100 billion in recent years. A similar consolidation error can be observed between credit institutions and money market funds in the sub-sector, where monetary statistics extract data pertaining to the deposits of money market funds with credit institutions from the reports provided by the money market funds themselves, while financial account statistics gain the same information from the reports of credit institutions (to eliminate consolidation discrepancies).

- **Management of items in transit**

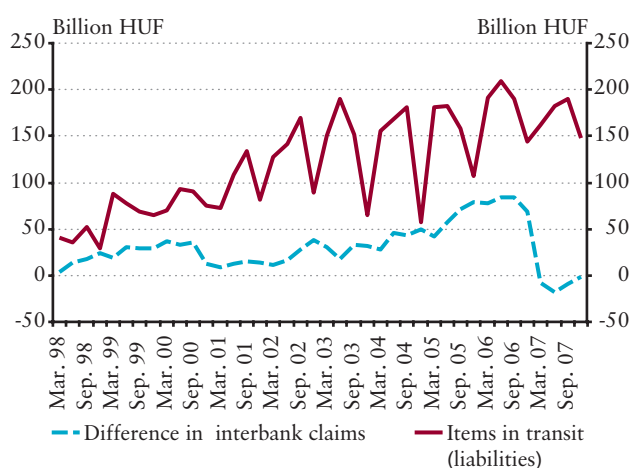
Items in transit on the liabilities side of the supervisory balance sheet of credit institutions are presented as other liabilities in the monetary balance sheet (consolidated balance sheet of other monetary financial institutions), as they cannot be classified according to partner sector and instrument. On

the other hand, financial accounts statistics present these amounts among the transferable deposits of non-financial corporations, which results in larger corporate deposit stocks in financial accounts than in the monetary balance sheets. Besides non-financial corporations, other sectors (such as households or local governments) can also be the 'partners' associated with items in transit, however, due to the different behaviour of these sectors this type of classification would be difficult. On the other hand, the consolidation errors of interbank receivables are probably not caused by items in transit, which is confirmed by the timing differences between the two rows of data.

### Chart 2-5

#### Items in transit of credit institutions and consolidation differences

(stocks at the end of the period)



#### • Differences due to partner sector classification

Financial accounts statistics create deviations between the loan and deposit data of the **central government** and the figures reported by credit institutions (through the reclassifications of the relevant data of non-financial corporations), resulting in technical differences between the data of financial account statistics and monetary statistics. Reclassification occurs when statistical organisations decide (usually effective retrospectively) to reclassify a state-owned corporation to the government sector, while in central bank data collections the effect of the reclassification can be enforced in a forward-dated manner only. For the transitional period financial accounts statistics make adjustments to the monetary balance sheets on the basis of data collected from the affected corporations. Reclassifications in the largest amounts (HUF 100-200 billion) occurred in 2001-2003 because of loans granted by credit institutions in relation to highway construction.

## Technical differences between the data of the balance of payments and financial accounts

#### • Gross vs. net presentation of the IMF forint quota

A portion of the country quota associated with IMF membership may be paid in the national currency of member countries. The IMF deposits the quota paid in the national currency with the monetary authority of the member country. In order to avoid unreasonable accumulation, the balance of payments does not present the forint portion of the IMF quota either as a financial asset vis-à-vis the rest of the world, or as a liability. By contrast, (consistent with the records maintained by the MNB and its balance sheet) financial accounts present the amount of the forint quota both among the loans extended by the MNB to non-residents (financial assets), and among the deposits collected by the MNB from the rest of the world (liabilities). This difference in accounting affects the gross stock and flow data of financial assets and liabilities, while it has no impact on net (balancing item type) indicators.

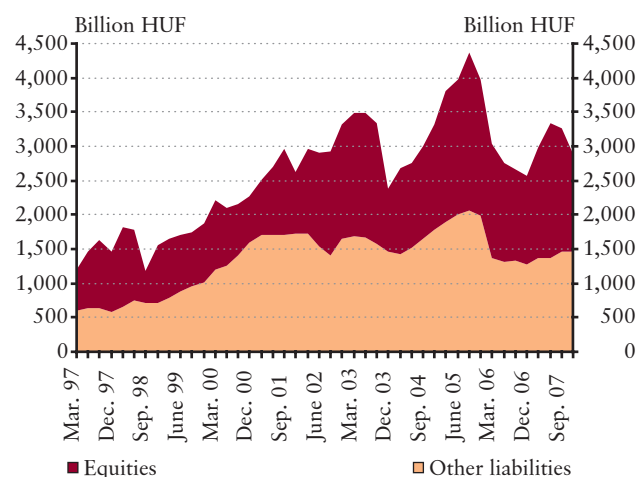
#### • Discrepancies between the stock data of shares and other equity

Regarding the valuation of the stock of shares and other equity, in addition to discrepancies caused by methodological reasons, there are also technical differences between the stock figures presented in the balance of payments (international investment position) and in financial accounts. Due to the unique characteristics of the data collection system, until the

### Chart 2-6

#### Components of the surplus indicated in financial accounts for liabilities vis-à-vis the rest of the world

(stocks at the end of the period)



end of 2007 stock data on shares and equity presented under portfolio investments in the balance of payments were partly generated from flow data. In financial account statistics, these estimated stocks were gradually replaced by actual stocks extracted from other different data sources (business accounting balance sheets, securities statistics reports). As opposed to methodological requirements, the **market pricing of unquoted shares** is not enforced in financial account statistics either, but in order to better approximate market values, stock data may be deviated from book values in individual cases (when evaluating the stock, statistics adjust negative corporate equity to zero or take account of any known larger transactions).

- **Differences in the presentation of securities data**

Until the end of 2007, debt securities data in balance of payments statistics and financial accounts reflected data extracted from partly different data sources. This led to minor discrepancies in both stock and flow data. The discrepancies were primarily attributed to differences in stock valuation and interest accounting. Balance of payments statistics introduced the accrual accounting of interest, which existed in financial accounts for all periods, in 2004. From 2008 securities statistics, which have been the traditional data source of financial accounts, became the data source of the balance of payments as well, thus discrepancies in the area of securities were eliminated.

- **Management of off-shore companies and SPEs (see Section 2.3 for more detail)**

At the beginning of 2006, the legal and taxation category of off-shore companies was eliminated; therefore the MNB, in cooperation with the CSO, introduced a separate statistical category for resident companies only slightly integrated in the domestic economy, called special purpose entities (SPEs). At the beginning of 2006, this category covered a corporate sector which was smaller in size than the former off-shore sector by more than 100 companies and by around HUF 1000 billion. Until the end of 2005, net stock and flow data of off-shore companies were presented in the products of balance of payments statistics. From 2006, 'normal' and gross balance of payments statistics are prepared; the former excluding and the latter including SPEs, and data with the same contents are presented in the products of financial accounts as well, even retrospectively. Financial account statistics eliminated the breaks caused by the off-shore/SPE switch and the differences between net and gross accounting by estimates, generating gross SPE data retrospectively, as well as normal data excluding the net data of off-shore companies.

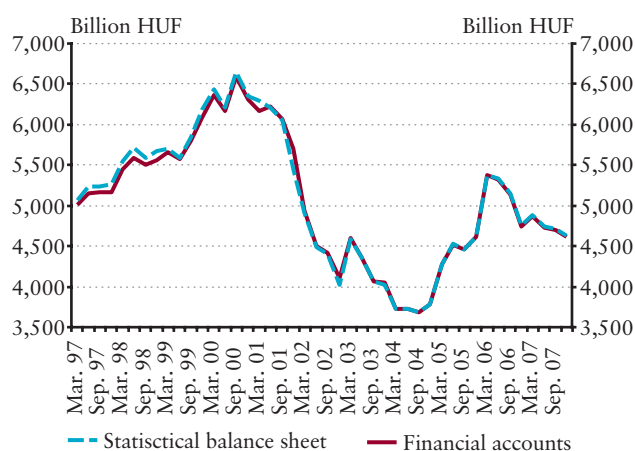
## Discrepancies between the statistics at the level of published data

- **Stocks of monetary balance sheets and financial accounts**

The balance sheet total of the **MNB statistical balance sheet**, which is part of the monetary balance sheet statistics, is in essence identical with the central bank balance sheet total, i.e. the total liabilities of the central bank, released in financial accounts statistics. From 2002, this consistency has been perfect, while in prior years the balance sheet total indicated in financial accounts was generally lower by HUF 50-100 billion than the figure presented in the statistical balance sheet, which was due to the exclusion of technical items typical at the time. However, a negative difference in the amount of HUF 250 billion was observed at the end of 2001, caused by setting aside the same amount in the financial accounts as the MNB's revaluation reserves against other receivables from the general government.

**Chart 2-7**

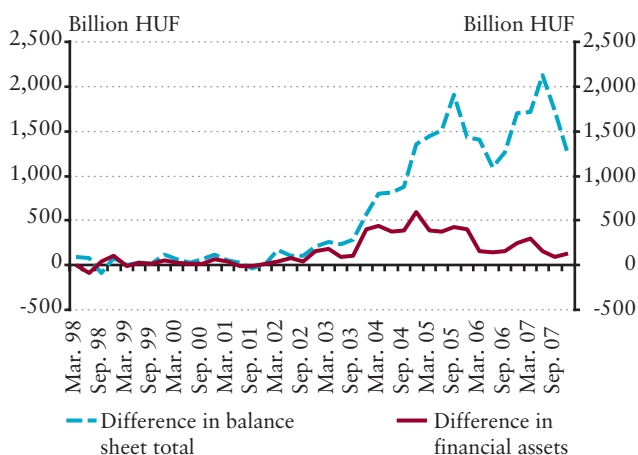
### Balance sheet total of the MNB in the monetary statistical balance sheet and in the financial accounts



Discrepancies between the financial accounts and monetary balance sheet statistics regarding the balance sheet data of **other monetary financial institutions** can be attributed primarily to the different pricing of securities (in particular shares). Since the value of shares subject to market valuation (i.e. credit institution quoted shares) is significantly higher on the liabilities side than on the assets side, the balance sheet of financial accounts presents a significantly bigger difference in the amount on the liabilities side than on the assets side relative to the stocks indicated by monetary statistics. At the level of aggregates, discrepancies caused by valuation or other practical methodological issues conceal the technical-

**Chart 2-8**  
**Differences in the balance sheet data of other monetary institutions**

(in the financial accounts and the monetary balance sheet)

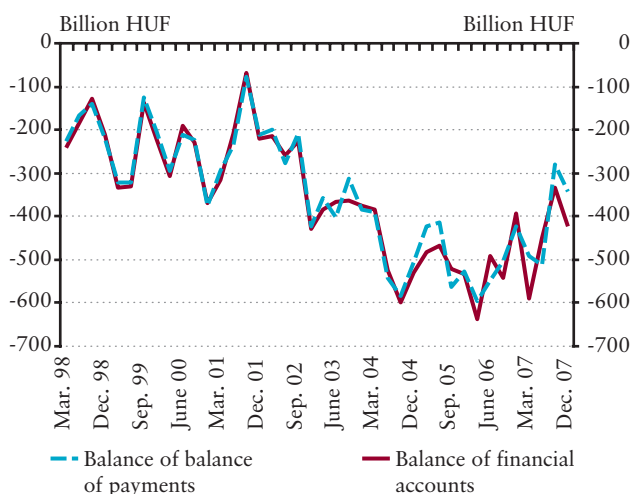


type differences, which are observed at the level of individual instruments or partner sectors and involve smaller amounts.

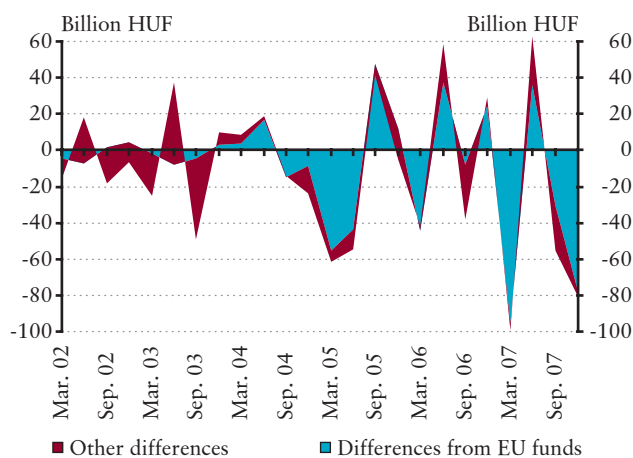
**Financial accounts in balance of payments vs. financial accounts of the rest of the world**

There are more significant differences between the financial accounts of the balance of payments statistics and the financial accounts of the rest of the world with respect to stock data than flow data or balancing items (i.e. net lending/borrowing calculated from the financing side), where the differences are smaller. The primary reason for the discrepancies between stock data is the different pricing of shares and other equity caused by methodological reasons, while technical reasons (grossing up, different time series revisions) play a secondary role. Differences in net lending/borrowing are mainly due to the (timing) differences between the cash and accrual accounting of EU flows. To a lesser extent, the different approach of securities accounting also caused discrepancies between the balancing items in the past.

**Chart 2-9**  
**Comparison between the balance presented in the balance of payments and the domestic balance of financial accounts**



**Chart 2-10**  
**Components of the differences between the balances presented in the balance of payments and financial accounts**



## 2.5 Harmonisation of financial and non-financial accounts

In Hungary, two institutions are responsible for the compilation of national accounts: non-financial accounts are prepared by the Central Statistical Office, and financial accounts are prepared by the Magyar Nemzeti Bank.

Financial and non-financial accounts are connected by net lending/borrowing, which is presented as the balancing item of the capital account and the financial account (for more information, see Section 1.1). The net lending/borrowing indicators presented in the financial and non-financial accounts of the sectors should be theoretically identical, as they indicate the same economic phenomenon measured by different methods.

In practice, however, errors of statistical observation lead to differences between the net lending/borrowing indicators calculated from top to bottom (from the perspective of non-financial accounts) and those calculated from bottom to top (from the perspective of financial accounts). The size of the difference (i.e. the statistical error) is a measure of the reliability of national accounts. Obviously, for this to be true statisticians must not incorporate the difference in any rows in the financial or non-financial accounts. Indeed, according to Hungarian practice, the differences are released in publications to assist users in their judgement of the reliability of national accounts.

As of 2008, the CSO publishes comprehensive national accounts for the years 2004, 2005 and 2006, allowing a comparison of net lending/borrowing indicators calculated from bottom to top and vice-versa broken down by sectors for these years. Following the publication of national accounts in May 2008, the differences (between the CSO balance and the MNB balance) for the period of 2004-2006 expressed as a percentage of GDP were as follows:

Non-financial corporations:	2.0%
Financial corporations:	0.7%
General government sector:	0.3%
Households:	-1.4%
NPISH:	0.0%
Rest of the world:	-2.7%

The positive amount of the differences indicate that the net lending/borrowing indicator calculated for the non-financial accounts (by the CSO) is higher, while a negative prefix indicates that the value calculated (by the MNB) for the financial accounts is higher.

The size of the differences indicate that the annual accounts of the general government sector are relatively well harmonised, while for all other sectors (except for non-profit institutions serving households where the difference between the balances and the sector itself are negligible from an economic perspective) they reached such an extent that statisticians preparing the statistics are required to work together in an effort to reduce them.

The CSO and the MNB have regular consultations to facilitate the harmonisation of national accounts. In 2008, as a result of methodological consultations, the two institutions succeeded in significantly reducing the difference between the net lending/borrowing indicators calculated from top to bottom and vice-versa. Primarily due to the standardisation of interest accounting and the harmonised classification of those corporations, which are registered abroad and whose obligations in Hungary are limited to the submission of VAT returns, in October 2008 the differences between the balances (CSO balance – MNB balance) of individual sectors expressed as a percentage of GDP for the period of 2004-2006 were as follows, according to the calculations of the MNB:

Non-financial corporations:	0.6%
Financial corporations:	0.5%
General government sector:	0.3%
Households:	-0.8%
NPISH:	0.0%
Rest of the world:	-1.8%

The results of the harmonisation, i.e. the smaller differences between the balances, will be released in the comprehensive publications of the national accounts from the spring of 2009.

## **3 Analyses**







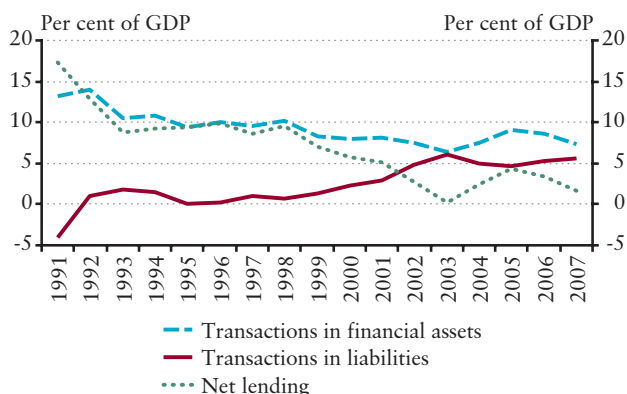


## 3.1 Financial accounts of households

### Net lending/net borrowing

Net lending/net borrowing is the chief indicator of financial accounts, indicating the amount at which the sector under review is capable of financing other sectors with current income in excess of its consumption and accumulation expenditures. The net lending (financial savings) of the household sector is predominantly positive; it therefore contributes to the financing of other domestic sectors across the economy (such as non-financial corporations, general government). Between 1993 and 1998, the GDP-proportionate net lending of households was rather stable at around 10%; however, by 2003 it gradually dropped to 0.2%. Following this period, the value of the indicator underwent minor changes only, and stood at 1.7% of GDP in 2007 (Chart 3-1).

**Chart 3-1**  
GDP-proportionate net lending/borrowing of households



Source: MNB, *Financial accounts (balance of S.14 transactions, annual data)*.

### Factors affecting changes in the balance

Net lending/net borrowing in financial accounts is calculated as the net changes affecting two factors – financial assets and liabilities. Therefore, its trends are determined by changes related to these two components. Between 1993 and 1998, the GDP-proportionate growth of the loan portfolio of households from transactions was 0.5 per cent, suggesting that net lending capacity and transactions in financial assets moved in tandem during the period. Changes in the net financial worth of households were almost entirely determined by investments in financial instruments. The boom observed in the market of household loans started in late 1999. Initially, there was increased demand for

consumption loans. From 2000, the amount of real estate loans also took an upward turn and reached high levels as preferential home loans were extended to include the purchase of not new-built homes. From 2004, foreign exchange loans gained ground; offered with lower interest rates, foreign exchange loans were provided in relation to both consumption and home loans. Due to a significant boost in the dynamics of loan growth, in 2007 the net annual borrowing of households amounted to 5.6% of GDP.

The other component determining net lending/net borrowing, transactions in financial assets, revealed trends basically contrary to the direction of the above changes. At the beginning of the period, the annual net acquisition of financial instruments was around 10% of GDP (which also determined the value net lending/net borrowing), then it started to decrease from 1999, primarily as a result of the decline observed in the acquisition of shares and securities other than shares. In 2004, the decline in the net acquisition of financial assets halted and even showed signs of a temporary recovery, primarily due to the rising trend observed in the purchase of mutual fund shares and pension fund reserves.

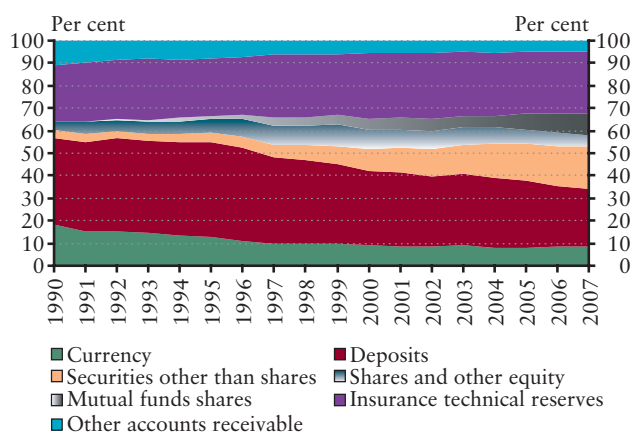
### Structure of financial assets

By analysing the composition of the financial assets of households it is possible to track the developments of the domestic money and capital markets and the gradual expansion of investment opportunities. A marked decline could be observed in traditional savings forms (such as cash and bank deposits) as the role of **non-bank financial institutions** gained more and more significance by offering new financial savings forms to households (e.g. insurance corporations, pension funds and mutual funds). The expansion of the selection of financial instruments, the introduction of government securities, mutual fund shares, life insurance and pension funds gradually reduced the role of banks in managing the financial assets of households. The portfolio composition of the financial instruments of households was further expanded through the purchase of privatised shares, bonds issued by the brokerage firms of banks, and the acquisition of equities in companies.

At the beginning of the 1990s, roughly 50% of the financial assets of households were composed of cash and bank deposits; 25% of these were linked to shares and non-share equities, and 7% of such assets comprised investments in securities other than shares and insurance technical reserves.

Chart 3-2

## Structure of the financial assets of the household sector



Source: MNB, *Financial accounts (S.14 stocks, end-of-year data)*.

Recent years saw a transformation in the **structure of financial instruments**, whereby the role of cash and bank deposits in financial savings has gradually declined (36%), the ratio of shares (shares and other equities) held by households barely changed (26%), and the ratio of other elements in the portfolio of financial investments has grown considerably (see Chart 3-2).

Besides mutual fund shares, **shareholdings** (shares and equities) appear in the portfolio of households at a relatively stable ratio of 25%. Within this ratio, the value of other equities held by households represents a dominant share, around four times the value of shares held. In addition to the traditional non-share equities in co-operatives, households gradually increased their holdings of other equities via capital increases and acquisitions; and currently households have a share of around 60% of the non-share equities issued by domestic companies not operating in the form of a shareholding company. The most significant transactions took place at the beginning of the 1990s, when the central government gradually sold off its assets in shares while private enterprises were being established, and in 2000, when households increased their holdings of other equities to comply with the mandatory capital increase stipulated by the amendment to the Act on Business Associations.

Among shares, **quoted shares** are those primarily connected to an organised market; their price can thus be measured fairly accurately. These are the instruments typically purchased by households for investment purposes. In particular, households grew their portfolios of these financial instruments between 1995 and 1998 in the context of the privatisation process, when shares were offered with rather favourable payment conditions. There was a boom on the stock market during this period and stock prices were on the

rise until 1998 when, following the Russian crisis, they took a steep fall discouraging household investments in quoted shares. The rate of quoted shares in the financial assets of households was the highest in 1997 at 5%; it has dropped to 1.5% since then.

Among the financial assets of households the share of **securities other than shares** (debt securities) exhibited the most significant growth up until 1999. Among corporate bonds, mortgage letters and government securities the latter group has the biggest share in the portfolio of households. With the enhanced role of non-bank financial intermediaries, however, the participation of households in direct financing of the general government, hence the purchase of securities has subsided in recent years.

During the 18 years covered by financial accounts thus far, the most spectacular development was observed in the area of investments in **insurance and pension fund savings**. Following the elimination of the monopoly of the insurance market, the establishment of voluntary pension funds (in 1994) and private pension funds (in 1998) promoted a form of financial saving which produced the highest growth rate in the domestic market: its share increased from 4% to 19%. This steep growth rate is indicated by the reserves of pension funds, firstly, due to the mandatory nature of private pension fund payments, and secondly, because the membership fees of voluntary funds are supplemented with higher employer's contributions. Insurance technical reserves represent long-term investment serving self-support purposes; investors are either not allowed to change intermediaries prior to maturity date, or they may do so with significant losses. The investment policies of institutions are generally determined by statutory regulations; however, recent years have seen growing demand for the establishment of a variety of investment portfolios. Consequently, among life insurance fee reserves, unit-linked life insurances – where investors have an option to select between various portfolios with different risk levels – represented an increasingly high share, reaching 50% by the end of 2007.

In addition to insurance companies and pension funds, **mutual funds** are also engaged in financial intermediation. Initially, closed-end funds were established with three-year maturities. This form of investment was also promoted by the tax benefits it offered. Subsequently, open-end funds were established, which may vary (bond, share, money market, real estate funds) according to the investment risk involved. Household portfolios primarily include government securities and money market funds, which typically involve moderate risks. Among the financial instruments of households, the ratio of mutual funds shares steadily grew even after a temporary decline in 2003-2004, and by the end

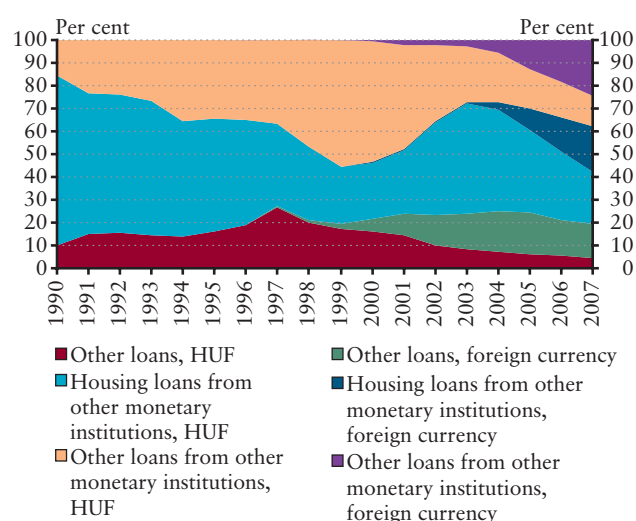
of 2007 it reached 10%. However, there was a rather significant decline in stock in 2003; which was related to two factors: first, the stocks were revaluated to adjust for exchange rate changes, second, the growth of market yields resulted in the withdrawal of significant amounts of the household savings from bond and money market funds. In 2006, changes in legislation had an impact on the composition of the household savings portfolio. Indeed, the yield on investments purchased prior to the tax law changes introduced in September had been exempt from the 20% interest and capital gain tax, and thus substantial funds had moved into mutual funds. In recent years, the most popular mutual funds have been capital-secured and yield-insured mutual funds, and an increasing number of real estate funds have been established. Deposit placement activity of these funds is significant; even though the share of direct deposit placement decreased in household investments, households in fact take advantage of the investment options offered by banks via financial intermediaries as well.

The ratio of cash within the financial assets of households has basically remained unchanged over the past several years (8-9%). As falling inflation rates have reduced the losses of holding cash, there is less motivation for households to use other forms of investment.

## Structure of debts

At the beginning of the period under review, the majority of household borrowings was made up of **real estate loans**. Subsequently, as the range of liabilities expanded, the structure of debts underwent a gradual transformation as

**Chart 3-3**  
Structure of the debts of the household sector

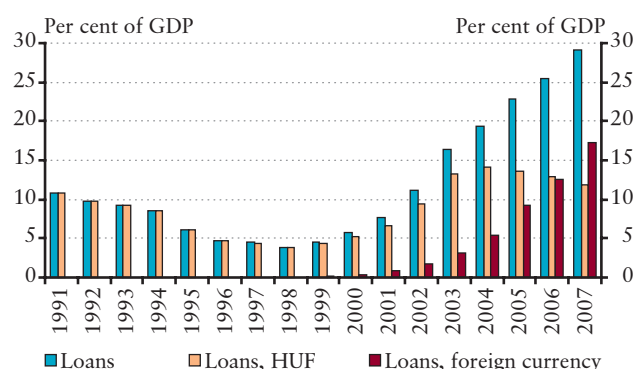


Source: MNB, Financial accounts (based on S.14 stocks).

well. Banks introduced **Lombard loans** and **motor vehicle financing**, while financial corporations (primarily leasing companies) expanded the range of their lending activities. Recent periods witnessed the rise of **home equity loans**; although these loans are recorded as consumer loans, in many cases they are used for remodelling or home extension. While the liabilities of households continue to be typically borrowings from credit institutions, financial enterprises play an increasing role in lending to households. The share of non-bank loans within the liabilities of households is currently 20%, compared to 10% at the beginning of the period. At that time, this represented employee loans provided by employers (corporations and government organisations); then starting from 2000 the lending activity of **leasing companies** increased markedly, and from 2001 the introduction of the **student loan** scheme also promoted the role of non-bank lending (Chart 3-3).

The GDP-proportionate loan stock of households was 29% at the end of 2007; during the period between 2000 and 2007 it quintupled (Chart 3-4). The majority of the increase in the loan portfolio affected **foreign exchange** loans as the interest rates on these loan structures are significantly lower than those of forint loans. Initially, households used FX-based loans to finance vehicle purchases, and subsequently FX-based loans were granted for real estate purchases and consumption purposes also. In the period 2000-2003, forint loans gained ground in the housing loan market in state subsidised loan structures. In 2004, however, demand for forint housing loans dropped due to the tightening of subsidised housing loan conditions, and to compensate this decline, banks began to offer foreign exchange products with small instalment amounts. Currently, the stock of FX loans represents 60% of the overall loan portfolio; two thirds of consumer loans and nearly one half of real estate loans are FX-based loans, disbursed predominantly in Swiss francs.

**Chart 3-4**  
Loan stock of households as a percentage of GDP

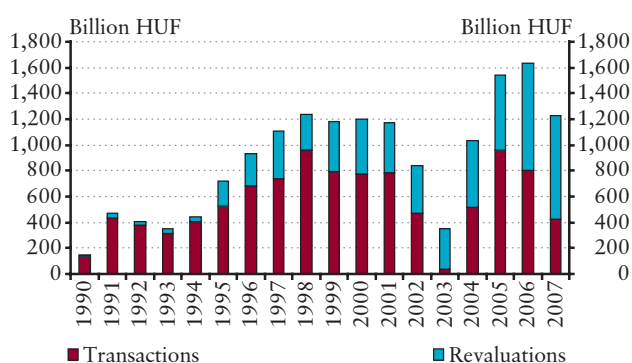


Source: MNB, Financial accounts (based on S.14 stocks).

## Revaluation developments

Changes in the net financial worth of households (the difference between receivables and liabilities) depend predominantly on two factors: transactions and revaluations. Revaluation indicates the impact of market prices and exchange rate changes on the size of the net financial worth. Each year during the period reviewed from 1990 revaluation increased the net financial worth of households; therefore changes in net financial worth always exceeded the net lending value of the specific year (Chart 3-5).

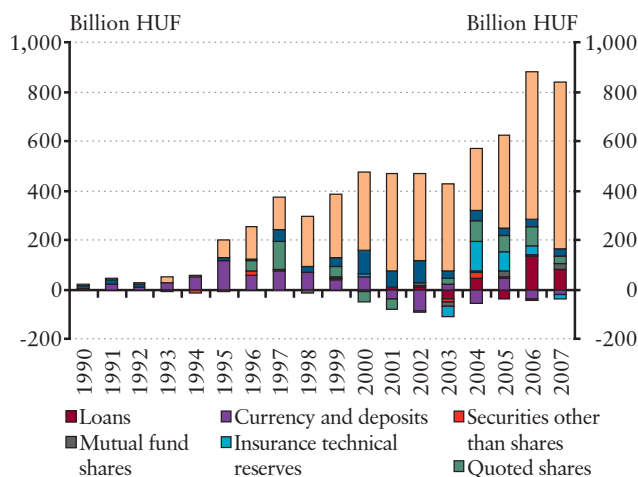
**Chart 3-5**  
Changes in the net financial worth of households



Source: MNB, *Financial accounts (annual balance ratios of S.14 transactions and revaluations)*.

At the beginning of the 1990s, through the revaluation of foreign exchange deposits, changes in the forint exchange rate had the most fundamental impact on the net financial worth of households. At the same time, as the non-bank intermediary system progressed, the investments of

**Chart 3-6**  
Impact of revaluation of specific instruments on changes in net financial worth



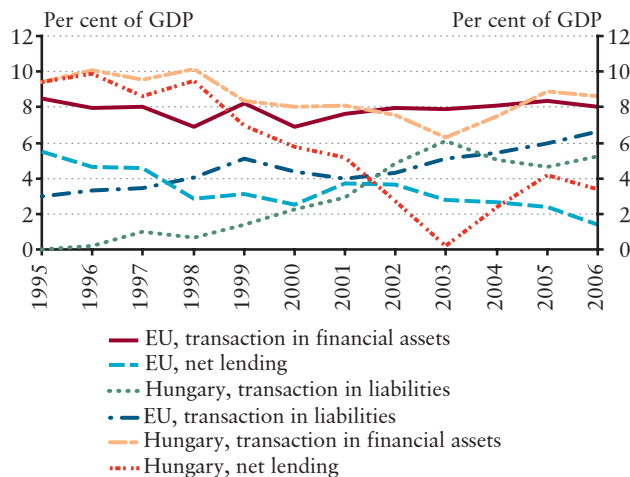
Source: MNB, *Financial accounts (based on S.14 annual revaluations)*.

households started to include more and more financial instruments (such as quoted shares, debt securities, mutual fund shares, insurance fee reserves), whose strongly fluctuating market prices resulted in revaluation gains or losses on the specific instrument (see Chart 3-6). Moreover, as foreign exchange loans gained ground, even loan stocks are subject to change as a result of the exchange rate changes of the forint. Revaluation had the greatest impact on the instrument of other equities. This can be attributed to the fact that on the one hand, this is the instrument with the greatest share among the financial instruments of households, and on the other hand, profits left in corporations – through the increase of equity capital – led to a significant appreciation of the equities of households. Revaluation gains realised on the instrument have thus far compensated for potential losses realised on other instruments every year.

## International outlook

Up to 2000, the GDP-proportionate rate of the net lending of households was not considered low even in international comparison; in fact, it exceeded the rates of EU countries. This was the trend only because the GDP-proportionate net borrowing of households significantly lagged behind that observed in other EU Member States (see Chart 3-6). In recent years, household borrowings have been on a growing trend in EU Member States, which has resulted in a relatively stable, 8% rate of the GDP-proportionate transactions of financial instruments on the one hand, and a gradual decrease in net lending on the other hand. Even though the net incurrence of loans of Hungarian households is getting closer to that of the other Member States, the GDP-proportionate rate of households' debt at 29% is still

**Chart 3-7**  
GDP-proportionate financial assets and liabilities of households



Source: Eurostat.

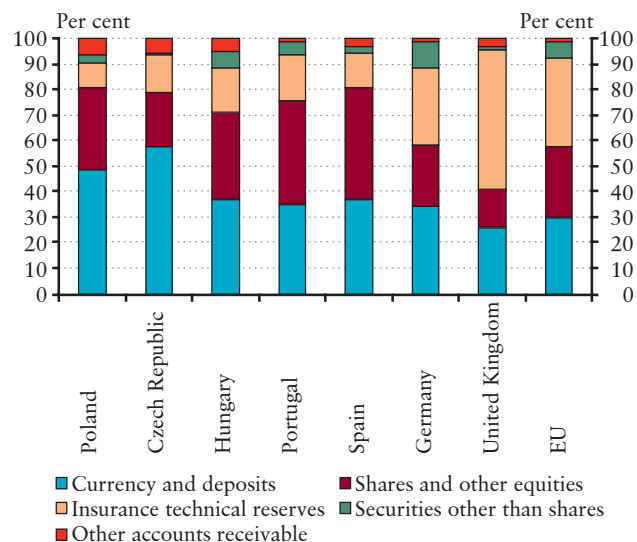
significantly behind the 65% rate typically observed in other Member States.

When comparing the **structure of financial assets** to the one applied in EU countries, two marked differences become apparent. While the ratio of insurance technical reserves (household receivables vis-à-vis insurance corporations and pension funds) is much higher (35%) in the European Union, the ratio of cash and bank deposits (30%) as well as shareholdings (28%) is lower than in Hungary (see Chart 3-8). The composition of the investments of Hungarian households has basically shifted in the above direction: the role of bank deposits and cash has gradually decreased to the benefit of insurance technical reserves. The investment portfolio of less developed EU countries (e.g. Portugal) appear to be very similar to that of Hungary, while the rate of deposits and cash is even higher in the Czech Republic and Poland than it is in Hungary.

**Chart 3-8**

**Structure of financial instruments in individual countries**

(at the end of 2006)



Source: Eurostat.

## 3.2 Financial accounts of the general government

The general government sector comprises one of the sectors of national accounts, presented by the statistics as divided into three sub-sectors (central government, social security funds and local governments). The financial account statistics contain all financial assets and liabilities of the general government and its sub-sectors, valued at market price as far as possible.

This section describes the financial position of the general government based on data provided by the financial accounts. In this system therefore, the balance (deficit) of the general government is produced by the transactions of financial assets and liabilities, and not the difference between the revenues and expenditures of the general government. Reasons for an emerging deficit are therefore difficult to explain on the basis of the system of the financial accounts, as – with the exception of interest income related to interest-bearing financial instruments – the issue should be approached from the perspective of non-financial accounts. From the perspective of financial accounts, the deficit (net borrowing) is a given condition; the only information to be gleaned is the way the deficit was financed: the financial assets that were sold or the liabilities (debts) that were issued to cover the deficit.

### Deficit and its financing

Deficit can be financed through a reduction of financial assets (sale of shares, withdrawal of deposits, reimbursement of loans provided) or an increase in liabilities (issuance of debt or other liability). Over the long term, however, the deficit may be financed only with the increase of debt (issuance of loans or securities), because other liabilities only comprise temporary items representing adjustments in time, and financial assets are not available in unlimited quantities to sell, in order to meet net borrowing requirements over the long run.

When examining statistical data on the general government between 1990 and 2007, numerous forms of **deficit financing** can be observed. The largest amounts of national account based deficit – i.e. the net borrowing – were observed in 1994, 1998, 2002 and 2006; the deficit gradually decreased in the interim first two years, which was followed by two years of growth. From 1996, the rise in annual debt moved in tandem with the changes in the amount of the deficit (see Chart 3-9). In the preceding years, however, the

Chart 3-9

### General government deficit and changes in volume in the government debt

(based on the financial accounts)



Source: MNB, Financial accounts (based on the balance of S.13 transactions and on the annual changes in debt).

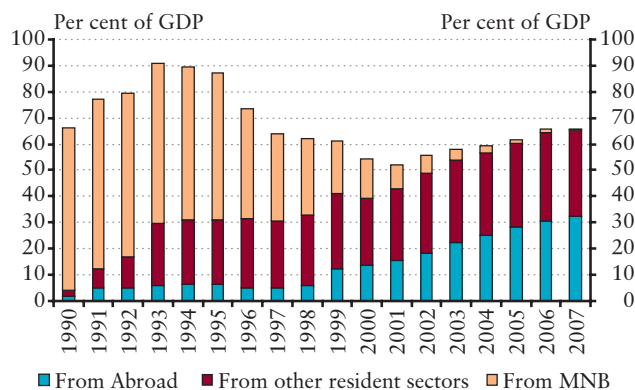
rise in the amount of debt was much greater than warranted by the financing of the deficit alone (see explanation below).

### Role of the central bank

The net lending/net borrowing of the Hungarian general government is difficult to interpret without an understanding of the financial relationship between the central bank and the state. Until 1997 there was a rather unique relationship between the central bank and the general government. Indeed, until the early 1990s, the MNB almost exclusively financed the central budget, and consequently the larger

Chart 3-10

### Gross consolidated debt of the general government by main lending sectors



Source: MNB.



portion of the national debt was held by the central bank until 1997 (see Chart 3-10).

While the MNB accumulated foreign debt in foreign exchange, its lending to the government and state-owned companies (whose debts were also eventually assumed by the government) was denominated in Hungarian forint. The gradual devaluation of the forint produced revaluation losses for the bank, which were presented in the balance sheet in the form of a special financial instrument from the beginning of the 1980s. In 1989, this growing amount of **'credit with no maturity and zero interest'** was recognized as government debt (zero interest debt). Financial accounts also classify this item among debts. For the purpose of managing this special financial relationship, numerous economic analyses unified and consolidated the central bank with general government, enabling the direct analysis of the effects of external foreign exchange debt. The stock of zero debts was effectively eliminated through the debt swap implemented between the MNB and the state at the beginning of 1997. In the framework of this procedure, the external debts of the MNB, which in fact represented the outstanding receivables of the MNB from the general government, were indicated in the form of foreign exchange loans.

Although the MNB still continued to be exposed to the exchange rate changes of the forint, from this point on the central bank could suffer exchange rate losses only through the strengthening of the forint, rather than its weakening. Consequently, while the government realised a profit on forint appreciation (its foreign exchange debt depreciated), it suffered repayable exchange rate losses through the central bank. From 1999, special revaluation reserves were created on the liabilities side of the central bank's balance sheet, which in effect behave similar to zero interest debt: they serve to balance the diverging revaluation of outstanding assets and liabilities denominated in foreign exchange (creating equilibrium on the two sides of the balance sheet). The government had to replenish these reserves several times.

The system of financial accounts applies a standard settlement for the exchange rate losses of the central bank across the entire period. Any exchange rate losses suffered by the bank are interpreted as depreciation of the shares of the central budget. The government compensates the central bank for these latter exchange rate losses in the form of capital increase in the financial accounts. Until 1997, funds for this capital increase were provided by central bank lending (stock of zero debts), and from 1997 the source of funds was a reduction of government deposits with the central bank. As a result of these operations, financial account statistics continuously indicated large amounts of **equity increases** until 1997, followed by substantial amounts of equity investments again in 2001-2002.

Moreover, the operating profit of the central bank is treated as **re-invested income** in the system of Hungarian financial accounts, in order that the operating profit is processed – through accrual accounting – when it is formed rather than in a delayed manner, in the period of government compensation. In practice, this means that operating profits and losses are reflected as capital increase and capital decrease respectively, while budgetary compensation, again, is reflected as capital increase in the financial accounts.

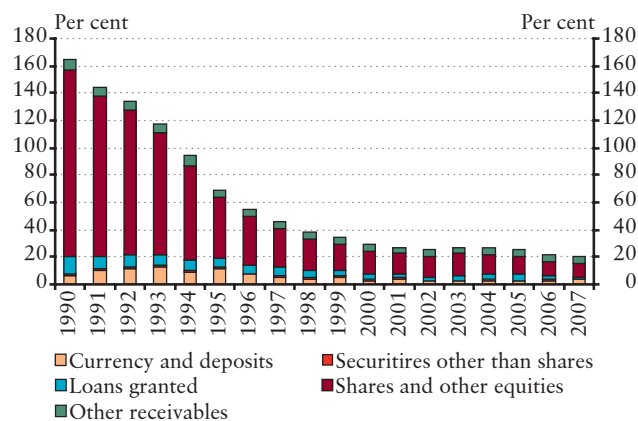
## Financing using the assets side

In the period under review, the value of the consolidated financial assets of the general government (vis-à-vis other sectors) fluctuated between HUF 3200 billion and HUF 5000 billion (by way of comparison, in 18 years the stock of liabilities grew to HUF 18,300 billion from HUF 1,330 billion). **Shareholdings** (shares and other equities) represent

Chart 3-11

### Stock of main financial assets of the general government

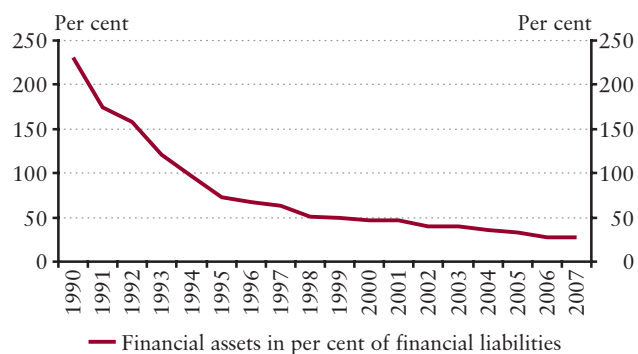
(end-of-year, non-consolidated, GDP-proportionate data)



Source: MNB, Financial accounts (non-consolidated S.13 stock data).

Chart 3-12

### Consolidated financial assets and liabilities of the general government



Source: MNB, Financial accounts (based on consolidated S.13 stocks).



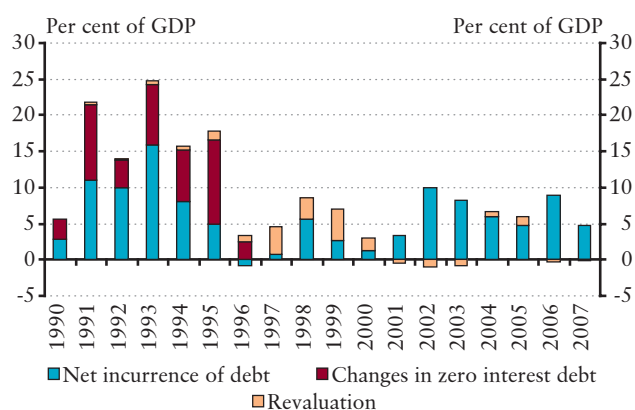
the highest proportion of financial assets, but their volume is steadily decreasing, and the stock of shares amounted to HUF 2,595 billion at the end of 2007. Of the above amount, the value of quoted shares amounted to HUF 227 billion. The ratio of **other receivables**, primarily related to taxes and social contributions, is gradually increasing (Chart 3-11).

At the beginning of the 1990s, the total value of the financial assets of the general government exceeded the value of the liabilities; currently, however, the amount of receivables is only a fraction of liabilities (see Chart 3-12).

## Information on debts

In the financial accounts, we can follow the trends in the **nominal value of the gross consolidated (Maastricht) debt** of the general government (government sector) from the end of 1989. At the end of 1989, total debt amounted to HUF 1,264 billion, corresponding to 73% of the GDP at the time. At the turn of 1993-1994, this rate rose above 90%, and by 2001 it gradually dropped to 52%. The steeper decrease of the debt rate in 1996 and 2000 is due to the favourable deficit indicator (i.e. the low net borrowing requirement); while in the interim years the trend was supported by financing on the assets side (privatisation). From 2002, the high government deficit reversed the favourable trend in the falling rate of debt (see Chart 3-13).

**Chart 3-13**  
Components of annual changes in debt



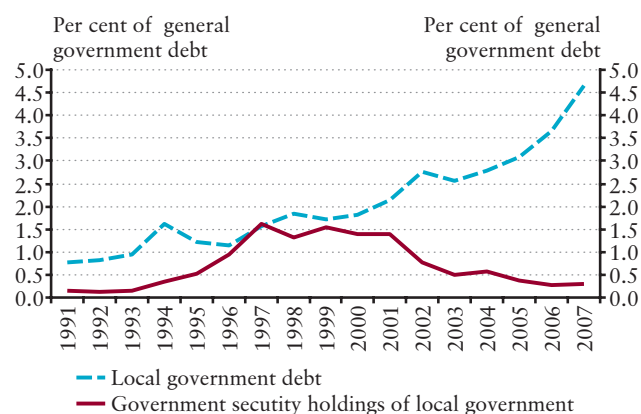
Source: MNB, *Financial accounts (based on the gross consolidated debt of the general government)*.

The changes in the volume of debt are affected not only by the net borrowing (transaction) linked to the financing requirement, but also by revaluations triggered by **changes in foreign exchange rates**. Up to 1996, changes in the volume of debt approximated the value of transactions, as revaluations were essentially not involved. Within the volume of debt, the share of foreign exchange loans remained below

8%. The stock increasing effect of revaluations was concealed by the indirect indebtedness of the state in forint, through the MNB. The revaluation loss was incurred by the central bank, presented in the government debt as the transaction change in zero interest debt. In 1997, the share of foreign exchange items jumped to 40% through the debt swap between the central bank and the state, thus the effect of revaluation in changing the amount of debt took on a key role thereafter. Between 1997 and 2000, the rate of debt was considerably reduced, while the debt revaluated at an annual rate of 1-3% of GDP. Following 2000, the revaluation increased the rate of debt in two years only, in 2003 and 2005, while in the rest of the years since then the volume of debt grew at slower pace than the rate of net borrowings. At the end of 2007, the gross consolidated debt of general government reached HUF 16,729 billion, corresponding to 66% of GDP.

The contribution of **local governments** to the government debt is rising at a steady rate; in 1998, it produced 0.8% of total debt, while in 2007 the sector already produced nearly 5% of this figure. Until 2001, the local government sub-sector contributed to the decrease in consolidated debt to a substantial degree relative to its own stock of debt. However, between 2002 and 2007 the value of local government investments in government securities – which are subject to consolidation – dropped by half, while the contribution of the sub-sector to the national debt nearly doubled (see Chart 3-14).

**Chart 3-14**  
Stock of government securities and consolidated debt of local governments



Source: MNB, *financial accounts (S.1313 stocks and general government debt)*.

In addition to the significant rise in gross government debt, the distribution of debt **according to instrument types and creditors** has undergone substantial transformation in recent years. At the end of 1990, government securities – primarily issued through private placement representing barely 3% of debt (HUF 37 billion) – were held by a small number of banks and the MNB; 96% of loan debts originated from the central

bank. At the end of 2007 over 90% of the national debt was comprised of securities, and the outstanding amount of loans provided earlier by the central bank was repaid. On the whole, the central bank held 94% of general government debt at the beginning of the period; currently this rate dropped below 1%. The GDP-proportionate rise in the direct external debts of the

government sector commenced in 1999, when the state issued foreign exchange bonds abroad for the first time (see Chart 3-10). Over the past ten years, the ratio of debt owed to the rest of the world increased from 10% of the total government debt to 49%; 70% of the total rise in debt originated from the rest of the world.

## 3.3 General government deficit and general government debt

The two most frequently used indicators of the general government sector are the **balance of the general government** (surplus or deficit) and the **government debt**. Similar to the notion of general government, the deficit/surplus of the general government sector also has several definitions. The sub-systems of the general government – including, in the legal and budgetary sense the central budget, social security funds and local governments – are required to account for their income, expenditure and balance (discharge) in an official format, according to the method specified by national legislation, to be approved by the highest level of elected bodies, the representatives of Parliament and local governments. Since the data requirements of the elected bodies are not restricted by methodological limitations, the contents of official data may differ from year to year and from country to country. For this reason statistics prepared on the basis of international methodological specifications are necessary, which arrange data systematically and ensure that data may be compared between years and countries. Such general government statistical data are contained in the **government financial statistics** (GFS).

The purpose of **national accounts** is to present the operations of an entire economy through a single, uniform system. In this system, the general government has no special role; the same transactions, stocks and balances present its structure and operations applying the same logic as for all other economic sectors. Thus, the statistics of national accounts drastically re-arrange the contents and structure of general government data relative to the budgetary presentation. In particular, neither the total revenue and expenditure indicator, nor government debt is included in the system of national accounts. These figures can be calculated via a substantial re-arrangement of the national account data.

The significance of the general government data generated in the framework of national accounts was increased by the ‘Maastricht Treaty’ establishing the **European Union** in 1992. This document laid down the requirements of the fiscal policies of Member States for the purpose of restricting overspending and indebtedness of the general governments of the Member States. The Protocol annexed to the Treaty specifies the sanctions, in other words, the **excessive deficit procedure**. The Council regulation on the execution of the Protocol (Council Regulation (EC) No 3605/93) laid down

the rules in the language of statistics, i.e. it used the terminology of the European System of Accounts (ESA95). The requirement is the following: annual government deficit and end-of-year debt may not exceed 3% and 60% of GDP, respectively, and accumulated debt must decline. The EU controls compliance with these criteria by requiring the Member States to submit a report on these ratios twice a year. This is the report related to the excessive deficit procedure (**EDP report**).

### Government deficit

The **government balance** defined by Maastricht Treaty and by the Council regulations providing practical guidelines for the application of its rules pertaining to the excessive deficit procedure (Council Regulation (EC) No 3605/93 as amended by Council Regulation (EC) 475/2000), was originally identical with the balance definition applied in national accounts. Subsequently, as a result of the development of national accounts methodology, accounting for swap transactions has changed in the accounts. Starting from 2001, interest income realised on swap transactions is to be processed as the issuance and reimbursement of a financial instrument (financing operations not affecting the balance), rather than being accounted for as property income. The methodology of the EDP report did not adjust to this change, and it continues to interpret swap interest as interest income. Therefore, the Maastricht deficit and the national accounts deficit differ on this single point today.

In the national accounts, the balance of the sectors is expressed by the figures of **net lending or net borrowing**. In the national accounts, net lending/net borrowing is the balancing item connecting non-financial accounts with the financial accounts. In non-financial accounts, this figure is established as the result of all non-financial economic operations, i.e. the sum of production, income distribution and capital accumulation transactions, whereas in financial accounts it is generated as a change in financial assets and liabilities through transactions. The two different methods of calculation presumably result in the same figure. In Hungarian statistical practice, the two statistics use different names to express this figure. The name of the balance calculated ‘from the top’ (from non-financial accounts) is net lending/net borrowing, while the figure calculated ‘from the bottom’ is referred to as **net lending capacity or net borrowing requirement**.

In the area of the applied methodology, there is one, deliberately assumed difference between non-financial and financial accounts: taking account of the operating profit of the MNB. While financial accounts include the **operating profit of the MNB** in the government deficit, non-financial accounts disregard this item. Nevertheless, in order to achieve consistency, for the purposes of the EDP report financial account statistics re-calculate the government balance excluding the operating profit of the MNB.

In Hungary, **quarterly accounts** pertaining to the general government are completed by the end of the third month following the reference period. The Magyar Nemzeti Bank, however, completes and releases its preliminary data pertaining to this sector as early as the 45th day following the reference period. In the period between the preliminary and the final quarterly publications – despite the methodological discrepancy stated above – the balance ratio calculated in the preliminary estimate can be relied on just as the preliminary estimate for the final figure.

## Government debt

The Maastricht debt of the general government is not a national account category. Indeed, the methodology of national accounts does not include the concept of ‘debt’. Thus, the Maastricht Treaty had to introduce an independent debt concept. The legislation refers to national account categories, however, it re-defines them. The stock data of national accounts reflect market prices, while the Maastricht debt is a nominal value. Of all liabilities shares and other equities, financial derivatives and the other accounts payables are not considered as debt by the legislation. Thus, the **Maastricht government debt** is comprised of three financial instruments only:

1. Currency and deposits
2. Securities other than shares excluding derivatives
3. Loans

This concept of debt is **consolidated**, in other words, it does not contain financial relationships within the sector of the general government. It is important to note that it has a **gross approach**, in other words, receivables of the sector may not be deducted from the debt (prior to the political transition, the concept of net government debt was preferred in Hungary as it showed significantly more favourable data at that time than gross data).

In the Hungarian statistical system, debt data are compiled parallel to financial accounts within the framework of

compiling financial accounts. In the statistics, liabilities are recorded both at market value and at nominal value. This method ensures the complete consistency of financial accounts and government debt.

## Report on the excessive deficit procedure

The **EDP report** must be prepared twice a year – at the end of March and at the end of September – and submitted to the Economic Policy Committee of the European Union, the European Central Bank, and Eurostat, the statistical office of the European Union. Eurostat audits the contents of the report, and publishes the most important data. In Hungary, following the press release of Eurostat, both the Ministry of Finance and the CSO publishes the full report. Each report contains data covering five years: the previous four years and the current year. Information on the current year consists of projected data rather than statistical data, therefore this information is provided by the ministries of finance of Member States. Obviously, information pertaining to the last previous year receives special attention.

The report related to the excessive deficit procedure consists of four types of tables. They are the following:

Table 1 Government deficit or surplus, debt and related data (summary table)

Table 2 Relationship between the official budget balance, and the deficit or surplus of the government sector (by sub-sectors)

Table 3 Impact of government deficit or surplus and other factors on changes in debt, and the consolidated debt of sub-sectors (total and by sub-sectors)

Table 4 Other data

Table 4 contains supplementary and informational data only. Table 2 must be prepared for each sub-sector, and Table 3 must be prepared for the consolidated general government and for sub-sectors as well. Table 1 summarises deficit, debt and GDP data along with certain supplementary data.

## Calculation of government deficit or surplus (Table 2)

**Table 2** presents the way the Maastricht balance was derived from the ‘official’ national budget balance approved by the decision-making authorities of the specific country. Since the

Table 3-1

Table 1 Government deficit/surplus, debt and related data

Member State: Hungary Data are in HUF (millions of units of national currency) Date: 30/09/ 2008	ESA 95 codes	Year				
		2004 final	2005 final	2006 final	2007 half-finalized	2008 planned
<b>Net borrowing (-)/ net lending (+)</b>	<b>EDP B.9</b>					
<b>General government</b>	<b>S.13</b>	<b>-1,323,658</b>	<b>-1,718,676</b>	<b>-2,205,193</b>	<b>-1,260,757</b>	<b>-1,042,677</b>
- Central government	S.1311	-1,217,037	-1,586,040	-2,422,540	-1,437,491	-951,446
- State government	S.1312	M	M	M	M	M
- Local government	S.1313	-44,949	-95,301	-159,606	-440	-114,707
- Social security funds	S.1314	-61,672	-37,335	376,953	177,174	23,475
<b>General government consolidated gross debt</b>						
<b>Level at nominal value outstanding at end of year</b>		<b>12,296,209</b>	<b>13,582,512</b>	<b>15,592,502</b>	<b>16,729,304</b>	<b>17,955,312</b>
<i>By category:</i>						
Currency and deposits	AF.2	223	129	3,750	8,134	
Securities other than shares, exc. financial derivatives	AF.33	10,863,473	12,153,912	13,738,281	15,037,560	
Short-term	AF.331	2,044,557	2,057,204	2,390,366	2,153,909	
Long-term	AF.332	8,818,916	10,096,708	11,347,915	12,883,651	
Loans	AF.4	1,432,513	1,428,471	1,850,471	1,683,610	
Short-term	AF.41	128,679	104,909	125,812	77,043	
Long-term	AF.42	1,303,834	1,323,562	1,724,659	1,606,567	
<b>General government expenditure on:</b>						
<b>Gross fixed capital formation</b>	P.51	733,655	873,037	1,049,938	903,412	951,597
<b>Interest (consolidated)</b>	EDP D.41	906,667	908,429	928,784	1,033,349	1,085,354
<i>p.m.: Interest (consolidated)</i>	<i>D.41 (uses)</i>	902,967	910,595	940,886	1,028,312	1,074,707
<b>Gross domestic product at current market prices</b>	<b>B.1*g</b>	<b>20,695,365</b>	<b>21,997,374</b>	<b>23,785,244</b>	<b>25,419,164</b>	<b>27,380,000</b>

report provides the deficit figure calculated from the side of the non-financial accounts, in Hungary its calculation is performed by the CSO. The adjustments between the official balance and the EDP balance must be presented in a separate table for each general government sub-sector: the central government, social security funds and local governments. The steps of the adjustments are presented below based on Table 2A pertaining to the balance of the **central government**.

The starting data of the table is the official budget balance of the general government's specific sub-sector. This balance must be adjusted in four steps in order to arrive at the statistical balance.

The **first block** of the adjustments excludes **financial operations** from the budget balance. Financial operations are those operations, which create a financial receivable for

one party and a financial liability for another party; for example lending, borrowing, security and equity operations. Official budget accounting usually contains this kind of financial operations. Traditionally, operations performed with the financial assets of the general government – such as lending and its reimbursement, capital investment and privatisation – are treated in budget accounting as items affecting the balance, and only items resulting in a change in debt are treated as financing items. Therefore financial operations mix with non-financial ones in national budgets. In national accounts, financial operations must be recorded in the financial accounts; therefore, these items must be excluded from the non-financial accounts. The first block of the table performs this function.

Nevertheless, experience suggests that it is not always reasonable to exclude the financial operations of the general

Table 3-2

Table 2A Relationship between the official balance of the central budget, and the deficit or surplus of the central government sub-sector

Member State: Hungary	Year				
	2004	2005	2006	2007	2008
Data are in HUF (millions of units of national currency)	final	final	final	half-finalized	planned
Date: 30/09/ 2008					
<b>Working balance in central government accounts</b>	<b>-904,520</b>	<b>-547,801</b>	<b>-1,961,632</b>	<b>-1,398,117</b>	<b>-1,039,988</b>
<i>(public accounts, please specify whether this working balance is cash-based)</i>					
Financial transactions considered in the working balance	688	-376,756	10,709	63,199	-17,335
Loans, granted (+)	20,941	30,360	14,902	19,102	5,313
Loans, repayments (-)	-30,346	-18,715	-19,872	-10,609	-7,120
Equities, acquisition (+)	8,496	8,056	17,264	25,067	14,946
Equities, sales (-)	-223	-401,919	-2,258	-7,921	
Other financial transactions (+/-)	1,820	5,462	673	37,560	-30,474
Difference between interest paid (+) and accrued (EDP D.41) (-)	-38,590	-62,554	20,683	-60,682	56,463
Other accounts receivable (+)	197,696	-54,898	48,725	-18,694	88,192
Other accounts payable (-)	-92,809	45,130	-44,463	162,148	36,600
Net borrowing (+) or net lending (-) of State entities not part of central government	M	M	M	M	M
Net borrowing (-) or net lending (+) of other central government bodies	-208,947	-166,980	-125,286	-46,706	-32,997
Other adjustments (+/-) (please detail)	-170,555	-422,181	-371,276	-138,639	-42,382
<b>Net borrowing (-)/lending(+) (EDP B.9) of central government (S.1311)</b>	<b>-1,217,037</b>	<b>-1,586,040</b>	<b>-2,422,540</b>	<b>-1,437,491</b>	<b>-951,446</b>

government from the items affecting the deficit. Indeed, governments may choose to use their financial assets to execute their economic policy. Instead of granting subsidies to producers, governments may decide to extend loans to state-owned companies every few years, without seriously expecting a return on these loans. It may also happen that governments compensate for the accumulated losses of companies by capital increase. From a statistical perspective, and in view of other aspects of the Maastricht report, these items should be processed as expenses resulting in deficit. Any operations performed with the financial assets of the general government must be strictly examined on an individual basis, and all transactions performed for economic and social policy purposes must be processed as non-financial operations. In the two examples described above, accounting should indicate capital subsidies in both cases, rather than lending and capital increase. In other words, these operations – which are financial in terms of form, but more like subsidies in terms of effect – should definitely not be excluded from deficit calculations because they are recorded in statistics as non-financial expenses.

The **next block** presents the outcome of the **application of accrual accounting** on cash-flow type budgetary data. General government budgets traditionally have a cash-flow approach; in other words, the processing and comparison of

total income and total expenses provide an answer to the following questions: how much money was saved from the income of the specific period, or what was the amount of external funds that had to be used to finance excess expenditure? By contrast, the system of national accounts uses the same accounting principles for all economic participants, and these principles are close to the accounting system of corporations, therefore national accounts are based on the accrual approach. As the approach of national accounts has gradually gained ground in recent years, an increasing number of countries attempt to approximate their official budgets to accrual accounting. Accrual accounting adjustments affect data on taxes, contributions, interests, wages, certain subsidies and government purchases.

The **third block** of the table bridges the gap between the official and statistical interpretations of the general government in terms of its **scope**. National account statistics classify economic participants on the basis of their economic behaviour rather than their legal form. In addition to budgetary organisations, the statistical general government sector in Hungary currently includes 13 corporations and 168 non-profit institutions (the list of classified corporations and non-profit institutions is published on the official home page of the central bank). Accordingly, the third block of the table presents the balance of the corporations and non-profit

**Table 3-3****Table 3B Impact of government deficit or surplus and other factors on changes in debt, and the consolidated debt of sub-sectors (central government)**

Member State: Hungary Data are in HUF (millions of units of national currency) Date: 30/09/ 2008	Year			
	2004 final	2005 final	2006 final	2007 half-finalized
<b>Net borrowing(+) / lending (-) (EDP B.9) of central government (S.1311)</b>	<b>1,217,037</b>	<b>1,586,040</b>	<b>2,422,540</b>	<b>1,437,491</b>
<b>Net acquisition (+) of financial assets</b>	388,390	-421,211	-511,914	-275,300
Currency and deposits (F.2)	194,245	-16,577	118,730	-11
Securities other than shares (F.3)	-14,578	-18,186	-21,229	-13,162
Loans (F.4)	147,272	95,302	-347,320	-214,575
Increase (+)	2,799,500	3,158,500	3,654,300	2,323,800
Reduction (-)	-2,652,228	-3,063,198	-4,001,620	-2,538,375
Shares and other equity (F.5)	-108,587	-504,862	-275,724	-62,146
Increase (+)	18,500	33,300	38,731	28,028
Reduction (-)	-127,087	-538,162	-314,455	-90,174
Other financial assets (F.1, F.6 and F.7)	170,038	23,112	13,629	14,594
<b>Adjustments</b>	-387,549	-13,746	-1,008	-120,699
Net incurrence (-) of liabilities in financial derivatives (F.34)	39,289	29,801	32,899	34,159
Net incurrence (-) of other liabilities (F.5, F.6 and F.7)	-191,328	-69,723	-48,477	-93,532
Issuances above (-) / below (+) nominal value	81,164	-65,753	100,385	-4,368
Difference between interest (EDP D.41) accrued (-) and paid (+)	-118,999	-28,312	-65,321	-42,790
Redemptions of debt above (+) / below (-) nominal value	-3,100	600	-460	-1,217
Appreciation (+) / depreciation (-) of foreign-currency debt	-194,574	119,641	-20,034	-12,951
Changes in sector classification (K.12.1) (+/-)	0	0	0	0
Other volume changes in financial liabilities (K.7, K.8, K.10) (-)	0	0	0	0
<b>Statistical discrepancies</b>	53,268	37,949	-55,118	-62,649
Difference between capital and financial accounts (B.9-B.9f)	53,268	37,949	-55,118	-62,649
Other statistical discrepancies (+/-)	0	0	0	0
<b>Change in central government (S.1311) consolidated gross debt</b>	<b>1,271,146</b>	<b>1,189,032</b>	<b>1,854,500</b>	<b>978,843</b>
<b>Central government contribution to general government debt (a=b-c)</b>	<b>11,589,956</b>	<b>12,741,026</b>	<b>14,935,393</b>	<b>16,041,927</b>
Central government gross debt (level) (b)	12,092,866	13,281,898	15,136,398	16,115,241
Central government holdings of other subsectors debt (level) (c)	502,910	540,872	201,005	73,314

institutions within the general government sector, which is then added to the balance of budgetary organisations.

The **last block** of the table presents other adjustments. These are **non cash-flow items**, which have been included in the sector's national accounts through imputation. Such items include debt assumptions and debt cancellations, transfers in kind, increases of equity in kind. In recent years, the Hungarian budget accounting system has started to indicate these non cash-flow items in official budgets in order to present a more accurate picture on budgetary operations, and to approximate the budget balance to the Maastricht deficit.

After all possible adjustments have been processed, we obtain the Maastricht balance of the sector – in other words, the category of net lending or net borrowing – which differs from the similarly called national account balance only in the different handling of swap interest.

### Financing of government deficit or surplus (Table 3)

The closing data of Table 2 of the report is the balance of net lending/net borrowing (adjusted by swap interest), and the starting data of **Table 3** is identical with the closing data of Table 2, except with an opposite sign. Table 3 presents **how**



**changes in debt can be explained** by using the general government balance of the national accounts as the starting point. Since debt is not a national account category – as opposed to deficit – the table must attempt to bridge the gap between two different concepts, therefore the calculation is rather complicated. With the exception of the starting figure, net lending/net borrowing, the data of the table are extracted from financial account statistics. The last block of the table – which contains the statistical difference – includes the difference of two balances; in other words, it supplements the non-financial account balance to reflect the financial account balance. Therefore, the table eventually makes a connection between the financial account balance and the changes in debt.

In the first block of the table, the transaction related changes (net acquisition) of financial assets are added to the general government deficit. The rationale behind this is the basic correlation of financial accounts:

$$\begin{aligned} &\text{Changes in total financial assets} - \text{changes in total liabilities} \\ &= \text{net financing capacity or requirement.} \end{aligned}$$

Therefore, net financing capacity or requirement with a negative prefix plus changes in total financial assets (from transactions) produces the changes in total liabilities (from transactions). This figure then has to be transformed to changes in debt.

Accordingly, the **next block** excludes changes in non-debt instruments (financial derivatives, other liabilities) from changes in total liabilities, in other words, at the level of instruments to be taken into account, the concept of liabilities is narrowed down to government debt.

The task of the next block is to transform the financial account (market value) transactions of debt components to **nominal transactions**. This involves two separate tasks. The issue and of redemption of debt elements must be converted to nominal value (the first and third lines of the block), and the accumulated interest treated as a financial transaction in the financial accounts must be eliminated (middle line of the block).

This correction completes the transformation of financial account transactions into nominal value, debt element transactions. However, it is not only transactions (issue, payment) that may change the volume of debts. Therefore, the effects of other changes in volume and revaluations must be added to the transactions as well. As the calculation is based on nominal values, only the exchange rate changes of foreign exchanges debt elements must be considered as revaluation effects.

The correctly completed report successfully connects **three concepts**: the official deficit concept of the budget in the specific country with the deficit presented in national accounts; the deficit presented in national accounts with the nominal debt; and ultimately, the official deficit with the changes in debt. In this way the report provides users familiar with the tables with plenty of information not found anywhere else in other statistical releases.

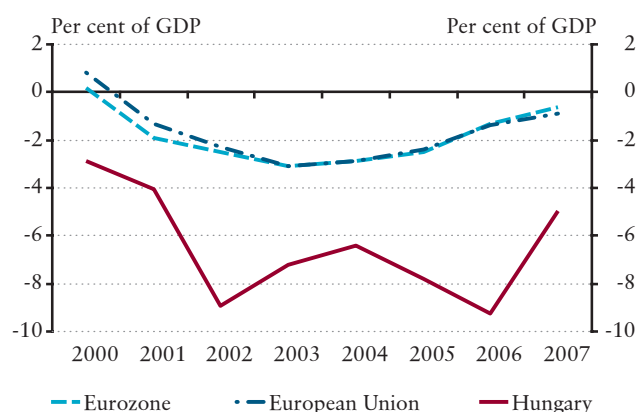
## General government deficit and debt in international comparison

Eurostat verifies the two reports submitted each year, and then issues a press release presenting data for each Member State and aggregated data for the euro area and the European Union.

The press release issued on 22 October 2008 reveals that 15 Member States closed the year 2007 with a **deficit**, while the rest of the countries achieved a **surplus**. The government deficit-to-GDP ratio exceeded 3% in two countries: Hungary (5%) and Greece (3.5%). On the whole, the European Union closed the year with a 0.9% deficit, of which the deficit of the euro area represented 0.6%. The highest government surplus was achieved in Finland (+5.3%).

Deficit data of the euro area and the European Union moved closely together, obviously, as a result of the significant weight of the euro area (3-15). An examination of the data reveals that from 2000 on this does not imply that the euro area is performing better on a continuous basis. Data pertaining to the European Union have been more positive in nearly the entire period; the only exceptions being data from 2000 and from 2006-2007. Hungary reported exceptionally high deficits in 2002 and 2006 (8.9% and 9.2% of GDP, respectively), but the financing requirement of the general

**Chart 3-15** Government balance as a percentage of GDP



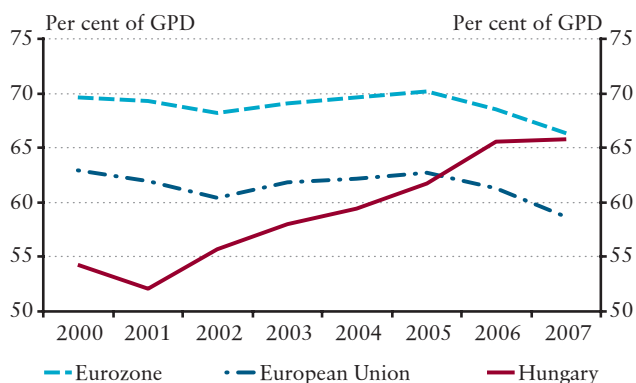
Source: Eurostat.

government exceeded the EU average in the rest of the years as well.

In respect of **government debt**, the position of Hungary was relatively favourable at the beginning of the reviewed period. The government debt-to-GDP ratio was 54.2%, far less than the ratio of the European Union in general and the euro area in particular, at 62.9% and 69.6%, respectively (see Chart 3-16). Nevertheless, until 2007 both the European Union and the euro area managed to reduce government debt, and as a result, the current 65.8% debt ratio of Hungary exceeds the EU average (58.7%), and approaches that of the euro area (66.3%). Of the 27 Member States, the government debt of eight countries exceeded 60% in 2007, with Italy exhibiting the highest ratio (104.1%). Beside Italy, only Greece and Belgium had a higher debt ratio than Hungary.

Chart 3-16

## Government debt-to-GDP ratio



Source: Eurostat.

## 3.4 Financial accounts of non-financial corporations

The main domestic products of financial account statistics present the financial worth and financing relationships of the national economy and the non-financial corporations therein, without special purpose entities (SPEs). The reason for the exclusion of SPEs is that they are engaged in typically passive, financial intermediary activities, through which they perform financial operations with non-resident partners in large amounts, and as such, if they were included it would unreasonably increase the stock and flow data of the financial assets and liabilities of the corporate sector, and distort the results of the examinations focusing on the financial situation and processes of (normal) corporations performing real economic activities. Consequently, as is the case with the other sections of this publication, the section detailing the financial accounts of the corporate sector presents primarily **(normal) corporations without the data of SPEs**. At the same time, special purpose entities are a part of the national economy, and methodological regulations require that their data be included in international data supplies. Thus, a separate part is devoted to SPEs also in the section focusing on non-financial corporations, describing their economic weight and unique financial processes.

### Net financial worth of corporations

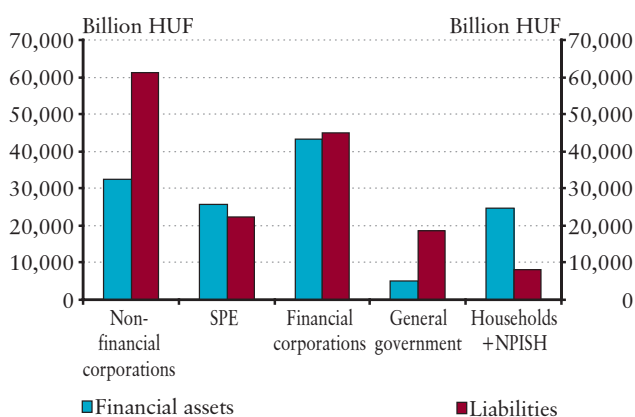
The net financial worth of an economic sector is a balancing item calculated as the difference between the total financial assets and total liabilities of the sector. The absolute and

relative size and composition of financial assets and liabilities is a good indicator of the features of different sectors across the national economy (see Chart 3-17).

The **net financial worth of (normal) non-financial corporations** is typically a negative figure, as these corporations invest a significant part of their funds in non-financial assets: tangible and intangible assets and inventories (see Chart 3-18). By contrast, the financial assets and liabilities of special purpose entities are nearly identical, as they act as financial intermediaries between their non-resident partners. The value of net financial worth for **financial corporations** approximates zero because they either lend out or invest a large part of their borrowings in financial assets. The net financial worth of the **general government** varies from country to country, and can be positive or negative, depending on the time period. In Hungary, the stock of general government liabilities has exceeded its financial assets since the middle of the 1990s (changes in their relationship over time are shown in Chart 3-12). **Households**, in turn, have a typically positive net financial worth indicator, as this sector holds few liabilities and has a significant stock of financial assets. On the whole, the **net financial worth of the country** is a negative figure of a similar size as in the case of non-financial corporations; in other words, the country has net liabilities vis-à-vis the rest of the world.

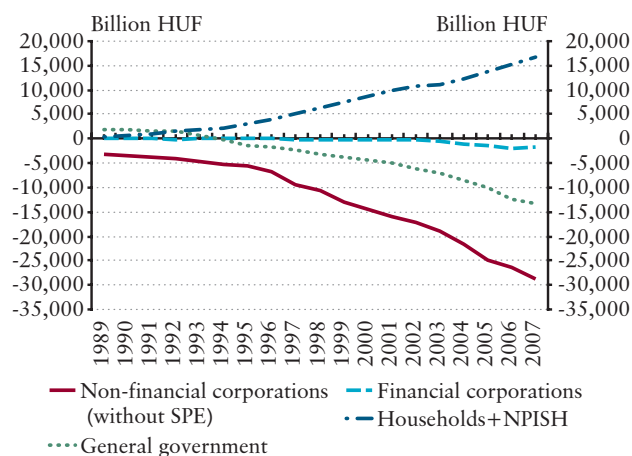
**Chart 3-17**  
**Financial assets and liabilities of resident sectors at the end of 2007**

(non-consolidated stock data)



Source: MNB, Financial accounts.

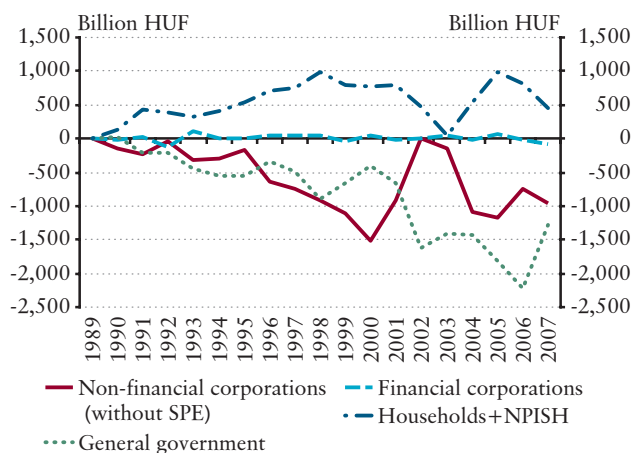
**Chart 3-18**  
**Changes in the net financial worth of major economic sectors**



Source: MNB, Financial accounts (non-consolidated stock data by sectors).

Changes in the net financial worth arising from transactions is called net lending/borrowing (Chart 3-19). The **net borrowing of non-financial corporations** peaked at the end of the 1990s and in 2000, resulting from the upsurge in investments in a period of economic growth. From 2002, however, the ratio started to decline, and corporations also became engaged in financial savings. The **balance of financial corporations** is close to zero, which is indicative of the unique nature of their activities; as a result of financial mediation, their consolidated financial assets and liabilities change in tandem. The economic cycle and government decisions have a major impact on trends affecting the balances of sectors. In the reviewed period, the general government regularly spent more than it earned in revenue, therefore a net borrowing requirement arose, the size of which fluctuated periodically. **Households** achieved the highest net lending ratio in 1998 and 2005, but even in those years their financial savings were unable to meet the borrowing of other resident sectors.

**Chart 3-19**  
Changes in the net lending/borrowing of major economic sectors



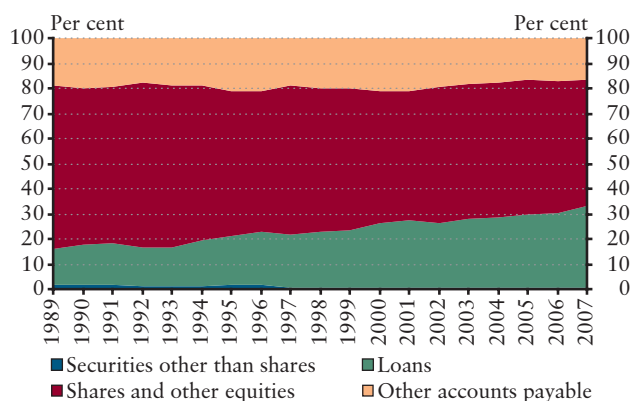
Source: MNB, *Financial accounts (transactions broken down by sectors)*.

## Structure of liabilities in the sector

**Shares and loans** represent the typical forms of liabilities assumed by **non-financial corporations**. Their main liabilities are composed of shares and other equities, which comprise 50% of their total liabilities (see Chart 3-20). In addition, loans play an increasingly significant role in their financing, accounting for nearly one third of their total liabilities.

Foreign exchange loans represent more than 50% of loans (Chart 3-21). The share of foreign exchange loans peaked in 2000; in fact, the growth of the loan portfolio was triggered

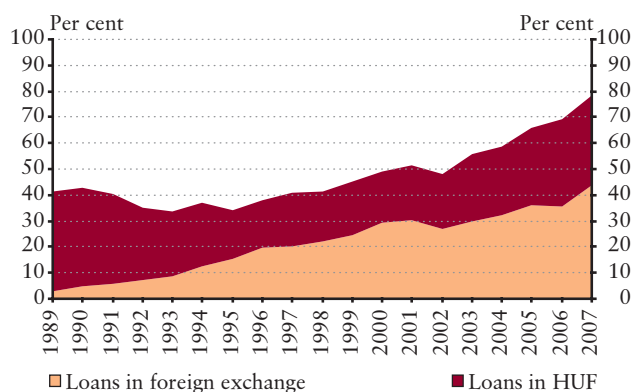
**Chart 3-20**  
Changes in the liability structure of non-financial corporations



Source: MNB, *Financial accounts (non-consolidated stock data)*.

by foreign exchange loans at that time. The borrowing boom in the sector of non-financial corporations returned in 2003. Since then, the share of foreign exchange loans within the total borrowings of the sector has been around 55%, and the only exception was a decline in 2006 which was triggered by the strengthening of the euro exchange rate.

**Chart 3-21**  
Forint and foreign exchange borrowings of non-financial corporations as a percentage of GDP

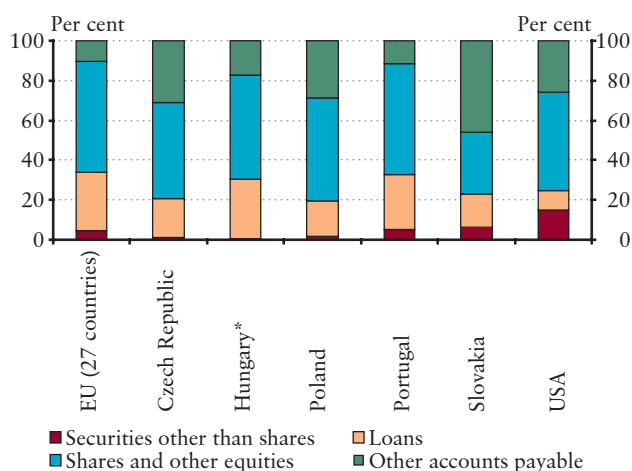


Source: MNB, *Financial accounts (non-consolidated stock data)*.

In financial accounts, the liabilities side of non-financial corporations appears to be similar **in international comparison** as well (Chart 3-22). In European Union Member States, equities and loans represent a share of 55% and 29%, respectively. Loans account for a smaller proportion (under 20%) of liabilities in the Czech Republic, Poland and Slovakia, but the ratio of other liabilities in the first two of these countries is twice as high as in Hungary, and in the case of Slovakia, three times as high. Two thirds of the other liabilities are comprised of trade credits and advances. In the United States, the ratio of shares reaches 50%, while loans and securities represent only 9% and 15% of corporate

Chart 3-22

### Components of the liabilities of non-financial corporations, international comparison (2006)



\* Domestic data excluding SPEs.

Source: Eurostat, Fed.

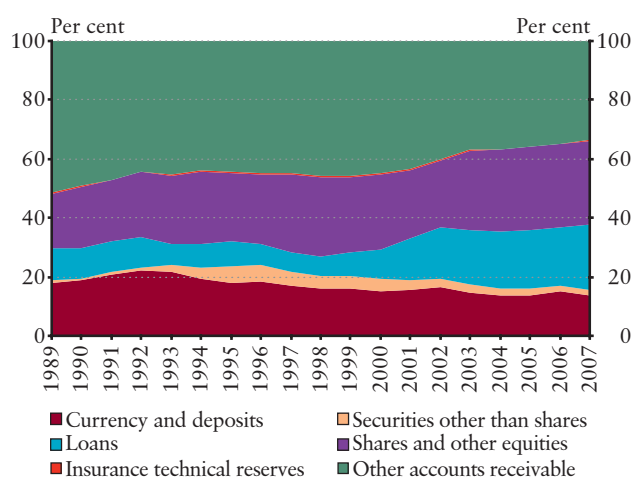
liabilities, respectively. However, such corporate data are not suitable for international comparison beyond a limited degree, as their contents are not fully consistent in each country. This especially applies to shareholdings (shares and equities), as the processing and valuation of these instruments may result in significant differences.

### Structure of financial assets

In addition to the financing of operational expenditures, corporations also finance their assets with liabilities. Within the total assets of non-financial corporations engaged in market production and non-financial services as their primary activity, non-financial assets such as tangible and intangible assets as well as inventories play a significant role. Based on the stock data of financial accounts, a simple estimate can be made regarding the size of the **non-financial assets** of corporations, which may in fact be similar in magnitude to the net financial worth of the sector (at the end of 2007, financial accounts indicated a net financial worth of HUF -29,000 billion, while the stock of non-financial assets amounted to around HUF 32,000 billion, based on the annual reports of corporations). In the corporate balance sheet, the share of non-financial assets gradually declines, while **financial assets** represent over one half of total liabilities (39% and 53% at the end of 1989 and 2007, respectively). The growing weight of financial assets is consistent with stronger intercompany financial relationships; both participations and lending relationships are on the rise among non-financial corporations. However, no change could be observed during the years covered by the financial accounts with respect to the ratio of liquid financial assets (7%) and securities representing market investments (1%) to the balance sheet total.

Chart 3-23

### Structure of the financial assets of non-financial corporations



Source: MNB, Financial accounts (non-consolidated stock data).

Cash, deposits, loans and equity claims account for a significant weight (see Chart 3-23) in the financial assets of non-financial corporations. The stock of other receivables represents the largest share, amounting to one third of the total receivables. This instrument represents the stock of receivables related to outstanding amounts (financially not settled) arising from the ordinary course of business. Based on data for 2007, shares and loans represented 30% and 23% of financial assets, respectively. Over the past five years the weight of these two instruments has been on a growing trend, while the significance of deposits has declined.

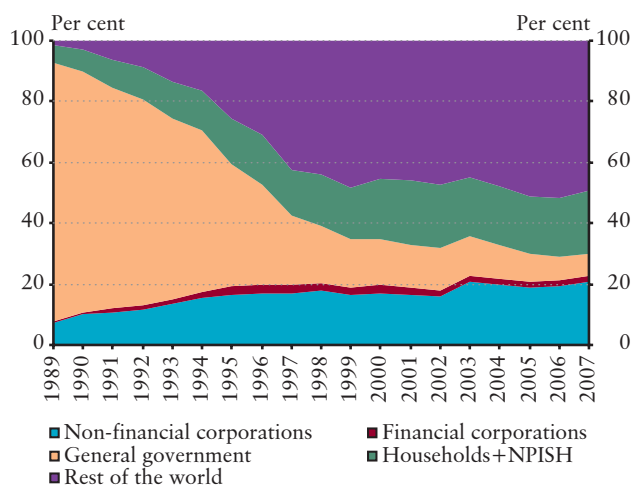
### Ownership structure of corporate equity

The ownership structure of the sector has undergone significant changes in the past twenty years. In 1989, corporations were typically owned by the state. Subsequently, due to the inflow of external capital, the role of non-resident ownership increased. The rapid increase in the number of corporations resulted in the growth of ownership of households and non-residents. By the end of 2007, the ownership ratio of households grew to 20% from 6%; non-resident ownership reached 25% by 1995, and has doubled since then (see Chart 3-24).

At the end of 1989, shares and equities issued by non-financial corporations amounted to HUF 3,181 billion (of which shares and other equities represented HUF 125 billion and HUF 3,055 billion, respectively); and by the end of 2007 the outstanding amount exceeded HUF 30,000 billion. The corporate shareholdings of the general government fluctuated between HUF 2,000 billion and HUF 3,000 billion in the period under review, and the ownership of the sector

Chart 3-24

## Ownership structure of non-financial corporations (1989-2007)



Source: MNB, *Financial accounts (based on non-consolidated and consolidated stocks)*.

in non-financial corporations fell from 85% to 7% in 18 years. Financial account data suggest that the portfolio held by non-financial corporations and households gradually increased. The holdings of the two sectors together reached HUF 200 billion in 1989, and by now they both amount to HUF 6,000 billion. The holding of corporate shares is the least typical feature of financial corporations; the value of their portfolio is merely HUF 650 billion. The sector 'rest of the world' experienced the most significant changes: by the end of 2007, the corporate shareholdings of non-residents ballooned to HUF 15,200 billion from HUF 39 billion, increasing the ratio of non-resident ownership in corporations to 49% from 1%.

## On special purpose entities

From a statistical perspective, special purpose entities (SPEs) are resident corporations of non-resident owners, which perform a passive, financial intermediary function between their non-resident partners and are not engaged in real economic activities. Statistics thus separate them from (normal) manufacturing companies and service providers. The number and financial worth of SPEs increased dynamically in 1999-2001, but their growth was temporarily halted by the elimination of the off-shore corporation status in Hungary from 2003.

As the financial assets and liabilities of special purpose entities are nearly identical in volume at all times, their net financial worth is around zero. The transactions of assets and liabilities are nearly identical in volume, resulting in a net lending/borrowing ratio near to zero. The net financial worth

Chart 3-25

## Financial assets and liabilities of special purpose entities relative to those of (normal) non-financial corporations



Source: MNB, *Financial accounts (non-consolidated stock data)*.

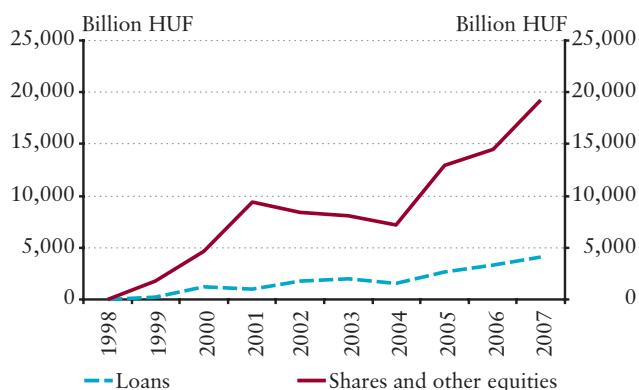
of non-financial corporations therefore indicate changes in the financial worth of normal corporations, and the total net lending of non-financial corporations is similarly influenced by the balance of normal corporations.

According to non-consolidated, annual stock data, in 2007 the financial assets of SPEs amounted to 79% of the assets of normal, non-financial corporations, while their liabilities represented 38% of those of normal corporations (see Chart 3-25).

In the balance sheet of special purpose entities, the role of real assets is very minor compared to that of financial assets, which are mainly comprised of shares, long-term loans and long-term securities. Their liabilities are characterised by a large ratio of equity and long-term loans (see Chart 3-26).

Chart 3-26

## Components of the liabilities of special purpose entities



Source: MNB, *Financial accounts (non-consolidated stock data)*.



## 3.5 Financial accounts of financial corporations

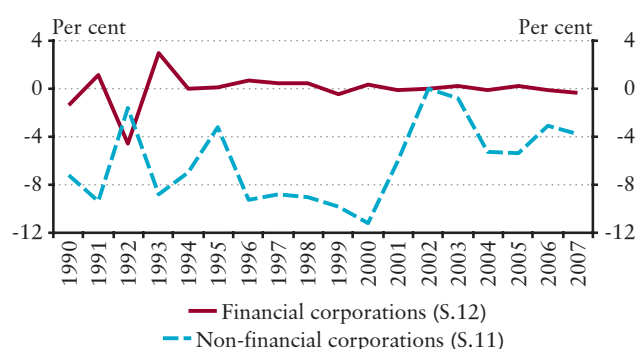
Financial corporations are units of the national economy whose primary activity is financial intermediation between the non-financial sectors. By contrast, non-financial corporations play a predominant role primarily in real economic processes. Statistics classify the sector of financial corporations (S.12) into **five sub-sectors**, which are distinguished on the basis of their primary activities. The five sub-sectors include the central bank (S.121) and the other monetary financial institutions (S.122), other (non-monetary) financial intermediaries (S.123), insurance corporations and pension funds (S.125) and financial auxiliaries (S.124). In addition, the sub-sectors of financial corporations are easy to distinguish based on their typical financial assets and liabilities. Moreover, the instrument breakdown presented in financial accounts allows for the separation of certain institution groups within the sub-sectors (Table 3-4).

### Characteristics of net lending/borrowing and net financial worth

When financial corporations are compared to non-financial corporations (Chart 3-27), it is apparent that the GDP-proportionate **net lending/borrowing** position of the former is typically **close to zero**, while the latter usually have a net borrowing position. This is due to the fact that the majority of the operations performed by financial corporations broadly affect both the financial assets and the liabilities in their balance sheets. In turn, the net lending of non-financial corporations is negative because in general the investments of these corporations significantly exceed the

profits left in the company by the resident owners. The only period during which the net lending/borrowing position of financial corporations substantially departed from zero was at the beginning of the 1990s. At that time, statistics reflected the effect of such one-off events, as the debtor, loan and bank consolidation and the elimination of preferential housing loans.

**Chart 3-27**  
Net lending/borrowing ratio of financial and non-financial corporations to GDP



Source: MNB, Financial accounts (based on transactions).

Although the GDP-proportionate net lending/borrowing position of financial corporations in the **European Union** is slightly higher than in Hungary, it does not deviate significantly from around zero even there. Slight growth was observed starting from 2004 and since then the GDP-proportionate ratio has fluctuated around 1%. Beyond potential errors in statistical processing, the positive balance

**Table 3-4**

### Typical financial assets and liabilities of the sub-sectors and institution groups of financial corporations

Sub-sectors and institution groups	Typical financial assets	Typical liabilities
Central bank (S.121)	securities	currency, deposits
Other monetary institutions (S.122)	loans, securities	deposits, securities
Credit institutions	loans	deposits
Money market funds	securities, deposits	mutual fund shares
Other financial intermediaries (S.123)	securities, loans	loans, securities
Lending corporations	loans	loans
Mutual funds	securities, deposits	mutual fund shares
Financial auxiliaries (S.124)	(securities)	-
Insurance corporations and pension funds (S.125)	securities	insurance technical reserves
Insurance corporations	securities	life and non-life insurance reserves
Funds	securities	pension fund reserves



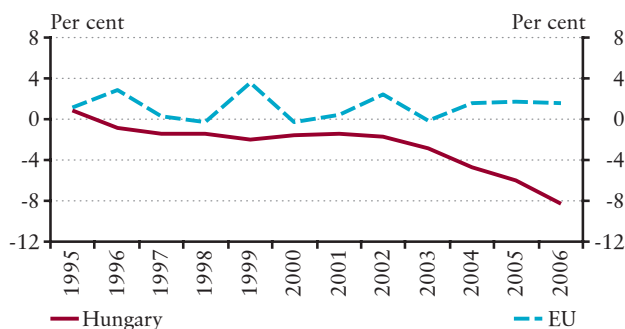
ratio may be explained by the fact that a substantial amount of operating profits was accumulated in the sector of financial corporations in the European Union in recent years, the majority of which was retained in the companies.

The time series of **net financial worth** – computed as the difference between financial assets and liabilities – appears to be similar to net lending/borrowing. In Hungary, the net financial worth ratio of non-financial corporations to GDP is typically negative. Although it increased following the political transition, it has been more or less stagnating since 1996. By contrast, the net financial worth of financial corporations was around zero during the reviewed period, but a decline was observed after 2001. The decline in the net financial worth of financial corporations is a result of the increasing difference between the book value and market value of the shares of listed corporations (credit institutions) on the one hand, and the growing stock of non-financial (tangible) assets within the sector. In essence, the **accumulation of tangible assets** started earlier, and gradually increased in proportion to GDP during the reviewed period. The difference between the market value and book value of **credit institution shares** grew particularly robustly between 2003 and 2004, which may drive net financial worth away from zero.

In the **European Union**, the net financial worth of financial corporations was a positive figure in the reviewed period and stayed close to zero (see Chart 3-28). As the positive financial worth – that is, the stock of financial assets exceeding the stock of liabilities – cannot be explained by economic reasons, the underlying explanation may be the effect of inconsistencies in the processing and evaluation of financial assets and liabilities.

**Chart 3-28**

**Net financial worth of financial corporations in proportion to GDP in Hungary and the European Union**



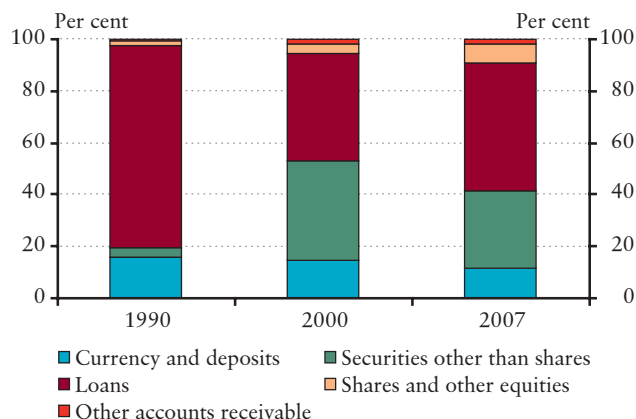
Source: MNB, Eurostat.

## Structural transformation

Regarding the sector of financial corporations, a considerable structural transformation took place across the sector in general and its sub-sectors as well during the 18 years covered by the financial accounts statistics. Following the change political regime, **loans** comprised the largest part of **financial assets** within the sector (78%). Their share declined gradually until 2000 (to 42%), followed by another period of growth from 2001, resulting from the expansion of real estate loans and other household loans. The weight of **securities other than shares** also increased during the reviewed period, due to the development of the sub-groups of insurance corporations, funds and mutual funds. Their share represented 4% in 1990, 38% in 2000, and 30% in 2007. The same institution groups contributed to the increasing significance of shares and other equities (mutual fund shares) as well. In 1990 the ratio of shares in the financial assets was extremely low (1.7%), but by 2007 it exceeded 7% (see Chart 3-29).

**Chart 3-29**

**Structure of financial assets in financial corporations**  
(non-consolidated stocks)

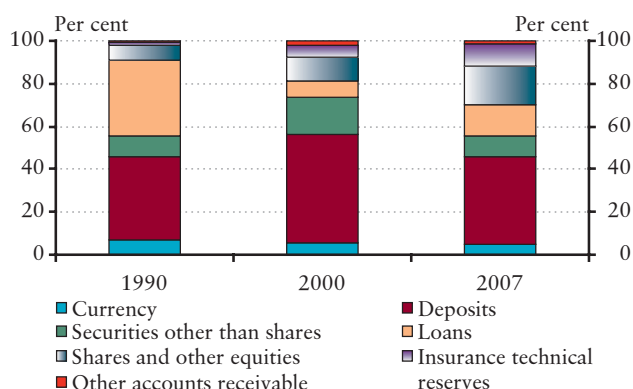


Source: MNB, Financial accounts.

Regarding the **liability structure** of financial corporations, deposits still have a significant share, representing nearly one half of liabilities. The decline in the stock of **loans** can be observed on this side as well (dropping to 14% from 36%). By contrast, shares and other equities showed a rising trend, largely due to the rapid expansion of **mutual fund shares**. Significant changes occurred in the area of insurance technical reserves as well, reflecting the surge of insurance corporations and funds. The stock of **insurance technical reserves** grew nearly 150 fold over the last 18 years, driving the weight of the instrument within the liabilities of the

**Chart 3-30**  
**Structure of liabilities in financial corporations**

(non-consolidated stocks)



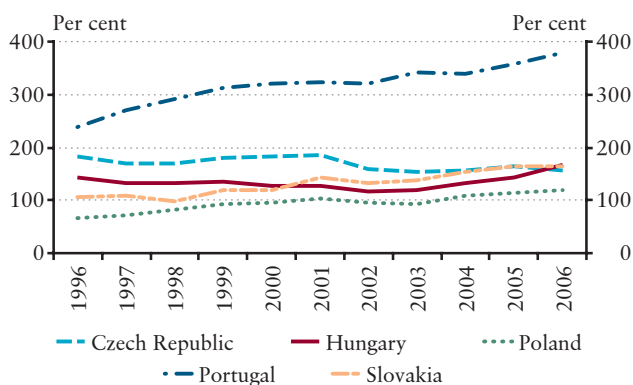
Source: MNB, Financial accounts.

financial sector from 1% in 1989 to 10.5% by the end of 2007 (see Chart 3-30).

The stock data of financial account statistics suggest that developments in the assets of the financial sector broadly followed the same path across the newly joined **Central European Member States**. Differences between Central European countries regarding the GDP-proportionate assets of financial corporations decreased, but the gap grew between these countries and Portugal, a country similar in size to Hungary (see Chart 3-31).

**Chart 3-31**  
**GDP-proportionate financial assets of financial corporations in 5 Member States**

(non-consolidated stocks)



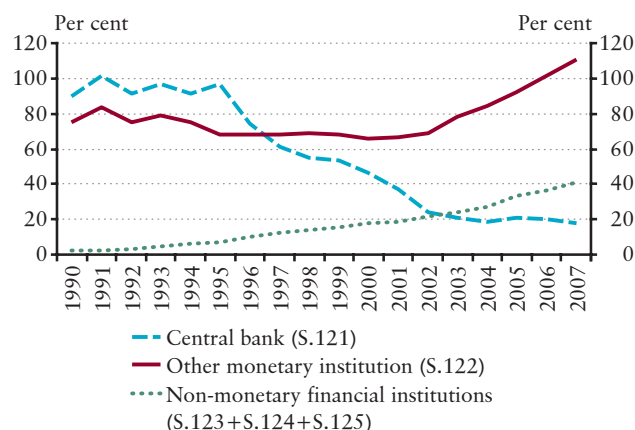
Source: Eurostat.

The **sub-sectors of financial corporations** have experienced significant changes since the political transition as well (see Chart 3-32). Among monetary institutions, the financial assets of the central bank gradually decreased in proportion to GDP. This was a result of the different role the central bank assumed in the wake of economic

transformation. As channels for direct external financing were established, there was less and less need for the central bank in the acquisition of funds. As a result, the balance sheet of the central bank began to shrink; and gradually, international reserves (securities) became the most significant instruments on the assets side, while cash in circulation and bank deposits gained significance on the liabilities side. The financial assets of **other monetary financial institutions** largely stagnated in the period leading up to 2002, reflecting growth in assets which moved in tandem with the growth of the economy. Subsequently, as the ratio of loan granted to GDP increased, total assets moved on a growing trend as well (see Chart 3-33).

**Chart 3-32**  
**GDP-proportionate financial assets of financial sub-sectors**

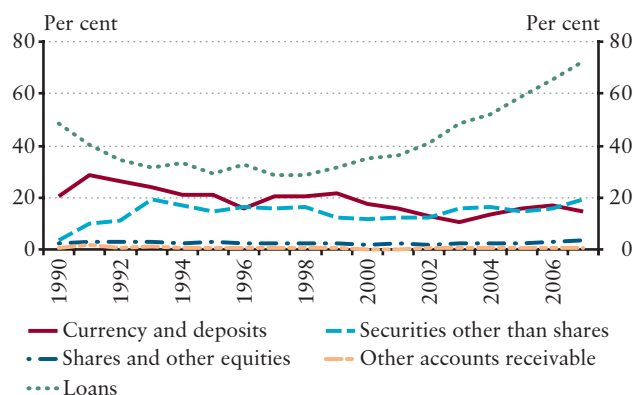
(end-of-year, non-consolidated stocks)



Source: MNB, Financial accounts.

**Chart 3-33**  
**GDP-proportionate assets of other monetary institutions (S.122)**

(non-consolidated data)



Source: MNB, Financial accounts.

The assets of institutions performing **non-monetary financial mediation** underwent a spectacular change as well. Although the ratio of their assets to GDP was rather small at

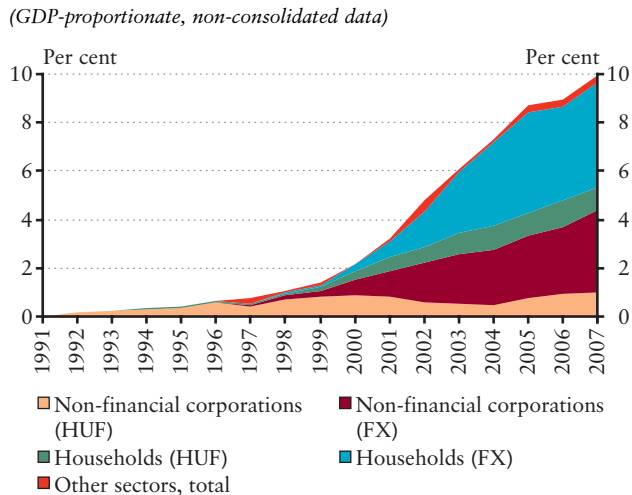
the time of political transition, they gradually started to grow after that. Investment funds and lending (finance) enterprises in the sector of other financial intermediaries, as well as insurance corporations and various funds in the sector of insurance corporations and pension funds all gained significance within the financial intermediary system. In the 1990s within the sector of other (i.e. non-monetary) financial intermediaries, corporations whose primary activity is **lending** (typically finance enterprises) satisfied the financing requirements of primarily non-financial corporations through the provision of forint loans. Following this period, foreign exchange loans gained ground, while households became primary customers (see Chart 3-34). According to the data of financial accounts, at the end of 2007 the borrowings of non-financial corporations and households from other financial intermediaries amounted to HUF 1,110 billion and HUF 1,338 billion, respectively. Vehicle loans comprise nearly one half of the borrowings of corporations, and nearly three

quarters of household borrowings. Within the sector's total assets from loans, the weight of real estate loans provided by financial corporations was 1% in 2002 and 10% in 2007.

### International comparison

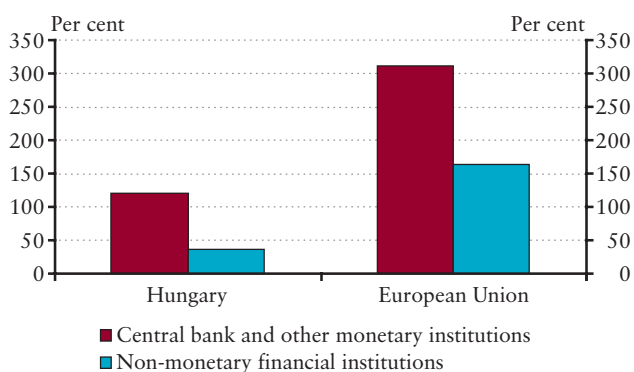
Dividing the financial corporation sector into two main parts, monetary and non-monetary financial corporations, allows for the international comparison of the ratio of the sector's assets to GDP (see Chart 3-35). The ratio of assets to GDP is higher in the European Union both for monetary and for non-monetary financial institutions. At the end of 2006, the ratio of the assets of Hungarian monetary institutions to GDP amounted to 121%. By comparison, this ratio was 311% in the European Union. The ratio of the assets of non-monetary financial institutions to GDP is lower for both areas under review: 37% in Hungary and 164% in the European Union at the end of 2006.

**Chart 3-34**  
**Loans provided by other financial intermediaries (S.123) by main debtors**  
*(GDP-proportionate, non-consolidated data)*



Source: MNB, Financial accounts.

**Chart 3-35**  
**Ratio of financial assets of financial sub-sectors to GDP at the end of 2006**



Source: MNB, Eurostat.

## 3.6 Net borrowing from the rest of the world

### Theoretical correlations between the national accounts and the balance of payments

Statistics presenting the **financial accounts of non-residents** comprise the part of financial accounts in the broad sense, which reveal the financial relationships between foreign (non-resident) and Hungarian (resident) institutional units. They indicate the stocks of financial assets and liabilities of non-resident institutional units and the components of the change in stocks. With respect to content, they basically correspond to the financial accounts of the balance of payments statistics and the related indication of stocks.

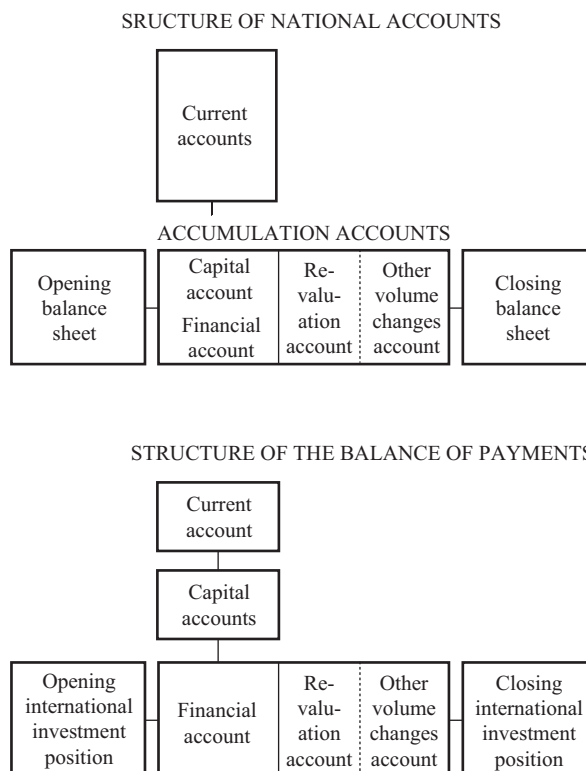
The **methodology of the balance of payments** is described in the Balance of Payments Manual of the International Monetary Fund, while the methodology of national accounts is based on the 1993 edition of the System of National Accounts Manual compiled under the supervision of the UN. With the exception of small differences, the rules of accounting set out in the two manuals are basically identical.

The statistics of national accounts classify institutional units in the area of a specific country on the basis of their behaviour and the role they play in the economy. Institutional units operating outside of the area of a specific country but maintaining an economic relationship with its residents are commonly classified into a sector defined as the 'rest of the world'. Similarly to the rest of the world account of national accounts, the balance of payment statistics also present the relationship between residents and non-residents with a formal difference. While **national accounts** indicate economic relations **from the perspective of the rest of the world**, the balance of payment statistics approach these **from the perspective of residents**.

Both national accounts and balance of payments statistics are composed of current and accumulation accounts showing the economic flows, and balance sheets showing stocks (see Chart 3-36).

Notwithstanding the fact that the structure of the **balance of payments** corresponds to that of national accounts, its **logic** differs in a few aspects. The **current accounts** of the national accounts express the production of goods and services, distribution of income and consumption. The **capital account** represents investments and capital transfers,

**Chart 3-36** Structure of national accounts and the balance of payments



the **financial account** indicates the financing processes. The **current account** of the balance of payments statistics indicates the export and import of goods and services and the income distribution processes. The **capital account** presents capital transfers and flow of non-produced non-financial assets; whereas the **financial account** describes the financing processes. Similarly to production, imports increase the supply of goods and services, while exports, similarly to consumption and investment, contribute to the use of goods and services. The logic of expressing the income distribution and financing processes is identical in the two statistics.

The **substantive correlation** between national accounts and the balance of payments statistics is primarily illustrated by the following conformity: in the economy the difference between savings and investments is equal to the current account balance. Consequently, if the amount of domestic disposable income differs from domestic use (the sum of consumption and investment), this will be also indicated in the balance of trade and income distribution transactions conducted with the rest of the world. The total net borrowing of a country is expressed by the joint balance of

the current account balance and the capital balance, in other words, in addition to the current account balance, the net capital transfers and the net acquisition of non-produced non-financial goods is also an item to be financed.

The **financial account** of the balance of payments, similar to the narrowly interpreted financial accounts of the non-resident sector of national accounts, indicates transaction related changes in the financial assets and liabilities. Again, the balance of such changes is equal to the net lending/net borrowing of the economy. However, the conformity between the joint balance of the current and capital accounts and the balance of the financial accounts is true on a theoretical basis only; in practice, there are almost always differences between the two, resulting from statistical measurement errors. The same correlations apply to the national accounts as well.

### Financial accounts and the balance of payments statistics – practical correlations

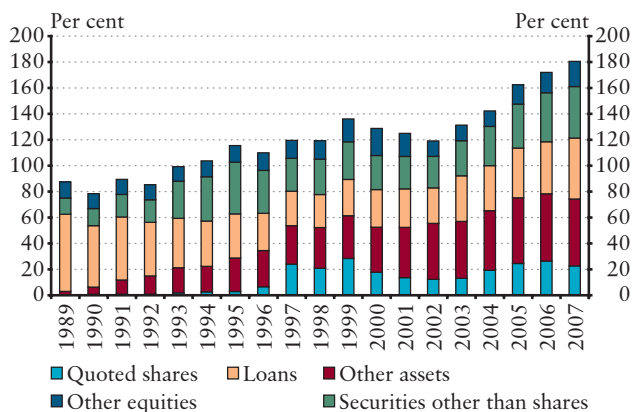
The practices of countries preparing financial accounts varies significantly as to the degree in which they rely on the balance of payments statistics in the process of compiling data on the sector of the rest of the world. In Hungary, the quality and compilation frequency of the balance of payments statistics allow statisticians to rely on them as a fundamental data source for determining non-resident assets and liabilities in the financial accounts. In practice, there are only marginal differences between the two areas at this time (for more information, see Section 2.4). These differences are due to the fact that while financial account statistics had to establish standard settlement solutions applicable to all sectors to ensure internal consistency, the practical applications of the methodological solutions of balance of payments statistics are not bound by any other statistical methods; they only have to be consistent with themselves.

### Financial accounts of the rest of the world – Hungarian data

At the beginning of the 1990s, the GDP-proportionate ratio of non-resident claims vis-à-vis residents was around 80% and by the end of the decade it reached 135% of GDP. Following a temporary downturn around the turn of the millennium (1999-2002), the stock of receivables took an upward turn, and by the end of 2007 these receivables amounted to 180 per cent of GDP (Chart 3-37). Deterioration of the forint exchange rate, the decline in the price of quoted shares, and the rapid growth of GDP contributed to the decline observed in 1999-2002.

Chart 3-37

Composition of non-resident financial assets as a percentage of GDP in Hungary – end of year data, excluding SPEs

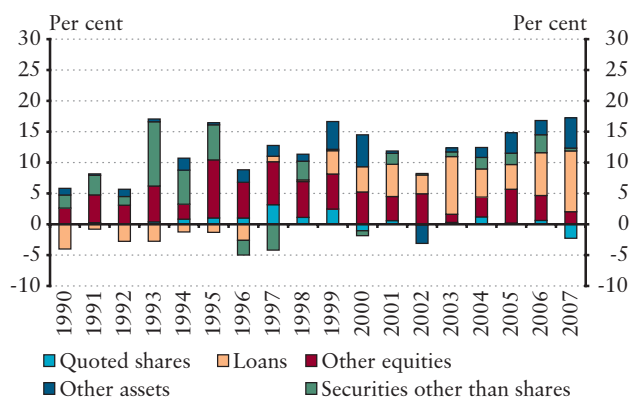


Source: MNB, *Financial accounts*.

Of **non-resident claims**, shareholdings are one of the most significant receivables in terms of volume: a smaller part of these receivables consists of quoted shares, while the majority is comprised of other equities not traded at the stock exchange. Of the shareholders' liabilities of domestic corporations, the stock directly owned by non-residents gradually increased from its ratio of 1.5 per cent in 1989 to reach 53 per cent at the end of 2007 (not including special purpose entities). Another significant part of non-resident claims are loans and debt securities. In this case, other receivables include credit institution deposits and other assets linked to accrual accounting (primarily trade credits arising from the delivery of goods and services).

Stocks are fundamentally influenced by two factors: the balance between the purchase (issue) and sale (maturity) of instruments, and changes in the market value of instruments (i.e. revaluations). Stock changes may be impacted, to a lesser extent, by other changes in volume as well, which reflect technical or classification changes.

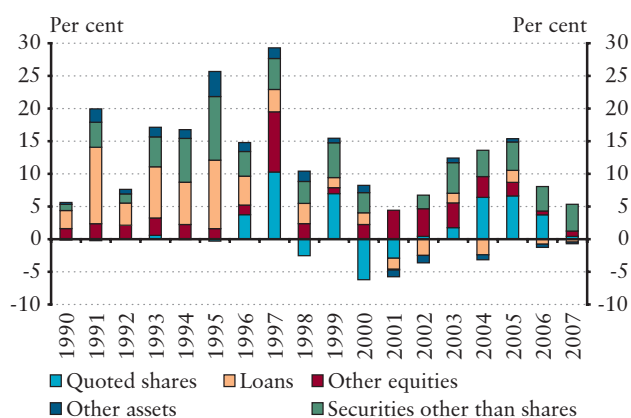
Based on the **transactions** published in financial accounts (Chart 3-38), on the whole, non-residents acquired a large quantity of financial instruments issued by residents each year during the reviewed period. On a few occasions there were spectacular outflows from certain financial instruments: non-residents sold large numbers of their debt securities (primarily government bonds) in 1996-1997, while in 2000 and 2007 they disposed of quoted shares. In 2002, the stock of trade credits declined significantly as a result of transactions. Regarding loans, there was a significant decline in transactions between 1999 and 2002. This process was primarily driven by a decline in the net external borrowing of

**Chart 3-38****Transactions in the components of non-resident financial assets as a percentage of GDP, in the years specified, excluding SPEs**

Source: MNB, Financial accounts.

resident non-financial corporations. There was a sharp rise in external borrowings in 2003 and 2007, mainly reflecting loans provided to subsidiaries.

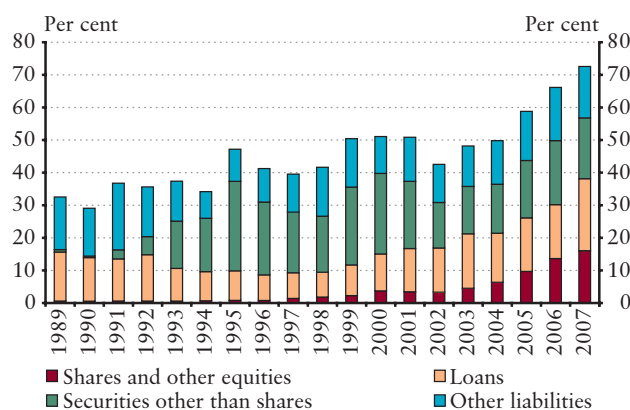
**Revaluations** affected individual instruments differently (see Chart 3-39). The price of shares listed on the Budapest Stock Exchange rose sharply in the second half of the 1990s and during the period between 2003 and 2006, but suffered an enormous plunge in 1998, 2000 and 2001. The ratio of instruments denominated in foreign exchange is high in relation to loans and debt securities issued by Hungarian residents and owned by non-residents. In these cases, the strengthening of the HUF after 2001 had a major impact on the GDP-proportionate fall in stocks in 2001 and 2002. In addition, stocks were affected by the exchange rate changes

**Chart 3-39****Revaluations in the components of non-resident financial assets as a percentage of GDP, in the years specified, excluding SPEs**

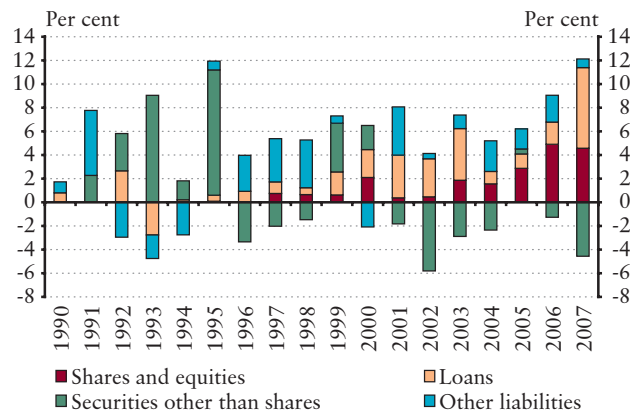
Source: MNB, Financial accounts.

related to derivatives and debt securities denominated in forint (mostly government paper).

Examining the **liabilities** of the rest of the world vis-à-vis Hungarian residents (Chart 3-40), it is noticeable that – primarily due to the continuous financing requirement of Hungary vis-à-vis the rest of the world – their stock is far lower than the amount of their receivables, which amounted to 35-75 per cent of GDP during the period of 1989-2007. In this regard, shareholdings play a limited, albeit increasing role within total stocks, which are predominantly composed of loans and debt securities. The share of other liabilities of non-residents is also high; these liabilities are mostly composed of trade credits related to the delivery of goods and services.

**Chart 3-40****Composition of non-resident liabilities as a percentage of GDP in Hungary – end of year data, excluding SPEs**

Source: MNB, Financial accounts.

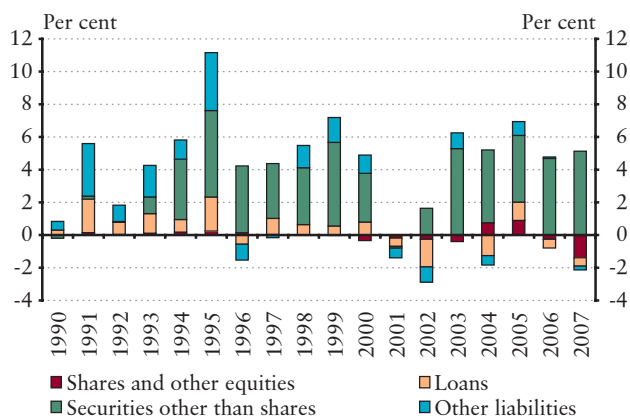
**Chart 3-41****Transactions in the components of non-resident liabilities as a percentage of GDP – end of year data, excluding SPEs**

Source: MNB, Financial accounts.



Chart 3-42

Revaluations in the components of non-resident liabilities as a percentage of GDP, in the years specified, excluding SPEs



Source: MNB, Financial accounts.

When **transactions** related to the liabilities of non-residents are examined together (Chart 3-41) it is apparent that – with the exception of 2002 – transactions increased the liabilities of non-residents, in other words, purchases exceeded sales. The acquisition of shares held by residents and issued by non-residents became increasingly significant from 2000, and by 2007 its ratio to GDP exceeded 4 per cent. These transactions generally reflect foreign acquisitions of large Hungarian corporations.

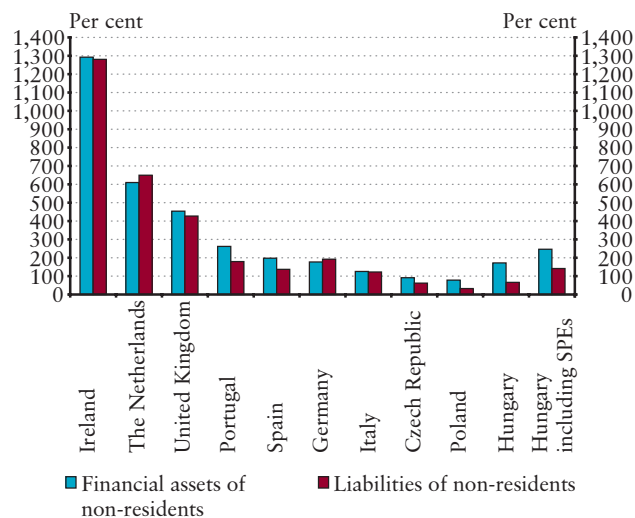
**Revaluation** of the liabilities of non-residents (Chart 3-42) reflects the exchange rate changes of foreign currencies in the case of loans and other liabilities. In the case of securities other than shares, the effect of currency exchange rate changes is dampened by the revaluation of derivatives, which – due to the specifics of accounting regulations – are usually high in volume, and have a stock-increasing effect.

### International comparison

Examining the GDP-proportionate assets and liabilities of non-residents vis-à-vis residents in international comparison

Chart 3-43

Ratio of financial assets and liabilities of non-residents to GDP in certain Member States of the EU at the end of 2006



Source: Eurostat.

(Chart 3-43), it is apparent that at the end of 2006 the old Member States of the European Union had significantly larger stocks, and the difference between assets (receivables) and liabilities was much smaller than in Hungary. Although there are major differences between individual Member States as well, in general terms we can state that the old members of the EU appear to be more open to the rest of the world when it comes to financial instruments than Hungary. In this respect, Hungary shows greater similarities with the new Member States, although even relative to these countries the difference between the volume of financial assets and liabilities of non-residents is exceptionally high in Hungary. At the same time, the chart reveals that taking into account the financial relationships of special purpose entities with non-residents, the receivables and liabilities of non-residents vis-à-vis Hungary have grown significantly (by around 60 per cent of GDP at the end of 2006; see Sections 2.3 and 3.4 for more on SPEs).



## 3.7 Hungarian and international net lending/ net borrowing patterns

By studying the financial accounts a picture may be gained on the financing processes of an economy and the operation of financial markets. The typical financing patterns established in Hungary as a consequence of the unique economic situation of the country differ from those applied in developed market economies in several respects. The analysis below discusses these differences through the use of data drawn from Hungarian and international financial accounts (flow of funds) statistics.

Financial account statistics present the stocks of financial assets and liabilities of economic sectors and the changes therein. In order to support in-depth analysis, financial assets and economic sectors are highly detailed in statistics. In the statistics of the Magyar Nemzeti Bank prepared on financial accounts, published on the home page of the bank, the institutional units (sectors) are divided into 12 groups, and financial assets (instruments) are divided into 18 types. In tables indicating data in greater detail, the instruments are further divided according to denomination (HUF or foreign exchange) and partner sector. The disadvantage in the presentation of such detail is that it might be difficult for users to clearly understand the main characteristics of economic processes and situations indicated by the financial accounts. Consequently, in order to examine the **financing processes of the economy as a whole**, it is reasonable to reduce the number of sectors and financial instruments significantly, and consolidate assets and liabilities for a better overview.

### Examination methods – abbreviated financial accounts

Table 3-5 presents an **abbreviated financial account**, containing only the main financial instruments and sectors, in relation to the net lending/net borrowing processes of Hungary between 1995 and 2006. The period of the examined 12 years is sufficient to effectively reveal the basic economic behaviour characterising the individual sectors. Furthermore, since Hungarian data are compared with data of the EU-15, data of the Member States are accessible for this period from the Eurostat database.

With a view to enabling international comparison, the table presents transactions (i.e. changes in volume excluding revaluations and technical modifications) as a percentage of GDP. The signs mean the following in relation to the different instruments: a positive sign indicates acquisition of the specific financial asset or a decrease in the specific liability, while a negative sign indicates a decrease in the specific financial asset or an increase in the specific liability. In the row specifying the balance, the positive sign indicates the net lending of the specific sector, while the negative sign indicates its net borrowing. The 'rest of the world' column (as opposed to the balance of payments statistics) presents figures from the perspective of non-resident institutional units; thus the positive sign of the balance indicates the net lending of the rest of the world – the aggregated net borrowing of resident sectors. In the case of certain instruments the sum of changes

**Table 3-5**

**Net transactions of the sectors in Hungary in 1995-2006 by financial instruments, as a percentage of GDP**

	<b>Non-financial corporations</b>	<b>Financial corporations</b>	<b>General government</b>	<b>Households</b>	<b>Rest of the world</b>
Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0
Currency and deposits	2.1	-6.1	0.1	3.5	0.4
Securities other than shares	0.0	4.2	-7.1	0.7	2.2
Loans	-5.1	5.5	0.8	-3.3	2.1
Shares and other equity	-2.7	-1.5	-0.9	1.6	3.5
Insurance technical reserves	0.1	-2.1	0.0	2.1	0.0
Other financial assets	0.4	0.0	-0.1	0.1	-0.4
Net lending (+) / Net borrowing (-)	-5.2	0.1	-7.2	4.7	7.7

Source: MNB, *Financial accounts*.

(horizontally) produces zero. This is related to the fact that the financial assets of an institutional unit comprise the liabilities of another institutional unit, thus the change in assets and liabilities is a corresponding figure, equalling zero when netted. Monetary gold and SDR constitutes an exception to the above rule, since these instruments, deemed to be traditional financial assets, do not represent the liability of anyone, and are similar to real assets from an economic point of view. The aggregated balances obviously also amount to zero, with the exception of the difference caused by monetary gold and SDR.

The net lending of a resident sector indicates whether, in the specific period, its revenues are in excess of expenditures; whether disposable income and received capital transfers combined are greater than its consumption, investment and provided capital transfers. The net borrowing requirement means that the expenditures of the sector exceed the amount of revenue. Financial accounts indicate that if a sector has a net lending position, it generally acquires financial assets or reduces its debts. By contrast, the net borrowing figure involves an increase of liabilities or a reduction of financial assets.

### Net lending/net borrowing of main sectors in Hungary and the old Member States of the European Union (EU-15)

Major differences arise when the typical net lending/net borrowing patterns in the European Union (Table 3-6) are compared to the Hungarian ones (Table 3-5).

**With respect to balances**, the most important difference in the examined period is that the net lending of households in

the European Union covers the net borrowing requirement of corporations and the general government. In Hungary, however, the financial investments of households are much lower than the combined net borrowing of the general government and corporations. Thus, the European Union effects net financial investments vis-à-vis the rest of the world; i.e. it acquires more foreign financial instruments than the amount of its liabilities arising from transactions vis-à-vis non-EU residents. Hungary, however, raises substantial foreign funds (its net debt grows) as a result of the combined net borrowing requirement of resident sectors. Since the balances of the transactions of financial accounts are established through real economic processes, trends affecting the balances also indicate that across the EU-15 the consolidated balance of the current and capital accounts of the balance of payments was a positive figure between 1995 and 2006, while this value was a negative figure in Hungary.

The balance of financial corporations approximates zero in the accounts of both economies. This reflects the unique feature of the activity of financial corporations: most of their transactions are linked to financial intermediation, and the balance of their income distribution processes and their investments approximates zero. Transactions implemented in the course of financial intermediation (e.g. receipt of deposits, lending) do not modify the net lending of financial institutions because in such cases, the combined amount of their financial assets and liabilities change at an identical rate.

With the exception of the balances of financial corporations, the GDP-proportionate ratio of the economic sectors' balances reveals a **major difference**. In Hungary, the net lending/net borrowing ratios of individual sectors to GDP are higher than the corresponding ratios in the EU, due to the

**Table 3-6**

#### Net transactions of the sectors by financial instruments in proportion to GDP in the European Union (EU-15) in 1996–2006

	Non-financial corporations	Financial corporations	General government	Households	Rest of the world
Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0
Currency and deposits	1.6	-5.5	-0.1	2.8	1.1
Securities other than shares	-0.5	1.4	-2.2	0.3	1.0
Loans	-3.1	7.8	0.0	-4.4	-0.4
Shares and other equity	0.7	0.6	-0.1	1.0	-2.2
Insurance technical reserves	-0.1	-3.6	0.0	3.6	0.1
Other financial assets	0.5	-0.4	0.1	-0.1	0.0
Net lending (+) / Net borrowing (-)	-0.8	0.3	-2.3	3.2	-0.4

Source: Eurostat.

following reasons. First, the 3 percent limit **on government deficit** was enforced in the EU over the entire period under review, but not yet in Hungary. While in 1995 the ratio of government deficit to GDP was still 7 percent in the European Union, by 1998 it fell below 2 per cent, and has not exceeded 3 per cent since then. Second, during the twelve-year period under review, the **economy grew at a significantly faster pace** in Hungary (GDP increased by 58%) than in the EU (growth of 31%). Faster economic growth and a capital deficit required that non-financial corporations raise more funds than corporations in the EU. Three, the considerably higher rate of inflation in Hungary ‘inflated’ the balances through **high nominal interest rates and shareholders’ revenues** on instruments denominated in forint: the net borrowing requirement increased in the interest-paying debtor sectors, while the interest-receiving creditor sectors enjoyed an increased net lending position.

### Role of indices excluding the effects of inflation

By increasing nominal interest rates, inflation distorts data on income because the amount of nominal interest which provides compensation for the inflationary depreciation of interest-bearing instruments is also presented as income in statistics. In an economic sense, **compensation for inflation incorporated in nominal interest** is similar to revaluation, therefore it should be excluded from changes in volume, as is the case for revaluation arising from changes in the foreign exchange rate. In the event of high inflation, this procedure is also recommended by Annex B of Section XIX of the SNA issued in 1993. From July 2005, the Magyar Nemzeti Bank has published data pertaining to all sectors on transactions and net borrowing/net lending positions adjusted for inflation incorporated in interest retrospectively to 1990. These are called **operational transactions and balances**. If a specific country has high, volatile inflation, the operational indicators are more appropriate for a comparison over time and space (with countries of low inflation) because these indicators do not reflect the distorting effect of inflation on interest.

In Hungary, operational net lending varied significantly from the unadjusted indicators (see Table 3-7). The difference

between the two types of balances is particularly large in the case of the general government and households, as these two sectors paid and received the largest amount of interest (calculated at a net rate). The operational balances of the Hungarian general government and households indicate minor differences on average during the period of 1995-2006 relative to the unadjusted GDP-proportionate indicators of the EU-15. It should be noted that in relation to some sectors, the inflationary compensation effect in interest may be significant in EU data because the GDP-proportionate amount of interest-bearing instruments (except the general government) is greater than in Hungary.

### Financial assets in Hungary and the European Union

When comparing transaction data relating to specific financial instruments, the largest difference is observed with respect to **equity type securities**. While financial and non-financial corporations in Hungary collect major funds primarily from non-residents and, to a lesser extent, households through shares and other participations, in the European Union, corporations are providers of net funds to non-residents with respect to such instruments. Changes in the volume of shares held by the general government reflect the intensity of the privatisation process. In Hungary, the general government sold more shareholders’ receivables (shares and other equities) in the specific period, than the amount it purchased. While privatisation reduced the volume of the general government’s shareholders’ receivables, it was increased by the capital increase in the central bank. On the whole, the extent of privatisation is not significant in the European Union.

Due to the developed system of insurance and pension fund institutions, the ratio of the issue of liabilities to GDP is significantly higher in the European Union market of **insurance technical reserves** (which covers the liabilities of pension funds). The weight of insurance premium reserves is also much greater in the financial investments of households than in Hungary. With respect to **debt securities**, government securities dominate the Hungarian market because the general government is the only sector

**Table 3-7**

#### Net lending/borrowing of sectors in Hungary in 1995–2006 as a percentage of GDP

	Non-financial corporations	Financial corporations	General government	Households	Rest of the world
Net lending	-5.2	0.1	-7.2	4.7	7.7
Operational net lending*	-4.2	-1.0	-4.0	2.7	6.6

\* Transactions do not contain the compensation for inflation included in nominal interest.

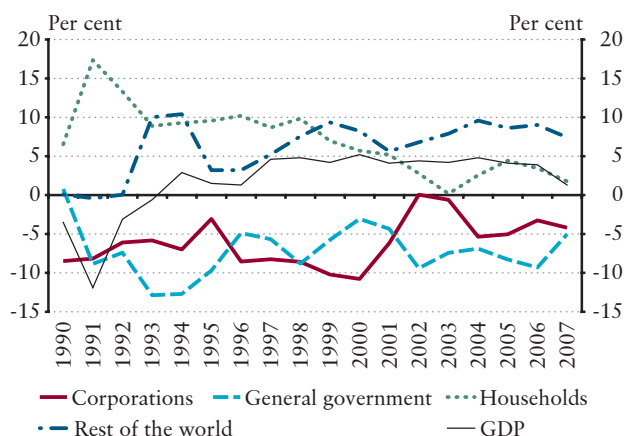
which issues more securities than it purchases. Besides the general government, non-financial corporations are also net issuers in the European Union. On the whole, debt securities play a much smaller role in the European Union market of financial instruments than in Hungary, which primarily reflects the different extent of the net borrowing requirements of the government. In both economies, financial corporations obviously play a leading role in the **provision of loans** and the holding of deposits, although the financial sector's ratio of lending to GDP is higher in the EU than in Hungary. In addition to the provision of loans, financial corporations in Hungary acquired a large volume of debt securities.

### Changes in the balances of sectors in Hungary and the European Union

When examining the net lending/net borrowing of different sectors, the **periodic changes** in this value comprise an important aspect. The economic cycle and government decisions bear a major impact on trends affecting the balances of sectors. For the sake of simplicity, the charts below – which reflect changes in the balances over time – indicate the consolidated balance of the net lending/net borrowing of financial and non-financial corporations.

Chart 3-44

Net lending/borrowing of the sectors in Hungary as a percentage of GDP and changes in the volume of GDP



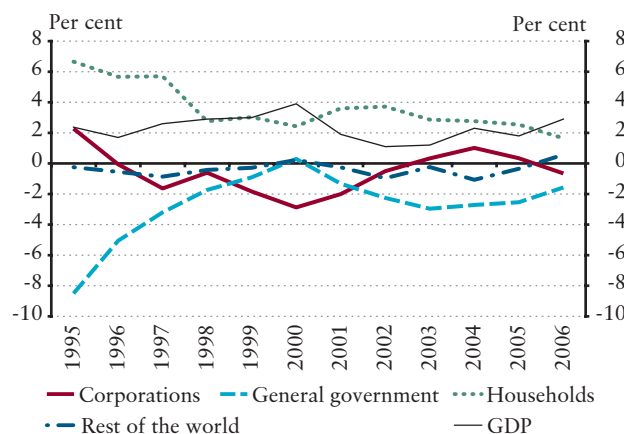
Source: MNB, *Financial accounts*.

As a result of the writing-off of home loans, the net lending of households reached an exceptional value at the beginning of the 1990s **in Hungary**. The value fluctuated around a relatively high level, between 8-10 per cent of GDP between 1993 and 1998; but from 1998 the rate fell at a steady pace, and in 2003 it did not even reach half a per cent of GDP. For two years after 2003 the ratio of the net lending of

households to GDP increased somewhat, which was followed by another downturn. In the period under review (except in 1990), the general government regularly spent more than it earned in revenue, and therefore a net borrowing requirement arose. As a result of corporate losses in the early 1990s, and substantial economic growth and investments in the second half of the decade, the net borrowing position of the corporate sector was high during these periods. Due to the deterioration of investments in 1995 and 2000, the net borrowing requirement of companies fell considerably. Moreover, as a result of transfers received from the state in 2002, companies effected financial savings. The net borrowing requirement of the general government and companies moved in the opposite direction for most of the period. This reflects the fact that the acceleration of economic growth reduces the government deficit by increasing tax revenues, and raises the net borrowing requirement of companies via the growing rate of investments. The net lending of the rest of the world, i.e. the net borrowing of the country, took a sharp rise in 1993-1994 due to the downward trend in exports. The balance improving measures in 1995 significantly reduced the net borrowing requirement of the economy vis-à-vis the rest of the world, but this falling trend proved to be temporary only, and the net borrowing requirement has continued to move in the range of 5-10 per cent of GDP since 1997.

Chart 3-45

Net lending/borrowing of the sectors in the European Union (EU 15) as a percentage of GDP and changes in the volume of GDP



Source: Eurostat.

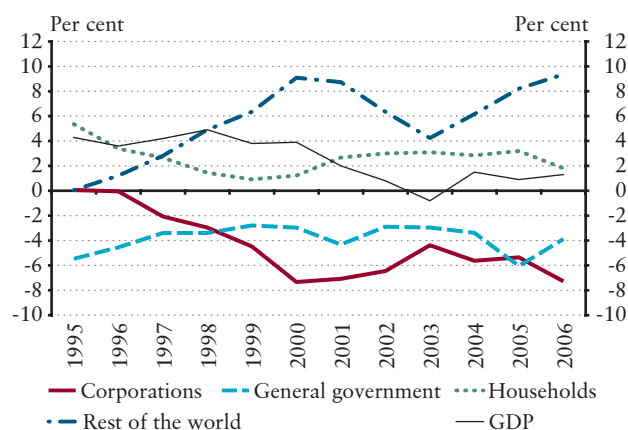
In terms of direction, changes in the borrowing requirement of both the general government and the corporate sector in Hungary between 1998 and 2002 were similar to those in the European Union (see Chart 3-45). The EU, too, saw opposite changes in the balances of the two sectors, with 2000 as a turning point. The business cycle peaked in both Hungary and the EU in 2000, which positively affected the balances of

general governments. It was also at that time that the corporate sector borrowing requirement was the strongest. After 2000, among other factors, the decline in growth led to a reduction in the borrowing requirement of corporations, and an increase in the general government deficit. However, the aggregate net borrowing of the general government and the corporate sector is far lower in the EU than in Hungary. Contrary to the prevailing situation in Hungary, the net financial investments of households did not shrink rapidly in the EU. Except for 2000, the sector was able to meet the combined borrowing requirement of corporations and the general government. As a result, the EU is broadly an investor vis-à-vis the rest of the world, i.e. it acquires more financial assets than the liabilities it assumes.

The differences between the financing patterns in the EU and Hungary arise from the different levels of development which their economies represent. The financial balances of a less developed economy, e.g. **Portugal** (Chart 3-46) reveal that it shares several similarities with economic processes in Hungary.

**Chart 3-46**

**Net lending/borrowing of the sectors in Portugal as a percentage of GDP and changes in the volume of GDP**



Source: Eurostat.

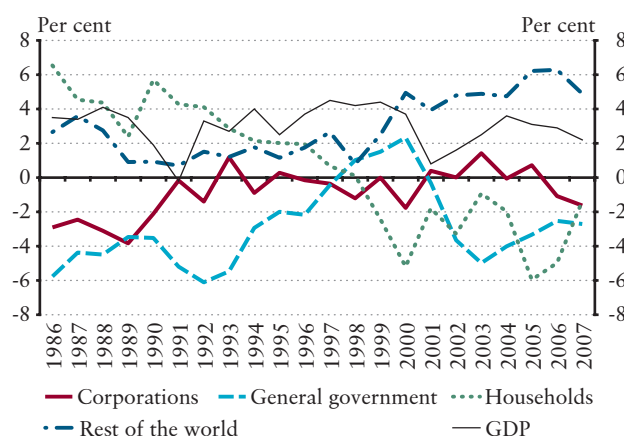
Prior to 1999, household savings were shrinking rapidly in Portugal, unable to meet the borrowing requirement of the other sectors. As a result, although its average growth rate was higher than the EU's, the Portuguese economy was forced to raise increasingly large amounts of funds abroad. Changeover to the euro resulted in tight budgeting; before the changeover, the net borrowing requirement of the general government of Portugal gradually approached the required level of 3 per cent. By contrast, due to sluggish economic growth, Portugal has been struggling to maintain the required level of general government deficit since 2003.

## Financing patterns outside of Europe

The **USA** has the longest standing tradition of preparing financial accounts. The Federal Reserve has been preparing the flow-of-funds matrix for the US economy, also labelled by the business community as 'flow-of-funds' statistics, since the 1940s. When analysing US data, it should be noted that the sum of financial balances of the sectors are not zero generally, as statisticians include in their publications even conflicting data from various data sources. Information from different data sources suggests that changes in the individual financial assets do not correspond with those in liabilities related to the same instruments (the reason for this, however, is the effect of statistical errors, rather than monetary gold or SDR as was the case with Hungarian data). In general, European statistics do not reflect such differences. Instead, statisticians prefer to use data sources that are deemed more reliable. The ratio of assets-related statistical errors is relatively high in US data, amounting to 1.5% of GDP on average, and in certain years it even amounted to as high as 4.8% of GDP. Differences of such proportions represent a major source of uncertainty in analyses.

**Chart 3-47**

**Net lending/borrowing of the sectors in the USA as a percentage of GDP and changes in the volume of GDP**



Source: Fed.

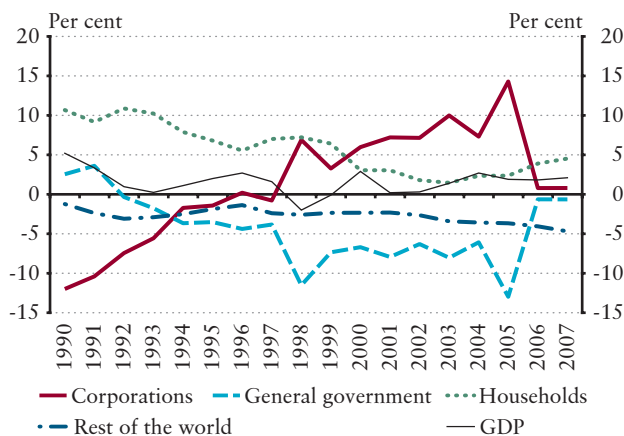
A look at **net lending/net borrowing** of individual sectors (Chart 3-47) reveals that there is a substantial difference between European and US economic processes. In contrast with the European situation, the US economy raises funds abroad, i.e. its net borrowing vis-à-vis the rest of the world is permanently positive. While the ratio of external financing amounted to 1-2% of GDP in the 1990s, this value jumped to over 4% in the period after 2000. The 1990s also saw an unmistakably declining trend in the financial savings of households. From 1999 households appeared in money markets with a demand for borrowing, as they spent more on

consumption and investment than what they earned. As the economy picked up in the 1990s, the general government deficit was shrinking gradually, and between 1998 and 2000, the US government became a financial investor. After 2000, the deficit started to grow rapidly, and then declined somewhat again.

In **Japan** (Chart 3-48), due to sluggish economic growth, the borrowing requirement of the general government increased considerably in the 1990s. The general government deficit soared, while the financial savings of households declined. In the early 1990s, the net lending of households amounted to 9 per cent of GDP; this value dropped to 2 per cent by the early 2000s. Since then it has recovered slightly. At the same time, however, the increase in the aggregate borrowing requirement of the government and households did not lead to any deterioration either in the current account or the capital account of the balance of payments, because stronger corporate lending was able to offset these processes. Due to a sluggish recovery in the domestic economic cycle, companies invested in financial instruments (e.g. government bonds and foreign assets) rather than real assets. Consequently, their net lending grew considerably stronger.

Chart 3-48

### Net lending/borrowing of the sectors in Japan as a percentage of GDP and changes in the volume of GDP



Source: Bank of Japan.



## 3.8 Securities in the Hungarian economy

In addition to presenting other financial assets, the financial accounts statistics offer a comprehensive picture on the various types of **debt securities and equity type securities**, and the securities holding and issuing behaviour of different economic sectors. Debt securities are presented under the instrument category of **securities other than shares**, while equity type securities are listed under the instrument category **shares and equities**. In Hungary, only financial accounts statistics provide complete coverage with respect to the different securities issued and held by resident sectors. On the other hand, certain relevant parts of securities appear in the publications of balance of payments statistics, securities statistics and monetary balance sheet statistics as well. Below the periodic changes in the stocks of debt securities issued by resident sectors, as well as their ownership structure are subject to discussion first. Following this, the liabilities of resident corporations in the form of shares and other equity are presented along with non-resident securities held by resident sectors.

### Securities debtors in Hungary

In the course of the 1990s, the stock of debt securities issued by residents was on a steady rise, while the selection of securities types did not change considerably. The role of different economic sectors, however, changed in relation to the issue of securities (Chart 3-49). Up to 1995, the **MNB** was the leading securities debtor in Hungary. The sustained leading position reflected the fact that major changes took place in the composition of the central bank's liabilities during the period. At the end of 1990, bonds represented 30 per cent of its liabilities vis-à-vis the rest of the world (in other words, the majority of the liabilities was comprised of loans); this ratio, however, was reversed in five years. From 1996, the repayment of foreign exchange bonds dominated over new issues, however, until 2001 there were no sign of a significant fall in the volume of stocks triggered by foreign exchange rate changes and the issue of domestic forint bonds starting at the end of 1997.

The **central government** was the second largest securities debtor in the first half of the 1990s, and this sector took over the role of leading securities debtor from 1996. If we disregard the prior central bank loans of the general government, the majority of its debt has always been constituted of securities. In financial accounts, the debt securities of the central government are represented by government bonds issued in forint and foreign exchange, treasury bills and treasury savings bonds (government

securities), as well as compensation notes, and the foreign exchange bond issued by ÁPV Rt. (the Hungarian Privatisation Company) in the fall of 2004, which can be exchanged for Richter shares. While the market value of the outstanding government debt represented by compensation notes approached HUF 50 billion at the beginning of 1994, as a result of their redemption the value of their stock dropped below HUF 10 billion by the end of the 1990s. During the intense issue period observed between 1992 and 1997, the par value of compensation notes and vouchers in circulation reached a total of HUF 140 billion. According to data sources used by the financial account statistics, 78 per cent of these papers were held by resident compensated individuals.

At the beginning of the 1990s, the **non-financial corporate sector** assumed a substantial short-term and long-term debt (i.e. typically composed of bills of exchange and bonds) the level of which, apart from a temporary increase in the mid-1990s, basically remained unchanged until the beginning of the 2000s. As a result of the maturing of forint bonds issued by residents, by the middle of 2004 corporate securities debt gradually sank to around HUF 60 billion, then in the wake of new, non-resident bond issues of a few large corporations it stabilised above HUF 300 billion. The declining contribution of securities to the fund-raising of corporations is well reflected by the ratio of securities issued in total corporate liabilities, which gradually declined to 0.6 per cent from the 1.5 cent typical during the first half of the 1990s.

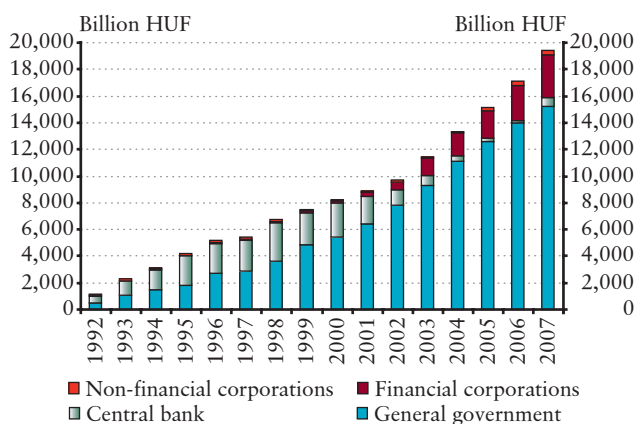
Of **financial corporations** other than the MNB, the debt securities of **credit institutions** experienced the most dynamic growth. The upsurge in the security issues of credit institutions is related to the upswing in mortgage loans. From 2006, a steep upward turn was observed in the volume of bond liabilities as well. As a result, one half of credit institution securities consists of bonds, while the other half is comprised of mortgage bonds. In Hungary, the second largest securities debtor after the central government is the sector of other monetary financial institutions, which includes credit institutions. The bond liabilities of non-monetary **financial intermediaries** – typically finance and investment corporations – fluctuated around HUF 10-20 billion for a long period of time. Since the end of 2003, the role of this sector in the capital market had been boosted by the security issues of the Student Loan Company.

Regarding **local governments**, approximately 10 municipal local governments ventured to issue bonds; their combined



Chart 3-49

### Stock of debt securities issued by residents according to issuer sectors



Source: MNB, *Financial accounts*.

supply barely exceeded HUF 6 billion until the beginning of 2006 (excluding the foreign exchange bond debts of the local government of Budapest between 1998 and 2003 in the amount of HUF 20 billion). From the second half of 2006 a sharp increase was observed both in the number of local governments issuing securities, and in the security liabilities of the sector as a whole, which exceeded HUF 210 billion at the end of 2007. HUF 184 billion of this amount is constituted by bonds denominated in Swiss franc.

### Holders of domestic securities

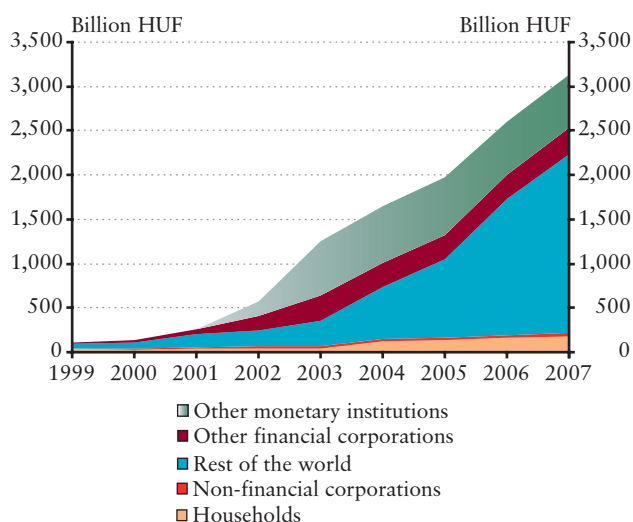
Approximately 55-60% of the total value of securities issued by **residents** have always been **held by residents** (see Charts 3-49 and 3-55). In the first half of the 1990s, government securities and MNB bonds represented around one half of the total quantity of outstanding securities each; the former were typically held by residents, while the latter were typically held by non-residents. In parallel with the growing share of **government securities**, the share of these papers held by non-residents has been on the rise since 1998. Currently, the ratio of non-residents holding government papers is close to 46 per cent. **Financial corporations** are considered to be the largest resident holders of government securities; at nearly 50 per cent, their share of outstanding securities has remained stable for years. However, the role of individual sub-sectors in holding securities has changed. While credit institutions (other monetary institutions) retained their permanent domination at all times, a considerable quantity of stocks were held by the central bank until 1997. From the end of the 1990s, a rapid upturn was observed in the investments of insurance companies and pension funds; and by now the government security stock held by this sub-sector has approached that of other monetary institutions. Besides financial corporations,

**households** are the second largest holders of government securities; by now, however, their share has gradually dropped to 6-7 per cent from the peak (16%) observed in 1998.

The securities of **financial corporations** (primarily credit institutions) **other than the central bank**, were traditionally held by households and non-residents. As a result of the rise in the ratio of home loans and mortgage bonds, from the end of 2000 the range of the security-holder sectors expanded: non-financial corporations and financial corporations – primarily insurance companies and pension funds – took on a key role in this area. In 2002, certain credit institutions started to finance the mortgage banks they owned through the purchase of securities, while the companies and households using the loans stopped purchasing securities. Currently, financial corporations hold 29 per cent of the securities issued by credit institutions; most of the outstanding amount is held by non-residents (see Chart 3-50).

Chart 3-50

### Main holders of securities issued by credit institutions



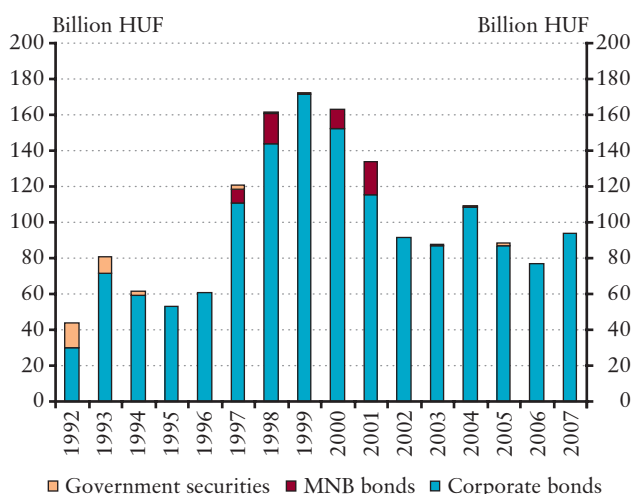
Source: MNB, *Financial accounts*.

### Portfolio of security holders

The **central government**, the leading issuer of debt securities of all economic sectors, holds the least amount of debt securities. Notable stocks on the assets side of the sector are represented by the investments of public corporations and non-profit institutions in government securities. In addition to government papers, the receivables of public institutions include, albeit in negligible quantities, corporate and credit institution securities as well. The outstanding receivables of **local governments** from debt securities are

Chart 3-51

## Domestic security holdings of the general government



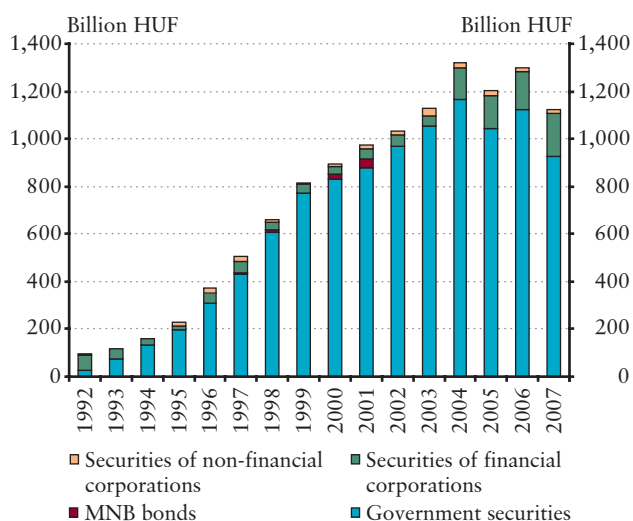
Source: MNB, Financial accounts.

somewhat higher in volume. On the whole, public institutions predominantly hold government securities (forint government bonds, treasury bills); their balance sheets indicate a higher rate of corporate bonds up to 1994 and MNB bonds between 1997 and 2002 (see Chart 3-51).

Government securities account for a predominant share in the securities portfolios of **households** and non-profit institutions serving households, but the investments of these sectors also include an increasing share of bonds issued by

Chart 3-52

## Domestic security holdings of households\*



\* In this case, it contains the figures of non-profit institutions serving households as well.

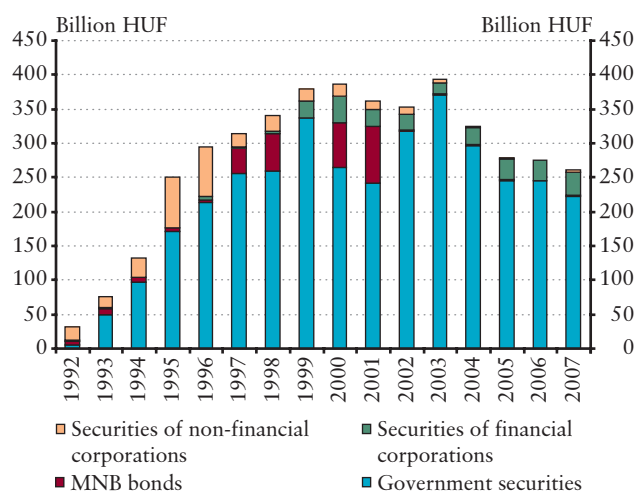
Source: MNB, Financial accounts.

financial institutions (credit institutions and other financial intermediaries). The stock of debt securities rapidly increased in the course of the 1990s, although the growth rate slackened from the end of the decade. As a result of a decreasing demand for government securities, the stock of resident securities held by the sector declined from the middle of the 2000s (see Chart 3-52).

The domestic securities investments of **non-financial corporations** rose at a gradual rate up to 1999, and then basically remained at a constant level until 2003 (see Chart 3-53). Both the time series of assets and the composition of the securities portfolio resembles the government sector most closely: at the beginning of the period, corporate securities accounted for a larger share of stocks, while MNB bonds predominated between 1997 and 2002, in addition to government securities. From 1999, however, the bonds of financial corporations gain in terms of their share of volume. The fall in the rate of intercompany security holdings reflects the reduced role of commercial securities (bills of exchange) on the one hand, while on the other hand, the stock of long-term corporate bonds held by non-financial corporations is also gradually decreasing.

Chart 3-53

## Domestic security holdings of non-financial corporations

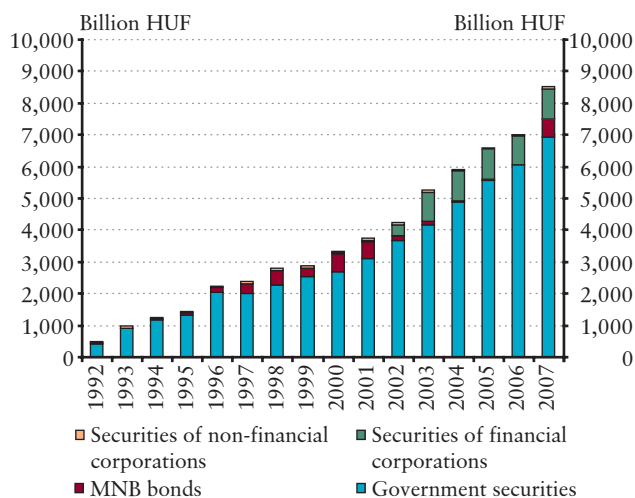


Source: MNB, Financial accounts.

The stock of domestic securities held by **financial corporations** (the MNB, credit institutions, insurance corporations, pension funds, mutual funds, other financial intermediaries) rose steadily from year to year (see Chart 3-54). Similar, steady growth is observed in the case of the government securities dominating the securities portfolio. Between 1997 and 2002 and from 2007, domestic bonds issued by the MNB, and from 2002 the securities (mortgage

Chart 3-54

## Domestic security holdings of financial institutions



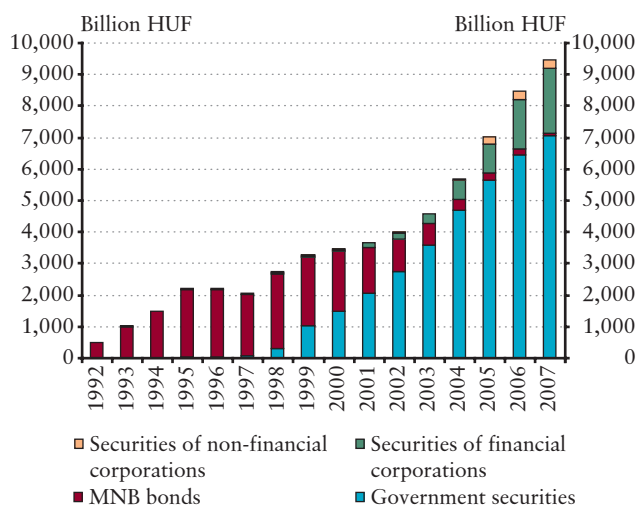
Source: MNB, Financial accounts.

bonds) issued by credit institutions are noteworthy among the assets of the sector.

Based on the changes in the stock of debt securities **held by non-residents** and their breakdown according to issuer (Chart 3-55), it is apparent that prior to 1998 the MNB was practically the only domestic institution participating on the international bond markets. From 1995, the central bank terminated its direct lending to the general government. This is reflected by the fact that the stock of MNB bonds (foreign exchange bonds) held by non-residents decreased at a moderate rate up to the end of the 1990s, followed by a plunge in stocks. From 1998, investment of non-residents in

Chart 3-55

## Stock of securities held by non-residents



Source: MNB, Financial accounts.

securities gained momentum, and it has grown steadily since. As a result, by the end of 2001, the general government became the largest securities debtor vis-à-vis non-residents as well. Moreover, non-resident investment in the securities of financial corporations (credit institutions) has been on the rise since 2001.

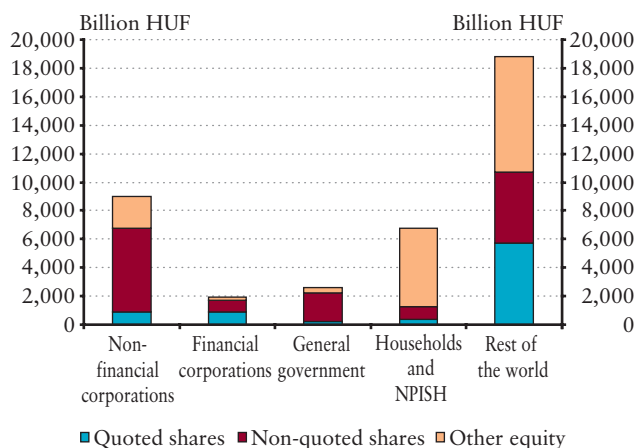
## Shares and equities issued by resident corporations

Financial accounts statistics present the equity securities broken down to three categories. **Quoted shares** are traded in an organised market where their price and turnover can be measured in a reliable way. In the legal sense, **unquoted shares** are also shares taking the form of securities, and as such, they are issued with the standard features of securities, which support their trading, and allow that official records are maintained on these shares to ensure that information is available on them. However, these papers have no organised market. The third group is called **other equities**, which includes the assets (equities) which exist in a form other than securities (shares) in the legal sense. With the exception of certain statistical data collections, information on these instruments is only available from the annual reports, tax returns and incorporation records of the issuer corporations.

Among issuer sectors, **non-financial corporations** are considered to be major shareholders themselves with respect to unquoted shares and other equities (see Chart 3-56). The past seven years of intercompany shareholding saw a rising trend for unquoted shares (46-61%), and a downturn in other equities (45-35%). Among the equities issued by residents and held by **financial corporations**, unquoted

Chart 3-56

## Stock of shareholdings of major owner sectors at the end of 2007



Source: MNB, Financial accounts.

shares and other equities are primarily held by credit institutions (subsidiaries and associated enterprises), while the holdings of investment funds, insurance corporations and pension funds almost exclusively consist of quoted shares.

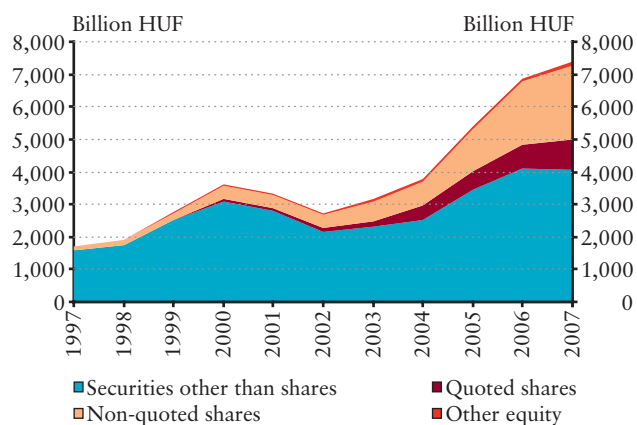
In addition to resident non-financial corporations, **final owner sectors** hold a major share, i.e. households and the general government, and particularly the rest of the world. The **central government**, which was considered the leading shareholder before the political transition, transformed state-owned companies into shareholding corporations, and sold its corporate assets on a gradual basis. Currently, it owns a narrow range of companies, primarily unlisted corporations. Rather unexpectedly, the government provided a fairly humble package of quoted and unquoted shares to social security funds in the middle of the 1990s, which the funds sold by between 1998 and 2000. **Local governments** acquired shares and other equities through the former council companies and through ownership transfers by the state; the volume of their shares stabilised by the end of 1996. The majority of shares and equities held by local governments represent long-term investments in public utilities companies. In addition to their existing membership in co-operatives, from the beginning of the 1990s, **households** gradually increased their holding of shares and other equities, and currently they hold the highest ratio of equities besides the rest of the world. The total stock of shares and other equities held by non-profit institutions serving households amounts to around HUF 20 billion.

### Securities issued by non-residents held by resident sectors

Debt securities and equity-type securities issued by non-residents (Chart 3-57) are presented in financial accounts within the categories of **securities other than shares** and shares (shares, equities, investment fund shares) under the financial assets of owner sectors. The majority of **debt securities** issued by non-residents are among the investments (foreign exchange reserves) of the central bank. 90 per cent (i.e. HUF 4,077 billion at the end of 2007) of the

total stock of non-resident bonds and notes are held by the MNB; the rest of these instruments are held by credit institutions, investment funds, insurance corporations, pension funds and households. In the last 10 years, the share of sectors other than the central bank in non-resident debt securities increased from 2 per cent to 10 per cent. Two thirds of the total stock of **shares and other equities** issued by non-residents (amounting to HUF 3,312 billion at the end of 2007) is held by non-financial corporations. The most significant owner sectors include other monetary financial institutions (15%), non-monetary financial intermediaries (11%) and households (5%). In the last 10 years, the share of these latter investor sectors in non-resident securities increased from 19 per cent to 31 per cent. **Investment fund shares** issued by non-residents have played an increasingly important role in the investments of resident security holders since 2002. More than 50 per cent of investment fund shares issued by non-residents are currently held by the sector of insurance corporations and pension funds, while the other half of the stock is held by other financial intermediaries and households. According to the data of financial accounts, at the end of 2007 the total stock held by residents amounted to HUF 766 billion.

**Chart 3-57** Stock of non-resident securities held by residents



Source: MNB, *Financial accounts*.

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